

Edited by Raquel Varela, Hugh Murphy and Marcel van der Linden

Shipbuilding and Ship Repair Workers around the World

Case Studies 1950-2010

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Shipbuilding and Ship Repair Workers around the World

Work Around the Globe: Historical Comparisons and Connections

Open Access Book Series of the International Institute of Social History (IISH)

Most human beings work, and growing numbers are exposed to labour markets. These markets are increasingly globally competitive and cause both capital and labour to move around the world. In search of the cheapest labour, industries and service-based enterprises move from West to East and South, but also, for example, westwards from China's east coast. People move from areas with few employment opportunities to urban and industrial hubs, both between and within continents. However, labour relations have been shifting already for centuries, labour migrations go back far in time, and changing labour relations cannot be comprehended without history. Therefore, understanding these developments and their consequences in the world of work and labour relations requires sound historical research, based on the experiences of different groups of workers in different parts of the world at different moments in time, throughout human history.

The research and publications department of the International Institute of Social History (IISH) has taken on a leading role in research and publishing on the global history of labour relations. In the context of Global Labour History, three central research questions have been defined: (1) What labour relations have emerged in parallel with the rise and advance of market economies? (2) How can their incidence (and consequently the transition from one labour relation to another) be explained, and are these worldwide transitions interlinked? (3) What are the social, economic, political, and cultural consequences of their changing incidence, and how do they relate to forms of individual and collective agency among workers? These three questions are interconnected in time, but also in space. Recent comparative Global Labour History research demonstrates that shifts in one part of the globe have always been linked to shifts in other parts.

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Raquel Varela, Hugh Murphy, and Marcel van der Linden

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1 Introduction

Marcel van der Linden, Hugh Murphy, and Raquel Varela

Seaborne trade is the backbone of the world economy. About 90 per cent of world trade is transported by ships. Good reasons for studying shipbuilding and ship repairing labour include the importance of the industry for transport and world trade, its linkages to domestic heavy industries, the military apparatus, myriad suppliers of finished goods and services in domestic economies, local and regional employment, and its productive character. For the labour historian, shipbuilding and ship repair workers are of great interest for at least three reasons. Their worksites are an important part of heavy industry, while labour processes at shipyards are much more diverse than labour processes in factories with their assembly lines and standardised production – shipyards combine many different segments of the working class in ever changing configurations. In addition, shipyards bring together large numbers – often thousands – of labourers in one place, thus shaping the culture and social life of the regions in which they are located. And, finally, these huge working-class conglomerations have often played a key role in industrial relations and politics, for example during the years of upheaval at the end of the First World War (Petrograd, Hamburg, Bremen, Kiel, Belfast, Glasgow, Seattle, Tokyo, Kobe, etc.), or in anti-dictatorial struggles, such as the Portuguese Revolution of 1974-1975, or the struggles of *Solidarność* in Poland, 1980-1981.

Underpinning these case studies is the sense that shipbuilding is an internationally competitive industry on the supply side, whose expansion or contraction is dependent on demand, whether from individual shipowners, ship-owning companies, or state-sponsored shipping lines. Workers' livelihoods, setting aside crude economic nationalism, and protectionist tariffs and subsidies dulling competitiveness, are in the medium to longer term ultimately dependent on how internationally competitive their respective industries are. These aspects and their consequences for workers and employment relations form this volume's central theme.

Over the past century and a half, shipbuilding has gone through major changes. In the final decades of the nineteenth century, Britain became the undisputed leader on the global market, producing about three-quarters of the world's output in the 1890s. Shortly after the turn of the century, however, Germany and the United States slowly started to increase their market share. By the eve of the First World War, Britain's share had declined

to “only” 60 per cent. Shipbuilding was largely based on bespoke production methods in those days because specifications varied greatly, depending on the purpose of the ship’s operation. Shipyards could and did adapt their production quickly to accommodate changing circumstances, with many building warships and merchant vessels in the same establishments, and also engaging in ship repair and marine-engine building. Ordinarily, craft systems and sub-contracting were used, and relatively limited hierarchies ensured sufficient flexibility. The predominantly skilled workers could transition to a different product mix quickly, without needing to be closely monitored by their superiors.

Before the 1930s, in craft systems such as shipbuilding, through the squad system of work organisation, the highly skilled workers had a major say in the important elements of the work process, namely: “(1) the location at which a particular task will be done, (2) the movement of tools, of materials, and of workers to this work place, and the most efficient arrangement of these workplace characteristics, (3) sometimes the particular movements to be performed in getting the task done, (4) the schedules and time allotments for particular operations, and (5) inspection criteria for particular operations (as opposed to inspection criteria for final products).”¹ Communication took place largely among the manual workers; while there were obviously some administrative personnel, they were limited in number and significance.

Although shipbuilding is essentially an assembly industry producing capital goods, any attempt by entrepreneurs to “rationalise” the tried-and-tested craft methods had to acknowledge that producing ships was essentially different from, for example, car manufacturing. After all, shipbuilding involves producing a small number of products, characterised by their specificity, complexity, and large size. Their specificity and small number virtually precluded mass production, not only increasing production costs but also complicating streamlining individual steps in the work process. Moreover, experimental production of prototypes was largely out of the question – except in some war situations, where governments are willing to take major financial risks. Because the product is complex in terms of the organisation of production, shipyards needed to rely on many supplier companies, which varied in numbers depending on the type of ship.

However, these time-craft methods have been increasingly undermined since the 1930s. The Great Depression marked the start of a gradual transition from what the sociologist Arthur Stinchcombe has called craft administration of production to bureaucratic administration of production

1 Stinchcombe, “Bureaucratic and Craft Administration of Production”, 170.

– a process that happened in fits and starts and has yet to be completed. Several factors were conducive to this course of events. First, technological innovations came into play. During the 1930s, welding gradually replaced riveting, though it truly got under way only after the Second World War. Eventually it superseded riveting as the industry's principal method of hull construction. The process strengthened connections between metal plates and sections, resulted in more hydrodynamic and lighter vessels than their riveted counterparts, and made the connections impenetrable to water and oil. And while riveting ordinarily required at least five workers,² welding could be done by individual welders, thereby reducing manpower. It was also conducive to semi- and fully automatic machine-welding, especially on flat plates, but crucially, to get the best out of the process, welding required a reorganisation of production away from the berth to purpose-built sheds and building docks, in tandem with ever more sophisticated plant and equipment.³

Welding was perfectly compatible with the techniques developed in the United States during the Second World War for enabling prefabrication of sections. Under the US Emergency Shipbuilding Program, newly built shipyards, largely using semi-skilled labour, began assembly of Liberty ships to a British design. These were serially produced cargo carriers – and were initially intended mainly to replace British ships torpedoed by German submarines. Liberty ship construction took advantage of flow-line methods of production pioneered in other industries, and sections (“blocks”) of these vessels were prefabricated elsewhere and subsequently transported by rail or crane to the berth, where they were welded together. The workforce was newly trained – largely with no experience of building welded ships. As the United States entered the war the shipbuilding yards employed women, to replace men who were enlisted in the armed forces.⁴ During the decades that followed, block construction was progressively elaborated. The prefabricated segments grew in size, and components (electric cables, pipes, etc.) were increasingly installed during the “block stage”, speeding up the subsequent assembly.

2 A fully manned riveting squad would comprise a rivet heater (boy), catcher (boy), holder on (labourer), and a left- and right-handed riveter (both trade-qualified, normally by five-year apprenticeship in British shipbuilding yards). Payment was by results, that is, number of rivets deposited, which were counted on a daily basis by a member of the yard's administrative staff. For this, see McKinlay, “The Interwar Depression and the Effort Bargain”.

3 For this, see Murphy, “The Health of Electric Arc Welders”.

4 Herman, *Freedom's Forge*, 178-180.

The second major change came about thanks to the rapid rise of the oil industry. Between 1938 and 1955 production of crude oil tripled from 250 mn to 772 mn metric tons annually.⁵ This trend obviously increased demand for tankers. Tankers were fairly simple structures to build, with long, flat surfaces conducive to welding, and did not require extensive outfitting. From 1956, when President Gamal Abdel Nasser closed the Suez Canal, tanker sizes increased to reap economies of scale. With the route from the Persian Gulf to Europe now extending around Africa, shipping companies started to build considerably larger tankers. In 1959 the first 100,000-ton tanker was launched, and around 1980 the first 500,000-tonners came into use. "Operating costs fell drastically. In 1956 the *extra* cost of moving one ton of oil around Africa instead of through Suez was \$7.50. By 1970 the *total* cost of moving one ton of oil from the Persian Gulf to Europe around Africa had fallen to \$3."⁶

Economic cycles were the third factor. During the extended boom in trade from the 1950s to the early 1970s, global demand for ships increased continuously. "By lessening the danger of high overhead costs during cyclical downswings, stable growth in demand favoured the adoption of larger-scale and more capital-intensive methods of shipbuilding. The average size of vessels also increased, and there was a growing acceptance of standard designs for tankers, bulk carriers, and cargo ships."⁷ Demand for flexible, highly skilled workers declined concurrently. "The larger volume of production in individual yards and the greater standardization of output provided a firmer basis for stabilizing work flows, while greater mechanization increased the amount of semi-skilled, machine-tending work." Systematic planning techniques reflected this trend.⁸

As the production process became more bureaucratic, workers lost their autonomy. Increasingly, decisions were taken by a central management aiming to plan the production process in the greatest possible detail. Permanent channels of legitimate communications were established, thereby enabling "routine methods of processing information upward and authoritative communication downward."⁹

The world market changed drastically as a consequence of all these shifts. German industry, which had initially emerged from the war almost in ruins, turned into a force of innovation and rapidly recovered. Sweden

5 Rostow, *The World Economy. History and Prospect*, 232-233.

6 Huggill, *World Trade Since 1431*, 150; Corlett, *The Ship*.

7 Lorenz, "An Evolutionary Explanation for Competitive Decline", 923.

8 Lorenz, "An Evolutionary Explanation for Competitive Decline", 924.

9 Stinchcombe, "Bureaucratic and Craft Administration of Production", 176.

became an important producer too, in part because block construction had been introduced there early on for civilian purposes. This international competition began to erode the market share of the leading shipbuilding nation, the United Kingdom, which also had the world's largest merchant fleet.¹⁰ The most important newcomer, however, was Japan, which since the nineteenth century had formed a shipbuilding industry thanks to massive state support and was advancing in tanker construction by the 1930s. At the end of the Second World War, shipbuilding was largely destroyed in this country as well. Nonetheless, after its defeat, the country progressed very rapidly towards recovery. By 1956 Japan had overtaken the United Kingdom in shipbuilding output, and by 1965 Japanese shipbuilding output alone exceeded that of Western Europe combined.

The rapidly growing world share of Japan ushered in the shift to East Asia. Shipbuilding is essentially an assembly industry and therefore one which late-industrialising countries have found attractive.¹¹ In the initial stages of setting up a shipbuilding industry in such countries, state-supported companies imported advanced technology and expertise, and crucially directed labour (for example, China, South Korea, Taiwan) to suitable locations. As an "industry of synthesis", shipbuilding is an important customer of the steel, foundry, and general engineering industries and, as the industry grows, it requires specific qualifications from its workforce. The so-called New International Division of Labour, which from the 1960s promoted de-industrialisation in the North Atlantic region, leading *inter alia* to the collapse of the textile industry, at the same time accelerated the rise of Asian economies, where forceful state intervention was conducive to industrialisation. This trend was hastened by the oil crisis in 1973-74. In its wake, the tanker market all but collapsed and this had serious ongoing effects on the shipbuilding industries of Argentina, Brazil, West Germany, Italy, Japan, the Netherlands, Norway, Portugal, South Korea, Spain, Taiwan, and the United Kingdom.¹² Between 1974 and 1976 the annual volume of ship orders placed worldwide had dropped by more than half and had not recovered by the mid-1980s.¹³

Japanese dominance in shipbuilding came under increasing competitive strain from the 1980s onwards. In the 1990s South Korea attempted

10 For this, see Murphy, "No Longer Competitive with Continental Shipbuilders".

11 A very good introduction to this topic is Todd, *Industrial Dislocation*.

12 For an excellent country study on the effects of the tanker market collapse, see, Tenold, *Tankers in Trouble*. See also this volume's Appendix 1.

13 Amsden, *Asia's Next Giant*, 270.

Table 1.1 World shipbuilding market share in terms of construction volume (in percentages)

Ranking	1955	1965	1975	1985	1998	2000	2005	2010
1	Britain (18.3)	Japan (43.9)	Japan (50.1)	Japan (52.3)	Japan (42.0)	South Korea (40.7)	South Korea (35.2)	China (41.1)
2	Norway (14.5)	Sweden (9.6)	Germany (7.1)	South Korea (14.4)	South Korea (28.9)	Japan (39.0)	Japan (28.6)	South Korea (31.3)
3	Ger- many (9.9)	Britain (8.8)	Sweden (6.9)	Germany (3.1)	China (4.8)	Germany (3.3)	China (14.5)	Japan (21.8)
4	France (4.7)	Germany (8.4)	Spain (4.6)	Spain (3.0)	Germany (4.2)	China (3.2)	Germany (3.6)	Philip- pines (1.2)
5	Japan (4.6)	France (3.9)	Britain (3.6)	France (1.1)	Italy (3.2)	Taiwan (2.1)	Poland (2.3)	Romania (0.6)

Sources: For 1955-2005: Sohn, Chang, and Song, "Technological Catching-up and Latecomer Strategy", 27 (Table 1); for 2010: Review of Maritime Transport 2011, 147 (Table 6.1)

to overtake Japan in overall output, aided by huge government support. Few commentators could have foreseen how successful it would become. Without prior experience, South Korea's major shipbuilder, Hyundai Heavy Industries, with British technical and logistical support, began building its first very large crude carrier in 1973 on a greenfield site at Ulsan. Less than a decade later Hyundai was easily the world's largest shipbuilding firm. Japan, in contrast to South Korea, had a far larger domestic mercantile marine, and remained the world's leading shipbuilding nation to the end of the century, sustaining its shipyards by building for domestic shipowners, with government support for exports; by intensifying concentration of industrial groups and retaining their share of a shrinking global market owing to strict control of costs and technological efficiency, and by increasingly concentrating on constructing high value-added ships.

During the global economic crisis from 2008 onwards, the People's Republic of China then overtook South Korea in tonnage constructed. The cumulative result of all these shifts is that more than 90 per cent of world production now takes place in East Asia (Table 1.1).

Labour costs have been an important driving force behind these changes. Although average productivity in Japan is presently seven or eight times higher than in China, net output cost in China is lower because average wages are less than one-tenth what they are in Japan, as can be seen in Table 1.2.

Table 1.2 Average industrial wages and labour productivity in East Asia, 2000 and 2009

Year	China		South Korea		Japan	
	Wage (USD/mh)	Productivity (cgt/mh)	Wage (USD/mh)	Productivity (cgt/mh)	Wage (USD/mh)	Productivity (cgt/mh)
2000	0.57	0.009	11.38	0.045	14.17	0.071
2009	1.97	0.016	21.29	0.074	20.24	0.121

Source: Jiang, "Assessing the Cost Competitiveness of China's Shipbuilding Industry", Appendix 1, 27 Note: mh = man-hour; cgt = compensated gross tonnage

Other significant factors, however, are steel prices and equipment costs. In China around the turn of the century labour costs accounted for about one-tenth of total production costs, whereas in South Korea and Japan they were about a fifth of the total.¹⁴

Of course these global shifts did not occur smoothly. Their consequences for local economies and working populations were immense. By the early 1980s, largely in the face of East Asian competition, shipyards in Western Europe had begun to close.¹⁵ In the United Kingdom the bulk of the industry was nationalised in 1977 only to be broken up and privatised from 1984 onwards.¹⁶ Sweden, often seen by commentators as a real competitor to Japan in bulk shipbuilding, after nationalising its shipyards into one state holding company in 1977, abandoned the mercantile side of its industry in the 1980s. Although state control of shipbuilding in the UK and Sweden was ultimately unsuccessful, it was arguably too little and too late in any event. In Western Europe as a whole the total number of shipbuilding employees declined by nearly half between 1975 and 1985, from 467,000 to 257,900.¹⁷

This process of de-industrialisation through closures met with massive resistance. The thousands – and possibly tens of thousands – of shipyard workers maintained an intricate internal communications network, had considerable occupational pride, and wielded considerable bargaining power when in full employment. Most trade unions in the shipbuilding industry were strong and as such were amenable to pressuring their employers for

14 Jiang, "Assessing the Cost Competitiveness of China's Shipbuilding Industry", 14.

15 For this period, see Stråth, *The Politics of De-Industrialization*.

16 The first British shipbuilding firm to be privatised was the loss-making Scott Lithgow at Greenock and Port Glasgow. By 1990 all other nationalised firms had been privatised. See Johnman and Murphy, *Scott Lithgow*, and Johnman and Murphy, *British Shipbuilding and the State Since 1918*.

17 Hesel, *Europäische Schiffbaukrise und lokale Arbeitsmärkte*, 10.

better terms and conditions. However, even in the “good years” from 1950 to 1970, many had regularly struggled to improve their working conditions and obtain higher wages.¹⁸ The ongoing decline of the “old” shipbuilding industry led to several defensive actions. Some of these conflicts became known internationally. One such case is the famous “work-in” campaign against closing the Scottish Upper Clyde Shipbuilders (UCS) from June 1971, in which the workers occupied the company emphasising the “right to work” but, with the liquidator’s consent, continued to fill the orders still pending at the yard to demonstrate that the company remained viable. The struggle was supported through solidarity strikes and demonstrations, drawing many tens of thousands of participants, and through numerous financial donations to the workers’ shop stewards committee from around the world.¹⁹ In Gijón in Spain the shipyard was converted to a producers’ cooperative.²⁰ In Eastern Europe the Polish shipyards in Gdańsk, Gdynia, and Szczecin were hotbeds of social unrest in 1980–81.²¹

The economic crises of the 1970s and their effects on shipping through to the 1980s globally led to a structural change in labour processes and labour relations. Shipyards in Finland, Italy, France, West Germany, and Norway reoriented their productive resources to high-value cruise ships, container ships, gas carriers, oil production platforms, tugboats, and offshore supply ships where they held a comparative advantage – albeit temporarily, as first Japanese, South Korean, and now Chinese shipyards have entered these markets. The centres of production, due to intense international competition in the market for relatively unsophisticated ships began to be relocated to East Asia and elsewhere. However, Japanese and South Korean firms had begun to directly invest in foreign shipyards, usually by taking minority shares in shipyards in countries such as Brazil, China, Finland, France, Norway, the Philippines, Romania, and Vietnam. Outsourcing of hull production to low-cost producers became a feature of modern shipbuilding, with hulls being towed for fitting-out elsewhere. Naval warship building is still present in the Atlantic region, because governments wish to retain control over production of their own military weaponry, and many repairs are performed there.²²

18 See, e.g., Cameron, “Post-War Strikes”; Jüres and Kühl, *Gewerkschaftspolitik der KPD nach dem Krieg*; Birke, *Wilde Streiks im Wirtschaftswunder*.

19 UCS has been covered extensively in the literature. See, for example, Thompson and Hart, *The UCS Work-In*; McGill, *Crisis on the Clyde*; Herron, *Labour Market in Crisis*.

20 See Ruben Vega García’s chapter (Chapter 9) in this volume.

21 See Sarah Graber Majchrzak’s chapter (Chapter 12) in this volume.

22 Under the Treaty of Rome, warship building is exempt from European Economic Community-wide competitive tendering. Merchant shipbuilding, on the other hand, is not.

These methods had a distinct effect on employment and encouraged the increased use of sub-contract and fixed-term labour over the retention of permanent mostly unionised workforces. Such was the effect of increased international competition that the world's leading shipbuilder for decades, Japan, reorganised its shipbuilding industry to combat South Korean advances in the market. In April 1976, 23 Japanese shipbuilding companies and 51 yards employed in their shipbuilding divisions a total of 110,235 employees, of whom 28,869 were staff and 81,366 workers. In addition there were 31,340 sub-contract workers. By April 2013, the total of employees in 17 companies and 35 yards had been reduced to 22,295, of which 9,034 were staff and 13,261 workers, with an additional 24,218 sub-contract workers.²³

This contraction of employment in Japan was mirrored elsewhere and also reflected changing technology and methods of construction and assembly, such as block welding in building docks enabling faster delivery of ships. These methods of construction required initial heavy and continued capital investment in facilities, plant, and equipment, aided in Japan and South Korea by the conglomerate structures of firms and by government aid. Such is the huge cost of setting up a greenfield shipyard to be internationally competitive that most private companies would balk at doing so without substantial state support. It is likely, then, given the huge costs involved in establishing a modern shipbuilding industry, that the three leading shipbuilding countries at present, China, South Korea and Japan, which account for more than 90 per cent of new orders, will remain so in future, and that communist China will increasingly concentrate on sophisticated tonnage.

Social relations in the remaining shipyards have largely changed. In many, the various tasks are no longer performed by different groups of craft workers employed by one large company but are outsourced. The core company has become much smaller and relies on several divested or autonomous suppliers. In addition, the core company and suppliers have far fewer employees and recruit more fixed-term or self-employed workers.

* * *

The historiography of these developments since the Second World War has been sketchy. For some countries (e.g., Britain, Germany, Sweden), in addition to business and economic historians writing thorough business histories about shipyards, labour historians have devoted considerable attention to

23 The Shipbuilders Association of Japan, Shipbuilding Statistics at September 2013, employment figures at 1 April 2013.

work and employment relations of shipbuilding workers, However, research is still rudimentary for other countries. This is especially the case for the People's Republic of China, about which remarkably little is known. In some cases, historians have examined economic aspects of shipbuilding, but have yet to address the social and labour aspects. The second problem is that specialists in the history of individual shipyards, regions, or countries have thus far communicated little with one another. This is in part due to language barriers, as well as to organisational and financial restrictions that all too often impede transcontinental academic co-operation.

In 2010 in this context at the International Institute of Social History in Amsterdam the idea arose of studying changes in shipbuilding worldwide since 1950 with a team of like-minded historians. (The Institute had previously formed similar teams dedicated to dockers and textile workers, and these projects were completed successfully.²⁴) The project was conceived as an international-comparative enterprise from a global-history perspective.²⁵ A team of authors was assembled and at a meeting in Amsterdam in 2013, following lengthy discussion, a list of twenty points for consideration was adopted for each contributor to address if possible. Together, these points reflect the volume's central themes: the political and economic contexts and environments of separate shipyards; the social characteristics of the employed workers, and their work, struggles, and cultures; and the power relations within and beyond the shipyards.

1 Production

- 1 What was the role of the shipyard in the national economy?
- 2 Which type of shipbuilding labour (construction or repair) was prevalent?
- 3 Which kind of ships were/are built in the shipyard(s) and what changes in production occurred?
- 4 What technological developments took place in shipbuilding? How did this influence production and labour relations?

24 Davies *et al.* (eds), *Dock Workers*; Heerma van Voss, Hiemstra, and van Nederveen Meerkerk (eds), *The Ashgate Companion to the History of Textile Workers*.

25 On global labour history, see, for example, van der Linden and Lucassen, *Prolegomena for a Global Labour History*; Lucassen (ed.), *Global Labour History*; and van der Linden, *Workers of the World*.

- 5 What was the size of the shipyard(s), and what percentages and numbers were involved in production?
- 6 What changes occurred in the nature and extent of production and workforce? How can these changes be explained?
- 7 What was the role of the state in the shipyard(s)? Were they state- or privately owned? If private, did the firm get any kind of subsidies?

2 The workers

- 1 How were/are shipbuilding workers recruited? What was/is their social background? What changes took place and how can they be explained?
- 2 What was the specific age and gender composition of the workforce?
- 3 What were/are the labour conditions of the workers (hours, payment, etc.)?
- 4 What were/are the living circumstances of the workers?
- 5 What are the influences of these workers on the social environment they live in?
- 6a What forms of labour protest occurred? How they were organised and who took part?
- 6b What were/are the labour strategies of resistance to privatisation?
- 6c What were/are labour strategies of resistance to the relocation?
- 6d What was/is the role of the unions, workers' committees, workers' commissions, organisations, in labour struggles?
- 7 To what extent did a specific work culture develop?
- 8 To what extent was/is there international solidarity between shipyard workers?

3 Production relations

- 1 How was shipbuilding production organised? What were/is the position of the owners/management and workers?
- 2 What changes occurred in the organisation of the production, and how can they be explained?
- 3 How did specialisation and managerial policy relate to strategies to handle crises in the industry?
- 4 What role did trade unions, employers' organisations (both national and international) and other forms of labour organisation play?
- 5 What was/is the influence of the state/regime in labour relations and labour struggles?

It was clear from the outset that the data available would be insufficient to answer all these questions: the existing scholarship is far too uneven at this time. This is clearly reflected in the present collection of essays. In some parts entrepreneurial aspects receive greater emphasis, while in others the workers are the main focus.

* * *

Hugh Murphy, in his study of Britain, analyses the relative and then absolute decline of volume shipbuilding in what was the world's major shipbuilding country for nearly a century, against the background of international competition and its effects on labour. In an industry with a plethora of trade unions, where entry and apprenticeship were strictly controlled, unions over time achieved security of employment, better working conditions, and a shorter working week. The institutional nature of industrial relations and its procedural intricacies were not conducive to rapid change as the encroachment of international competition became serious from the 1960s onwards. Only when the industry was in dire straits post-OPEC and under nationalisation did trade unions and management attempt a truly constructive dialogue. The old method of individual collective bargaining was swept aside, and managed contraction of the workforce through a state-funded redundancy programme was instituted. A change of government in 1979 eventually ushered in a programme of privatisation in 1984, by which stage the rump of merchant shipbuilders remaining under nationalised control was rapidly shrinking. By 1990, volume merchant shipbuilding in Britain had disappeared in what was a long-drawn-out dénouement. The warship-building sector was quickly rationalised, and ship repair was only a shadow of its former self. Social provisions ameliorated hardship, and workers with industry-transferrable skills, such as electricians and plumbers, found alternative employment. Most of the older metal-working workforce failed to find alternative employment as the UK economy became more service-oriented, and manufacturing declined during the 1990s and thereafter.

Johanna Wolf reflects on the history of the Bremer Vulkan shipyard until its closure in 1997, and the West German shipbuilding industry in general. Following the relevant historiography she notes how certain narratives were established as a result of developments in the West German shipbuilding industry. The historical situation makes it clear why the narrative of decline was sharply pronounced. West German shipbuilding workers belonged to one super-union, IG Metall, which had cross-sectoral

membership across German industry. Not least through the importance of IG Metall in the German economy as a whole, subsidies and aid packages to shipbuilding from the federal government and by the regional *Länder* were commonplace, and were used to support mergers and restructurings, and latterly to avoid bankruptcies. In her conclusion, she suggests some aspects of how comparative approaches and entangled history could generate a new impetus.

Tobias Karlsson shows that Kockums in Malmö, Sweden, was one of the major ship producers globally in the 1950s and 1960s. The shipyard experienced a final boom in the early 1970s but could not be saved from nationalisation and restructuring in the aftermath of the OPEC oil crisis of 1973-1974. By 1979, Kockums had been nationalised under the state-owned Svenska Varv, and in 1986 production of ships for civilian use ceased at Kockums, ending a tradition of more than a century. Karlsson analyses how production, workers, and production relations developed at Kockums during the period 1950-1986, and notes that Kockums' national, regional, and international importance makes it a relevant case in a global history of shipbuilding workers. Around 1960, as in Finland, about 90 per cent of the work done in Sweden was by piecework. As the average serial length of production became shorter, the costs of rationalisation – for example, in the form of excess personnel turnover and absenteeism – became increasingly obvious. Contemporaneously, Swedish shipyards were not immune to international competition, but the situation appeared to improve in the early 1970s when the industry experienced a boom. Huge investments in dry docks and cranes were made in Gothenburg, Malmö, and Uddevalla. Capacity increases were supported by the Swedish government. By 1973, Kockums was the biggest shipyard outside Japan, and the self-confidence of management was at its peak. With the immediate and ongoing effects of the OPEC crisis, particularly in very large crude carrier (VLCC) construction, boom quickly turned to bust. Kockums did not receive a single order in 1974. By 1975, the total number of shipbuilding workers in Sweden was at the same level as in 1960. Thereafter, there followed a period of rationalisation, nationalisation, and plant closures. By 1990, the total number of shipbuilding workers was below 10,000 and corresponded to less than 1 per cent of blue-collar employment in the manufacturing sector. The big shipowners, who had been close allies to the shipyards, had deserted the industry. Post-1977, nationalisation and the subsequent restructuring and reductions in the labour force were generally accepted by the trade unions. Although there were local protests, the main response of the Swedish Metal Workers' Union to demand replacement jobs for redundant workers.

Hans-Jakob Ågotnes and *Jan Heiret* give an overview of the path of development of the Norwegian shipbuilding industry after 1945, and discuss the changing conditions of the labour force and labour relations in the industry, both nationwide and in individual workplaces. They posit three main questions: what industrial relations were established in the shipbuilding industry, what social relations in the workplace did they correspond to, and how did they develop during the differing phases of the post-war era? They argue that a basic precondition for the Norwegian shipbuilding industry's growth phase up to the OPEC crisis was continuous productivity gains, which they state must be understood as a result not of mechanisation, but of changes in the organisation of work, and consider the rationale of both investments in heavy mechanical plant and equipment and changes in the wage system as a means to organise work more efficiently. By way of case studies they consider the shipyards of Bergens Mekaniske Verksteder (BMV) and Stord Verft. Both subsumed into the Aker group of shipyards, with Stord concentrating on VLCC construction. Post-OPEC the Norwegian government at first met the situation with counter-cyclical measures, giving financial support to the shipbuilding industry. However, by the end of the decade the state declared that it would not in the future favour any given branches of production. Fortunately, oil and gas extraction in the Norwegian sector of the North Sea gave both the Aker and the Kvaerner group of shipyards the opportunity to remain prominent post-OPEC, and both successfully diversified their production into offshore platforms on the back of Norway's oil and gas boom. By 2002, these two principal groups merged. This Aker-owned group was formed in 2004 with the merger with the French conglomerate Alstom, with yards at St Nazaire and Lorient. But in 2007 Aker sold out of Aker Yards, and the South Korean-controlled STX Europe took over. Aker then organised its activities in the offshore installations market in the multi-national Aker Solutions. BMV had been sold to local interests in 1983, and underwent other changes of ownership afterwards. By 2007, the firm changed its name to the Bergen Group; its strategy is to supply high-tech products in shipbuilding and in offshore work.

Kari Teräs's chapter analyses how production reforms and labour relations of the shipbuilding industry in Turku, Finland, were interrelated in the shipyard of Crichton-Vulcan in the post-1945 period. As was the case in the UK, production reforms were slowed down by strong craft traditions, which characterised the operation of the shipyard until the 1980s. There were rigid boundaries between different occupational groups, and each group promoted its own interests with regard to separate payment; all essential

occupational groups had their own shop stewards. Under these conditions, the employees had relatively extensive control over the production process, as part of the design work that was still carried out at the factory floor level. As new technology such as welding gained ground in the late 1950s and later work processes such as block assembly became more centralised, industrial relations began to change. Despite this, however, in the 1970s and at the beginning of the 1980s, shipbuilding was the most strike-prone branch in the heavy engineering sector and in the Finnish economy as a whole. Only at the end of the 1980s was the idea of abandoning piecerates accepted by workers at the Turku shipyard. The markets and employment levels of Finnish shipyards fell nearly a decade later than their Western competitors as the Finnish shipyard crisis did not start until the late 1980s. Exports to the USSR, hitherto a staple of the industry, began to decrease, and the shipyards were unable to find a substitute market. To compound the situation, the implosion of the Soviet Union in 1991 brought to an end most of the bilateral trade between the countries. Throughout the recession the state refused to pay direct production subsidies to the shipyards. Thereafter, the Turku yard was subject to numerous changes of name and ownership including Norwegian, South Korean, and now German control. To date, its future remains uncertain.

Sjaak van der Velden examines the highly unionised Dutch shipbuilding industry, which grew steadily to the end of the 1950s and peaked in the mid-1970s. Nominal wages rose year after year until the mid-1970s as well. Strike frequency was very high during the 1950s, declined during the 1960s, rose again in the 1970s, and then returned to the level of the 1950s. Since the mid-1960s shipbuilding had been confronted by the full force of international competition. The Dutch state became involved and urged mergers of the big companies (“the seven sisters”) to reap economies of scale and scope. These mergers did not result in Dutch shipbuilding remaining competitive, and job losses ensued, though the yards could still occupy some vibrant market niches. As in the UK, social provisions ameliorated the effects of unemployment.

Giulia Strippoli, Davide Tabor, and Luciano Villani examine the historical profile of Sestri Ponente shipyard, Genoa, in relation to three themes: employment and labour composition; production trends and changes in the organisation of work; and workplace struggles that took place during the Republican period to affirm the role of the workers in the company, and to avoid the closure of a highly productive shipyard. The importance of the local Italian context in which the shipyard stands seems to go beyond the issue of employment, embracing the physiognomy of a territory in its

broadest sense, embedded in cultural and communal identity processes over a long period. This identity has flourished in the past two centuries and has been forged around the knowledge and special skills learned and passed down through generations by the Sestri Ponente shipyard workers. Although many of its constituent elements remained intact, Sestri Ponente eventually declined as a result of economic, productive, and social changes, but the construction of cruise liners under the state-owned Fincantieri gave the yard an alternative to closure.

José Gómez Alén's study of Bazán-Ferrol in Galicia encompasses the growth of Spanish shipbuilding and the struggles of workers in the Francoist era to influence their collective futures. The percentage of Spanish output produced in the shipyards in Ferrol-Bazán and the nearby ASTANO shipyard at Fene more than doubled during the mid-1960s rising from 20 per cent of the Spanish total in 1964 to 43 per cent in 1967. ASTANO had been laid out for VLCC construction, and in the post-OPEC climate it and much of the industry suffered from lack of demand and overcapacity, which required reorientation of productive resources of Bazán-Ferrol to both mercantile and naval work to the internal market for the Spanish navy. Modernisation of the yard's facilities and retraining of the workforce to undertake more demanding warship construction ensued. The building of a new dry dock gave the option of lucrative repair work. In the run-up to Spain's accession to the European Union in 1986, Bazán-Ferrol did not remain unaffected. The company thereafter implemented a series of measures to reduce production costs and to reduce its workforce, which gradually diminished in successive viability plans until 1999 when the Plan for the Future gave 2,125 workers early retirement. In 2000, the Spanish government commitment to the restructuring of the public shipbuilding sector led to Bazán-Ferrol joining the newly created state conglomerate IZAR, founded in December 2000 following the merger of Astilleros Españoles SA (AESAs) and Empresa Nacional Bazán. IZAR's activities were spread throughout Spain and it had around 10,700 employees. Around half of the sales concerned warship production. Its component companies contained loss-making shipyards, and then profitable yards such as Bazán-Ferrol had to take a share of the losses of IZAR as a whole. Spanish government attempts to prop up IZAR through subsidies occasioned an investigation by the European Union Commission, which ruled in October 2004 that state aid to IZAR was not compatible with EC state aid rules and had to be recovered. In response, the Spanish state transferred IZAR's warship-building yards to a new public company, Navantia, owned by the state-holding company, Sociedad Estatal de Participaciones Industriales (SEPI). The former Bazán-Ferrol

shipyard building was to be supplemented by the old ASTANO shipyard at Fene. Navantia also had yards at Cadiz, San Fernando-Puerto Real, and Cartagena. Under Navantia, Bazán-Ferrol concentrated on warship work for the Norwegian and Australian navies, while workers' representatives attempted to stabilise employment around a core group of workers. Today the future of Navantia Bazán-Ferrol-Fene is uncertain.

Rubén Vega García traces the history of shipbuilding in Gijón, Asturias, before and after the Franco dictatorship, through its various reincarnations and changes of ownership. What is apparent throughout is the extraordinarily antagonistic and confrontational nature of labour relations as Gijón shipbuilding struggled to remain in business in the decades following the 1970s through to the formation of a new company (Naval Gijón) in 1985 and beyond, resulting in widespread social unrest as strikers barricaded parts of the municipality on a regular basis and strike leaders were arrested and imprisoned. Naval Gijón closed its gates and ceased all activity on 31 May 2009. In the following months, its facilities were dismantled, and cranes and gates that enclosed the dry dock were scrapped. The speed that administrators of property exhibited in this scrapping and the passive attitude shown by the authorities seemed to indicate a desire to erase as soon as possible the most visible vestiges of an uncomfortable memory starring an extraordinarily confrontational collective of workers.

Jorge Fontes establishes the context for the opening of the giant Setenave shipyard some 40 km south of Lisbon and 12 km from Setúbal. Estaleiros Navais de Setúbal was officially formed on 6 August 1974 at Mitrena in Setúbal to cope with increased demand, both for ship repairing and shipbuilding, and in the latter case was expected to undertake VLCC construction. This strategy was dashed by the continuing effects of the world economic crisis of 1973-1974; the company commenced operations on 16 June 1975, by which stage it had been nationalised by the Portuguese state. From the outset Setenave built ship hulls and block sections of oil tankers for Swedish shipyards, which were then towed to Sweden to be fitted out. In this international division of labour, Setenave provided a cheap and flexible labour force and Swedish yards retained overall control including design. The shipyard was initially projected to build VLCCs on its own account, but the contraction of the world market post-OPEC forced this change in strategy. Subsequently, a decision to readapt the shipyard towards ship repairing activities was crucial to the economic survival of the enterprise, repairing not only VLCCs but also other types of ships as well as oil platforms, or even assisting shipyards in the former Portuguese colonies. The election of a neo-liberal government in 1987 paved the way

for the denationalisation of the Portuguese economy, and by 1989 Setenave was acquired by a private company, Solisnor, a consortium between Lisnave, Sopotata, and a Norwegian company. Solisnor managed the Mitrena facilities for five years, after which control was passed to Lisnave, which closed its own shipyard on the south bank of the Tagus and focused solely on Mitrena, reorienting it to ship repair, modernising its facilities from 1997, and adding three Panamax-size drydocks at the turn of the millennium. Fontes traces the evolution of labour relations in the shipyard through various social pacts and changes of ownership and product orientation. Under Lisnave, the yard was reoriented solely towards repair and conversion work, a strategy confirmed in 2000 when the Lisnave shipyard in Margueira was closed. That flexibility of labour was pursued was indicative of the company's strategy. With a high average employee age, Lisnave instigated a youth training programme. In response to opposition from trade unions, Lisnave formed a new company in 2009 to hire all future employees, Lisnave Naval Services (LDA). This fundamentally changed labour relations in the company and remains the case today.

Raquel Varela and *Ana Rajado* trace the history of the Rocha shipyards in Lisbon including Lisnave to 1974. They note that Lisnave was from 1967 (when a new shipyard at Margueira was opened with the aid of Dutch and Swedish shipbuilding firms) to 1984 the locus of Portugal's highest concentration of workers (at its peak it had 9,000 permanent employees), and that Lisnave's workers played a seminal part in the Portuguese social revolution of 1974, when 7,000 workers marched in the streets of the capital against the Popular Front government. These popular protests eventually led to the establishment of a new Portuguese Constitution in 1976. However, political instability remained a feature of Portuguese government. It was also in these shipyards during the early 1980s that the first company agreement that helped consolidate the social pact in Portugal was signed. Portugal's accession to the EU in 1986 altered the political and economic dynamics of the country. However, by the 1990s, the model of restructuring applied in Lisnave saw a massive replacement of workers on standard terms and conditions of employment (guaranteed working week, agreed wages and conditions, pensions etc.) towards more precarious short-term contracts, and increased use of sub-contractors. The closure of Margueira in 2000 and the move to one location at Mitrena, to concentrate on ship repair and conversion, led to an increasing emphasis on precarious employment practices as older workers with consolidated rights retired.

Sarah Graber Majchrzak's chapter on the state-owned (from 1946) Lenin shipyard in Gdańsk, Poland, concentrates on production relations and

workers' conflicts in the 1970s and 1980s, and the shipyard's iconic status in the changing political landscape of Poland before and after the foundation of the *Solidarność* (Solidarity) labour movement there in 1980. Like Romania, Poland was an original member of COMECON, and orders from the Soviet Union in the immediate post-war period and thereafter aided the Polish shipbuilding industry but also challenged it. As in Romania, in the People's Republic of Poland the means of production were the property of the state. Thus, the profit motive was absent, but firms had to bargain with the centralised state for resources, materials, plant, investments, and workforces etc., to maintain or increase output. Accordingly, there was a year-on-year lack of certainty of the level of resources firms would be allocated. Scarcity, and management's responses to it, influenced the labour process and labour relations in the Polish shipbuilding industry. In the centralised bureaucratic system, management accumulated resources to win workers' support to fulfil planned targets, and demanded from the workers at least minimal co-operation to secure the plan's fulfilment. In turn, workers expected management to secure their living standards, and to enhance workplace conditions. Management largely ceded production to workers; and compensated for their insufficient control of output by the bargaining process with the state. Accordingly, labour standards were lax. Throughout the 1960s the Polish economy, with its emphasis on heavy industry, stagnated in other sectors, notably agriculture. Shortages became commonplace. By December 1970 workers at the Lenin shipyard went on strike, but their protest was brutally repressed by the Gomułka regime, and resulted in significant fatalities. These events prompted a change of leadership in the Polish Communist Party, and a change of economic priorities, with a willingness to seek co-operation from the workers. The process of modernising the Polish economy was to be pursued by importing Western know-how and technology, and drifting away from economic orientation towards the Eastern bloc. The ambitious aim was to integrate Poland into the global market by modernising its economy. This, in train, for a time brought moderate liberalisation at every social level and led to growth in the level of consumption and average incomes. From the mid-1970s onwards the economy contracted after the global economic crisis sparked by the oil price rises of 1973-1974. Exports stagnated and the costs of imports rocketed. The consequent recession was not due only to external factors but also to the internal problems of the Polish planned economy. Decades of underinvestment, barriers to innovation, a corrupt bureaucratic elite, rigid management, and a general disorganisation prevalent in the economy contributed to the socio-economic problems of the late-1970s.

Accordingly, at the Lenin shipyard, the modernisation programme that had begun post-1974 stalled and remained unfinished, and productivity decreased dramatically. By the advent of the 1980s the Polish economy had stagnated, and in the summer of 1980 workers at the Lenin shipyard embarked on a major strike, which soon spread to other shipyards. The strikers' most important demand was to legalise an independent free trade union. Ultimately, in August 1980, the first independent union, *Solidarność*, was founded. The union was allowed to operate until 13 December 1981, when General Wojciech Jaruzelski proclaimed martial law; most of the union activists were arrested and the union was again forbidden. The 1980s proved economically and politically challenging for Poland and the Lenin shipyard, which was threatened with closure from 1988; a year later Poland abandoned communism and embraced free market capitalism. The state took a 60 per cent share in the Lenin Shipyard, with the workers taking 40 per cent, with the yard renamed the Gdańsk Shipyard. Thereafter, the yard was more successful, but the situation changed from 2005 onwards and experienced a radical turn in 2008 when the EU Commission on 6 November 2008 concluded that state aid granted to the shipyards in Gdynia and Szczecin was in breach of EC state aid rules and had to be repaid. Contemporaneously, the looming global economic crisis, which had begun in the USA in 2008, hit the Polish shipbuilding industry hard. Due to this and the ending of state subsidisation, the Gdynia (2009) and the Szczecin Shipyards (2011) were closed and all their machinery was sold off. Since then the Gdańsk Shipyard has hovered on the edge of bankruptcy, work has been intermittent, and the workforce has been drastically reduced.

Constantin Ardeleanu's chapter on shipbuilding in the Danubian port city of Galați, which remained the centre of Romania's shipbuilding industry throughout the socialist era, highlights the all-encompassing nature of state control of industry in Romania. From 1947, the communist authorities imposed an ambitious programme of industrialisation. Romanian industrialisation closely followed the Soviet model; COMECON membership gave Romania a ready market, although a more nationalist-centred approach had emerged by the late 1950s, as political relations between Bucharest and Moscow gradually strained. About half of Romania's total capital investments were directed towards developing industrial facilities, with four-fifths allocated to the heavy and machine construction industry, as the basis of further economic progress. Between 1950 and 1965 industry grew 6.5 times and heavy industry 8.2 times. Following Nicolae Ceaușescu's accession to power in 1965, Romania took a more independent course towards industrial independence. Ambitious growth targets meant that industry had

to be further streamlined and modernised, a goal aided during the 1970s with Western funding, technology and know-how. By this stage, the Soviet decision of curtailing transfers of shipbuilding licences forced Romania to further invest in developing its shipbuilding industry by constructing a national riverine and maritime fleet to diminish the country's dependence on foreign ships, increase its exports, and earn hard currency. Each shipyard had a clear specialisation in a strongly centralised shipbuilding industry. Galați was to build ships of 20,000-25,000 dwt and to gradually increase its capacity to vessels of 38,000-40,000 dwt as the yard was modernised. Romania's intent to build up its shipbuilding industry led to shipyards being built from scratch at Tulcea, Mangalia, and Hârșova, enabling the country to enter VLCC construction for export purposes. Ceaușescu's regime, backed up by his secret police, the Securitate, became increasingly dictatorial, and an export drive that began in the early 1980s to reduce foreign debt led to internal dissent as shortages of food and other essentials intensified. By December 1989 the Romanian people could no longer endure Ceaușescu's tyranny, and his regime was overthrown, with Ceaușescu and his wife executed by an army firing squad. Clearly, with Romania in a state of revolutionary flux, the old shibboleths that had sustained the Galați shipyard and that had resulted in the exponential growth of the city were no longer applicable. The workforce now had to face the harsh realities of Western and East Asian competition and cuts to jobs. During the 1990s in an extremely difficult market, the yard survived by building ship hulls for Western contractors, and was finally privatised in 1999, when 99 per cent of the shares were purchased by the Dutch Damen Shipyards Group.

Robin Dearmon Muhammad sets the trajectory of the high cost and protectionist US shipbuilding industry in the first half of the twentieth century in context; she then explores the impact of the declining industry on shipyard workers after 1950. During this period US industrial workers faced many challenges particularly as urban de-industrialisation led to wage stagnation and accelerated unemployment. However, US shipyard workers who remained employed were also among the highest-paid industrial workers in the country. As US merchant shipbuilding declined, the role of federal government and specifically the US Maritime Administration (MARAD) became increasingly important as private output of large merchant ships rapidly diminished by the end of the twentieth century. For the shipyard workers who remained in the industry, an increased dependence on federal naval contracts meant comparatively stable wages, but at the expense of shrinking employment. Moreover, labour legislation in the late twentieth century extended protections and forms of redress to US shipyard and other

industrial workers, but such protective labour policies proved inadequate for many who worked in welding and other shipyard trades. She examines how and why US shipbuilding shifted from supporting both private and naval production to an almost exclusive reliance on naval shipbuilding, and demonstrates the transformation of the US shipyard worker during the late twentieth century.

Cintia Russo's chapter analyses the growth and survival of one of the oldest and largest ship repair yards in Argentina, Talleres Dársena Norte (TANDANOR), founded in 1879, and today known as the Complejo Industrial Naval Argentino (CINAR). In addition to contextualising the history of the Argentine shipbuilding industry, she highlights the roles played by the state and by trade unions. In addition to its symbolic status as one of the oldest shipyards in Argentina, TANDANOR was the first to be privatised in 1991, following a neo-liberal agenda, which encompassed privatisation of state-owned companies, market deregulation, and commercial liberalisation. The yard continued under private ownership until 1999, when it reverted to workers' control until renationalisation in 2007. After 1950, TANDANOR's unions were Peronist in inclination and their belief in the state and industry interests coalescing in a form of national corporatism remained. Following the army-led *coup d'état* of March 1976, union activists were targeted repeatedly and persecuted by official and paramilitary repression. During the military dictatorship (1976-83), TANDANOR had a strong link with the interests of the Argentinean navy, and controls on the workers and the work process within the shipyard were intensified. After renationalisation, in 2009 TANDANOR and the Almirante Storni shipyard formed the Complejo Industrial Naval Argentino (CINAR), a company 90 per cent owned by the Argentinean Ministry of Defence, with 10 per cent of its equity in the hands of workers. Russo sees TANDANOR as a representative example of the peaks and troughs of the Argentinean economy.

In her chapter, *Juliana Frasso* concurs with *Cintia Russo* that the development of the shipbuilding industry in Argentina was characterised by strong state intervention. She adopts a case-study approach in analysing Argentina's largest and most significant state-owned shipyard: Astillero Rio Santiago (ARS) and highlights the most significant developments in production, employment, working conditions, and industrial relations at the shipyard in the last half-century. In doing so, she traces the history of ARS, its relationship with the National Industrial Policy and the role of the state. She describes the characteristics of production and organisation of labour in the shipyard, working conditions and the features of the internal labour market, and the specific work culture built around the

shipyard, highlighting the material and symbolic aspects that supported it, and analyses the recent history and current characteristics of labour relations in the company. She also focuses on two key points in the history of labour disputes in the shipyard: workers' strategies during the last military dictatorship in Argentina (1976-1983) and resistance to privatisation in the 1990s. Lastly, she reflects upon developments in ARS, remarking on the current organisational and productive challenges, and the place that social actors (especially unions) have within the enterprise.

Claudiana Guedes de Jesus's chapter analyses the changes that took place in labour relations and activities within the Brazilian shipbuilding industry during the recovery period in activity in the main shipyards from the late 1990s onwards. She describes the beginning of and subsequent increase in the regional employment decentralisation process in the country's shipbuilding industry; and considers variables, mainly those linked to the number of jobs, school level attained, time working in the same company, age and wage rates, and analyses information regarding manpower costs and productivity. The Brazilian shipbuilding industry's recovery relied on a significant increase in the number of jobs to satisfy mainly domestic demand in shipbuilding and offshore work. Improved certainty in the provision of domestic orders gave rise to an increase in the need for trained manpower linked to shorter work contracts and to the hiring of younger individuals as well as to lower salaries and the use of outsourcing programmes. With the exception of China, Brazil has lower manpower costs and a lower number of engineers relative to the total number of employees in the industry globally. The recovery of the Brazilian shipbuilding industry has been marked, substantially aided by demand from Petrobras/Transpetro. Guedes concludes that a potentially new era for the shipbuilding industry in Brazil, which goes beyond the "recovery period", is possible, not only in fulfilling domestic demand but also in reducing dependence on foreign technologies.

Elina G. da Fonte and *Luisa Barbosa Pereira's* chapter analyses how labour relations developed in the shipyards Caneco/Rio Nave and Mauá (Rio de Janeiro) from 1950 to 2011, with emphasis on production relations and workers' conditions. They also reflect on the essential role of the state in the Brazilian shipbuilding industry; the labour process under different conditions, including military rule; the profile of the workers and their culture; forms of collective resistance; and the trajectory of their trade unions. They aim to show the centrality of Caneco/ Rio Nave and Mauá to the development of the shipbuilding industry in Brazil. Although both are privately owned shipyards, government financial support was vital to their continued survival. Despite the huge changes that took place in the

Brazilian shipbuilding industry from the 1950s until today, shipbuilding workers did not lose their degree of autonomy and have retained a distinct workers' culture: it is a culture of solidarity, that has made them one of the most important categories of workers in Brazil, and that, in recent years, aided them in improving their terms and conditions of employment through various forms of collective action. Foreign direct investment in shipbuilding was encouraged. By 1978, Brazilian shipbuilding output, largely due to VLCC construction at the Japanese-owned Ishibrás and Dutch-owned Verolme shipyards, was second only to that of Japan. A year later, the shipbuilding workforce in Brazil comprised 39,155 workers. This high point of activity did not last. A prolonged recession ensued from the late 1980s and 1990s resulting in dwindling orderbooks and underutilisation of capacity, and from the mid- to late 1990s onwards the vast majority of workers in all Brazilian shipyards lost their jobs. By 1998, with a mere 149,117 dwt delivered, only 1,880 workers were employed. During the 1990s neo-liberal approaches to the economy were in the ascendancy. Subsidies and government financial support to the shipbuilding industry had ended in the late 1980s. The political situation changed only in the 2000s, when the government of president Lula da Silva introduced a strong policy to rebuild and reorient the Brazilian shipbuilding industry through support from the state-owned Petrobras.

Lisa Milner's chapter on Cockatoo Island Dockyard, Sydney, Australia's largest post-First World War Commonwealth employer, highlights the complexity of its trade union membership, where, although there were twenty-two trade unions on site, most workers were covered by six. Compulsory arbitration of disputes had been in force since 1906, but despite this there was a long history of demarcation and industrial disputes. The dockyard went through a number of changes of ownership, but from 1946 to 1986 it was owned by the British shipbuilder Vickers Armstrong (later Vickers Ltd). Prior to this, workers were essentially casualised, as was the case in the United Kingdom, but this precariousness of employment was largely ameliorated in times of high demand, particularly during the two world wars. As was the case in the UK, Australian shipbuilding and repair workers were highly unionised and membership gave exclusive entry to the workplace. From 1946, however, the old casualised system of recruitment was replaced by a union-administered roster system, which led to a more equitable distribution of work for union members in the dockyard. The dockyard's post-war history was nevertheless characterised by antagonistic industrial relations, and by the end of the 1970s the global effects of competition began to have a marked effect on its prospects. The Australian federal government's decision to privatise its shipbuilding

and repair functions in the 1980s marked a turning point for Cockatoo Dockyard, but one that led to closure rather than renewal. In 1989, with the threat of closure imminent, the workforce occupied the dockyard for 14 weeks, an action which only delayed its eventual closure. By 1992 the dockyard had closed, bringing to a permanent end in to shipbuilding and repair on Cockatoo Island, where industrial relations were perhaps the most disputatious in the nation.

S. Fahimuddin Pasha's chapter studies the Indian shipbuilding industry with special reference to Maharashtra. Although there has always been some shipbuilding in India after independence, the industry's upturn took place in the early 1970s. The government then tried to unify and synergise shipbuilding activities, but this did not lead to the results anticipated, due to poor management and excessive bureaucracy. A change occurred in the 1990s, when the government opted for a neo-liberal approach. The year 2002 was a watershed: the government introduced a subsidy scheme and so-called public-private partnerships. These changes are illustrated for the Bharati Shipyards Ltd (BSL), the second-largest private-sector shipbuilding company in India. The composition of the workforce changed considerably: prior to the 1980s most workers had been employed on a permanent basis, but afterwards workers were increasingly migrants hired by sub-contractors on a temporary basis.

Nicola Mocci examines the modern trajectory of Thai shipbuilding. He concludes that in newly industrialising countries shipbuilding has often been a primary source of export potential, and therefore of foreign currency accumulation. However, in order to reach these objectives and to build ships to sufficient scale, a great deal of initial and subsequent working capital is needed either from private, or in most cases, from state sources. In theory, technology and sufficient know-how can, to a large extent, be bought in or acquired, and labour, which in an Asia country is usually plentiful, can be trained to attain the desired objectives. In the Thai case, however, he points out that the state has made a different choice, concentrating its resources on other economic activities, and causing the de facto retreat of what used to be a main and Asia-wide competitive industry. Mocci points to the labour situation in the reduced shipbuilding industry that is presently active in Thailand. He notes that the majority of the country's shipyards, large, medium, or small, have deliberately chosen to organise their work on a family level, adopting a paternalistic attitude, whose officially declared aim is to improve direct training, safety, and ultimately worker productivity. However, he further notes that these dynamics clearly often have another effect, namely, the depoliticisation of workers through the constant erosion

of the rights of their organisations, which simultaneously prevents any of the evident underlying labour conflicts from rising to the surface.

Takeshi Haraguchi and *Kazuya Sakurada* note that from the 1950s shipbuilding was seen as a fundamental industry for Japan's pursuit of high economic growth. Thereafter until the oil crisis of 1973-74, the Japanese shipbuilding industry continued to progressively expand its share of the world market, dominating with more than 50 per cent of world shipbuilding production until rationalisation and reorientation of its productive facilities became critical in the coming decades. They clarify particular characteristics of the Japanese shipbuilding industry, in light of its experience of dramatic expansion and decline, and focus on two areas: first, the 1970s, and second on the labour market, particularly the lower labour market. Their rationale is that the basis of shipbuilding expansion in Japan was formed on sub-contract labour, and in the mid- to late 1970s these labourers were the first to be sacrificed in the restructuring of the shipbuilding industry. They explore how the production system of the post-1945 Japanese shipbuilding industry was formed and how it shifted, examining aspects of national policy, corporate systems, and technological innovation. Focusing on the 1970s, they discuss how shipbuilding labourers engaged in resistance, and what kind of opposing strategies were taken by employers in response to this. Finally, they consider Osaka's riverside shipbuilding industry as a case study and discuss specifically how the capital/labour conflict played out. Moreover, by focusing on Kamagasaki, known as a lower labour market in Japan, they clarify what relations exist between the shipbuilding industry and the lower labour market.

Wonchul Shin outlines the evolution of labour relations of Hanjin Heavy Industries (HHI) located on Youngdo island near Busan, the largest port city in South Korea. Initially formed by Japanese capital in 1937 as Choseon Heavy Industries Inc. (CHI), to build and repair steel ships; after the defeat of Japan in the Second World War, CHI became a semi-state-owned enterprise and was renamed Korea Shipbuilding and Engineering Corporation (KSEC) in 1950. In 1968, KSEC was privatised, retaining its name. In 1989, the Hanjin industrial conglomerate took over KSEC, which had gone bankrupt, and set up HHI. Until the huge Hyundai shipyard was established at Ulsan between 1972 and 1974, HHI's Youngdo shipyard was the largest in South Korea. By the millennium, HHI had become one of the world's top shipbuilders, especially in the large container ship market. In tandem, from 2007, HHI operated another shipyard at Subic Bay in the Philippines. Faced with the decreased demand for shipbuilding since the 2008 world financial crisis, HHI has reduced its workforce at the Youngdo shipyard, which unleashed

intense labour disputes from 2010 to 2012. Instead of modernising Youngdo shipyard, HHI sought to build larger vessels at lower costs in the Subic shipyard. In tandem with outlining the evolution of labour relations at HHI, this chapter also highlights major changes in labour relations at the shipyard, focusing on the enterprise (firm-specific wage bargaining) union system, sub-contracting arrangements, and militant unionism, which are major features of South Korean shipbuilding labour history.

The regional coverage provided by the various chapters is clearly far from perfect. At present, as we have observed, China is the world's leading shipbuilding nation by volume and is likely to retain this status in the years to come. Given China's current position in shipbuilding, the omission of a chapter in this book on Chinese shipbuilding labour presents a sizeable lacuna. Despite our attempts to locate a suitable Chinese scholar, these efforts were ultimately in vain. As there is a lack of research in English on Chinese shipbuilding, we have included a short explanatory chapter on China, and on four other countries in which we were unable to identify suitable scholars: the Philippines, Singapore, Taiwan, and Vietnam. Although this chapter is far from exhaustive, it offers the reader perspective and a sense of comparison. For Argentina, Brazil, Portugal, and Spain we have included two chapters per country because the shipyards studied in the separate chapters differed markedly (private vs state-owned, shipbuilding vs ship repair, etc.). Given the seminal impact of the oil price shocks on shipbuilding and employment therein in the 1970s and 1980s, we have included an appendix on this as well as an appendix on the latest available shipbuilding statistics to give added context.

In analysing labour relations, labour conditions, composition of the workforce, workers' recruitment, workers' living conditions, labour cultures, labour conflicts, organisation and leadership, shifts in production, technological developments and subsequent influence on production and labour relations, the role of shipyards in national and international economy, government policies and regulations, and the social and economic effects and impacts on closely knit communities of workers of closures of shipyards, this collection of essays offers an international perspective on a largely underresearched area of study.

Labour history is also important for the study of social history in general, whether by emphasising workers' roles and identities in the workplace, or by highlighting neglected groups such as sub-contracted or agency workers. It is hoped that this project will lead to new avenues of research applicable to a wider audience than just labour historians, although we offer a contribution

to the history of labour itself, in a global perspective. In a second volume we hope to relate the many case studies to each other.

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At the first meeting at the University of Leipzig on 22-23 June 2012 – facilitated by the Centre for Area Studies (Director, Prof. Mathias Middell) on site – the project participants became acquainted with one another and explored different approaches to the project. At a two-day symposium convened at the IISH on 22-23 May 2013, the project parameters were discussed, the contributors were introduced, and information was exchanged before allocating research themes and perspectives. This was followed by three smaller gatherings with a regional focus, including a study day facilitated by the University of Bergen in Norway, 1-2 October 2013 (convenors, Hans-Jakob Ågotnes and Jan Heiret); an Ibero-American conference in Buenos Aires, La Plata, 18-22 November 2013 (convenors, Juliana Frassa, Cintia Russo, and Raquel Varela); and a workshop at the International Research Center “Re:Work: Work and Human Lifecycle in Global History” at Humboldt University in Berlin (17 July 2014; convenor, Wonchul Shin). The first stage concluded on 13-15 October 2014 with a conference in Lisbon, supported by the Universidade Nova de Lisboa.

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North-western Europe

2 Labour in the British shipbuilding and ship repairing industries in the twentieth century¹

Hugh Murphy

This extensive chapter presents an overview of labour in the British shipbuilding and repair industries in the twentieth century in the overall context of relative and then absolute decline of these industries in light of international competition.

Up to 1914, with first-mover advantages, the British shipbuilding and ship repairing industries had long been mature industries, with shipbuilding being more concentrated, and labour being interchangeable in these areas on an inter-firm basis according to supply and demand.² However, the

¹ Shipbuilding is basically an assembly industry. From the days of iron and then steel construction it required a great deal of organisation of individual trades and processes within shipyards. Shipbuilders were primarily responsible for around 30 to 35 per cent of the finished product, i.e., the ship's hull; the rest – main engines, steering gear, propellers, auxiliaries, derricks, electrical fittings, etc. – at the outfit stage was usually sub-contracted to various firms and trades. The in-house percentage rose to around 50 per cent if firms owned their own main engine shops, foundries, and joinery shops. The process of building a merchant ship usually began with reviewing enquiries to build from shipowner/s and/or shipbrokers before either proffering a stock design or designing a vessel to fit anticipated requirements before tendering for contracts. A historical basis of cost accounting was normally used to come up with a reliable estimate of labour and material costs plus an element for profit. The decision on whether or not to tender for a particular type of ship or ships was dependent on the product mix building in any one yard or yards and the amount of work in hand. If a tender was accepted then negotiations over contract/s began, and design and building plan/s were formulated. If agreed, materials were then purchased and production drawings drafted. Production normally began with the laying of the keel and then the erection of the frames and shell plating by the hull trades. Each of these building milestones triggered stage payments to shipbuilders, ensuring liquidity. For a description of the functions of ship repair, see the Glossary. Many British shipbuilding firms had their own ship repair berths.

² The two main areas of concentration of firms were the Rivers Clyde in the west of Scotland and the Tyne, Tees, and Wear on the north-east coast of England. Together, these areas accounted for over one-half of the labour force engaged in shipbuilding. On the upper Clyde for example, owing to a high concentration of firms within a relatively small geographic area close to the centre of Glasgow, mobility of labour between firms was commonplace. On the other hand, on the lower reaches of the Clyde at Greenock and Port Glasgow, it was less so. The lower Clyde employers enforced terms and conditions that were less generous than their Glasgow-based counterparts. Other important centres of shipbuilding activity employed workers who were less

major shipbuilding firms also had ship repairing and conversion work as well as marine engineering facilities for general engineering work and for building slow-speed marine diesel engines.³ The latter were mostly built under licence from foreign patents, and some large marine engine builders did operate independently from shipbuilders.⁴ Ship repairing was also undertaken independently from shipbuilding on the Rivers Tyne, Mersey, Humber, and Thames, the Bristol Channel, Falmouth-on the south-western approaches, and generally on the east coasts of England and Scotland. In addition, all shipbuilding, ship repair, and marine slow-speed engine building firms belonged to national employers' associations.⁵

geographically mobile; these were Barrow-in-Furness (Vickers) and Birkenhead (Cammell Laird) on the north-west coast of England, Southampton (Vosper and Thornycroft) on the south coast, and Leith, Grangemouth, Dundee, and Aberdeen on the east coast of Scotland. Another major firm was geographically isolated: Harland and Wolff at Belfast in Northern Ireland. However, this firm also had interests in shipbuilding, ship repair, and marine engineering on the Clyde, and ship repairing in Liverpool, London (mostly marine engineering), and Southampton. For the British shipbuilding industry at the national level in the twentieth century, see Pollard and Robertson, *The British Shipbuilding Industry*, Johnman and Murphy, *British Shipbuilding and the State Since 1918*, and Jones, *Shipbuilding in Britain*. There are numerous uncritical individual company-sponsored histories. These usually celebrate centenaries or other significant anniversaries of firms. Two examples of these are Scotts of Greenock, *250 Years of Shipbuilding*; and Stephen of Linthouse, *A Record of Two Hundred Years of Shipbuilding*. Exceptions to the normal rule are a company-sponsored work by the business historians Michael Moss and John Hume – see Moss and Hume, *Shipbuilders to the World: 125 Years of Harland and Wolff* – and by the maritime historian, Ian Johnston – see Johnston, *Ships for a Nation, 1847-1971: John Brown & Company*. An example of an independent academic business history study of a shipbuilding firm is Johnman and Murphy, *Scott Lithgow*, which analyses the history of the lower Clyde shipbuilders, Scotts of Greenock, from 1711 and Lithgows of Port Glasgow from 1874 to their merger in 1970 and eventual demise by 1993. For a shipbuilding district, see Clarke, *Building Ships on the Northeast Coast*. Clarke covers, in much detail, the Tyne, Tees, Wear, and other north-east coast shipbuilding centres.

3 For ship repairing and slow-speed marine diesel engine building at the national level, see Buxton, "The British Ship Repair Industry", Johnman and Murphy, "The Development of the British Ship Repair Industry", and Johnman and Murphy, "The Rationalisation of Slow Speed Marine Diesel Engine Building in the UK".

4 Only one British shipbuilder, Wm Doxford, based on the River Wear, licensed the building of their patented opposed-piston-type slow-speed marine diesel engines to British and American shipbuilders. Other British shipbuilding firms, in addition to building Doxford engines under licence, mainly built continental slow-speed marine diesels under licence from Burmeister & Wain (Copenhagen) and Sulzer (Winterthur). The largest non-shipbuilding marine-engine building firms were George Clark and North Eastern Marine on the Rivers Tyne and Wear, Parsons Marine Turbine, Wallsend, Richardsons Westgarth at Hartlepool, Middlesbrough, and Sunderland, and John G. Kincaid at Greenock.

5 Employers' organisations at local and district level preceded national combinations of employers. Local shipbuilders' associations existed on the major shipbuilding rivers of the

Labour and trade unions in British shipbuilding and ship repair prior to 1945

What is immediately apparent to the serious student of the British shipbuilding and repair industries is that these activities did not conform to easy assumptions about the growth of managerialism in industry generally during the late nineteenth and early twentieth centuries, and consequent organisation of production and supervisory control resulting in increasing use of technology and consequent deskilling of the workforce. Ship production, *per se*, did not lend itself to standardisation of product. Built to order for individual owners and ship-owning firms, ships were largely bespoke in nature. Indeed, the sheer size and versatility of the British shipbuilding industry – which held 80 per cent of the world market for ships during the late nineteenth century and, on the eve of the First World War, 60 per cent of all tonnage launched – facilitated almost every whim of British shipowners, whose ships comprised the world's largest mercantile fleet, the British Mercantile Marine.⁶ British shipbuilders also dominated the export market for merchant ships and warships, and their highly skilled workers were the most productive in the world using craft-based labour-intensive methods of production. Indeed, the industry's productivity easily outstripped that of its competitors.⁷ Mechanistic processes such as the

Clyde, Tyne, Tees, and Wear and at many other centres of shipbuilding such as Aberdeen, Barrow, Belfast, and Hull, and on the Thames and Mersey. In succession to the disbanded National Federation of Shipbuilders, the Shipbuilding Employers Federation (SEF, est. 1899) dealt with all labour matters at the national level. The Shipbuilding Conference (est. 1928) was the industry's trade association. The Dry Dock Owners and Repairers Central Council (DDORCC, est. 1910) dealt with labour and policy matters for federated ship repairing firms, and the National Association of Marine Engineers (NAME, est. 1938) represented engine builders. The Papers of the SEF, Shipbuilding Conference, DDORCC and NAME are held in the Shipbuilders and Repairers National Association Papers, National Maritime Museum, Greenwich, collections. The SRNA was wound up on the nationalisation of the shipbuilding and repairing industries in July 1977.

6 Unless otherwise stated, all tonnage statistics are from *Lloyd's Register of Shipping Annual Returns*.

7 Using craft-based labour-intensive methods of production, British shipyard productivity easily outstripped its competitors. By 1900, productivity at 12.5 tons output per capita in British shipbuilding was twice that of American yards, three times that of Germany and over six times that of French yards. See Pollard, "British and World Shipbuilding", 433. As Reid has noted, ships' plates made up to 30 per cent of the national output of the British steel industry up to 1914. See Reid, *The Tide of Democracy*, 23. This encouraged British firms to specialise and invest further in the production of shipbuilding steel plates and sections. The steel industries of Germany and the USA at most devoted only 5 per cent of output to ships' plates, and these plates were more expensive. Moreover, in comparison to Britain the shipbuilding industries of Germany and the USA were high-cost activities. In the industry, the bulk of its then-major method of metal

introduction of hydraulic and pneumatic riveting machines and tools common to other metal-working industries did not on the whole have a great impact on shipbuilding.⁸ The structure of the industry was atomistic; firms ranged from huge vertically integrated conglomerates such as Vickers, Beardmore, Cammell Laird, John Brown, and from 1918 onwards Lithgows Ltd, to medium-sized and small-scale family-controlled enterprises.⁹ The nature of firms and intense competition locally and regionally between them for labour often militated against united employer action against craft unions. Although the Shipbuilding Employers' Federation (SEF) was the national body for labour matters from 1899, it set a national plain-time rate for skilled and unskilled workers only in 1930.¹⁰ Local and regional employers' associations pre-dated the SEF, and by 1900 seven local courts of arbitration had been set up in shipbuilding districts with independent chairmen who could make morally binding decisions on demarcation issues in cases of deadlock. Even a comprehensive national agreement between the SEF and a federation of shipyard trade unions in 1908 (the Edinburgh Agreement), which came into effect in 1909, delegated resolution of demarcation disputes to local courts of arbitration.¹¹

joining, riveting, was still done by hand – although first hydraulic and, later, pneumatic methods of riveting had been partially introduced. Riveting relied more on strength than on skill and was therefore vulnerable to mechanistic replacement methods; however, these methods were generally opposed by organised labour, and were in many cases technically difficult to achieve because of restricted yard layouts.

8 Reid notes that hydraulic methods of riveting were of little use in widely dispersed working environments such as shipyards; were impossibly heavy to move around; and had a tendency to distort plates and allow water ingress. Hydraulic methods' use was restricted to heavy internal structures in shops, and by 1900 was being used on under 5 per cent of shipyard riveting. Pneumatic riveting equipment was easier to move around but, because of doubts over its not producing a tight enough bond on ships' plates, it was restricted to lighter structural items and superstructures. By the 1920s it accounted for only 25 per cent of shipyard riveting. See Reid, "Employers: Strategies and Craft Production", 41.

9 There had been concentration and vertical integration in the British shipbuilding industry as a result of the passing of the Naval Defence Act of 1889, which allowed the private shipbuilders to officially enter a market (predominantly as mixed naval and mercantile builders) which, hitherto, had been largely, but by no means exclusively, reserved for government-controlled Royal Dockyards. For Vickers, see Trebilcock, *The Vickers Brothers*, and Scott, *Vickers*; for Cammell Laird, see Warren, *Steel, Ships and Men*; for Beardmore, see Hume and Moss, *Beardmore*; for John Brown, see Johnston, *Ships for a Nation, 1847-1971: John Brown & Company*; for Lithgows, see Johnman and Murphy, *Scott Lithgow*.

10 Jones, *Shipbuilding in Britain*, 177.

11 Pollard and Robertson, *The British Shipbuilding Industry*, 168. Seven local boards were in operation on the Tyne, Tees, and Wear, in Birkenhead, and on Clydeside: Jones, *Shipbuilding in Britain*, 163. The Edinburgh Agreement had three parts: part 1 dealt with arrangements for

Unsurprisingly, the British ship repair industry was also the world's largest; and its fortunes, as was the case with the marine-engine building sector, were inextricably linked to that of the nation's shipping and shipbuilding industries. During the First World War, in common with shipbuilding, Britain's ship repairing sector expanded rapidly and the volume of repairs rose exponentially.¹² Aside from the larger shipbuilding firms which had extensive ship repairing facilities, specialist ship repairers whose operations differed widely in scale, either owned dry docks (normally known as graving docks) and repair berths, or operated from publicly owned docks and berths. Like shipbuilding, the private repair workforce was casualised and was expected to work at short notice. In the repair sector, this form of work organisation suited both employers and, to a large extent, a section of their workforce who did not want to be tied down to one establishment for varying periods of time. On the whole, ship repairing was less volatile than shipbuilding as demand for its services was largely conditioned by the size of the extant stock of shipping. Those large shipbuilding firms which had repair functions used them to even out fluctuations in shipbuilding demand by utilising overheads and labour that otherwise would have been unused.

Craft unions, many of their members organised in squads, their functions strictly demarcated, dominated the production process in shipbuilding and also in the ship repair sector. In the hull trades, dominated by the Boilermakers' Society (the United Society of Boilermakers and Iron and Steel Shipbuilders), a form of supervisory control was exerted by squad leaders who in turn were hired and overseen by foremen who had been promoted from the ranks of the skilled workforce. Higher management control was basically left to a small cadre of middle managers appointed by owners. Payment of labour was determined by a plethora of time rates, piecework, price-agreed contracts, bonuses, and allowances to particular trades; and the form of employment, owing to the cyclical nature of the demand for ships, was essentially casualised.¹³ Termination of employment was usually

discussing questions in relation to general fluctuations in wage rates; part 2 dealt with local matters; and part 3 provided a mechanism to determine general questions (excluding wages) on an inter-district basis. The agreement was to last three years and could be terminated at six months' notice. It was reviewed again in 1913 and renewed, but owing to the outbreak of the First World War it was placed in abeyance until 1919.

¹² For the First World War, see, for example, Robinson, "How Ship Repairing Helped to Win the War". In the interwar period, Smith's Dock Co., Ltd, claimed to be the largest dry dock owners and repairers in the world. For an overview of shipbuilding, see Murphy, "The British Shipbuilding Industry During the Great War".

¹³ Ships' platers, who were at the apex of the hull trades, belonged to the Boilermakers' Society, as did angle iron smiths and riveters. Platers, the highest paid of the hull trades, were organised

at one day's notice and in some cases at one hour's notice, and the average working week up to January 1919, when there was plenty of work available, was 54 hours; thereafter it was reduced to 47 hours.¹⁴

What control trade unions had externally in shipbuilding and repair was in determining who had the right to enter these industries. Both industries ran on the principle of the pre- or post-entry "closed shop"; that is, a potential entrant already had to belong to a recognised trade union or had to join one post-entry. Historically, owing to the low levels of education of the workforce, the division of labour in shipyards was strictly demarcated, which gave rise to myriad disputes over which trade had the right to undertake a particular job or process and – more importantly for the long-term future of autonomous trade unions, of which there were around twenty-seven in the British shipbuilding industry in 1912 – to retain the right to exclusively dominate it. In short, shipyard work was inherently sectionalised, and trade unions within it, particularly the Boilermakers' Society, which largely controlled the hull trades, mirrored that sectionalism and strictly enforced entry to particular trades.¹⁵ Long-held animosity since the days of transition from wooden to iron and then steel shipbuilding between the shipwrights and boilermaking trades always bubbled under the surface, as did that between shipwrights and joiners.¹⁶ Unions were also allowed to control

in squads of skilled (including angle iron smiths) and unskilled (platers' helpers) men, although the numbers varied in different shipyards and districts. Commensurately, plating squads were much smaller in ship repair. Riveting squads comprised the principal method of metal joining in the industry.

14 The Amalgamated Engineering Union members in shipbuilding were locked out by employers for a period of thirty weeks from July 1897 over a demand for an eight-hour day. It was the most costly trade dispute in shipbuilding in the whole of the nineteenth century, and continued employers' attempts to impose their will on shipbuilding and engineering workers in a period when laissez-faire attitudes were particularly strong in shipbuilding. See Pollard and Robertson, *The British Shipbuilding Industry*, 162. From the beginning of the lock-out, membership of the Engineers Employers' Federation, which stood at 180 firms, expanded to 702 at its close. See Zeitlin, "The Internal Politics of Employer Organization", 56. It should be noted, however, that the engineering function in British shipyards, mostly marine-engine building, was nonetheless an important part in shipbuilding, but was small in relation to engineering factories and workshops in the wider British economy.

15 In 1912 a national Demarcation Agreement between employers and twenty-three trade unions was reached, which applied to both engineering and shipbuilding trades. Crucially, the Boilermakers' Society was not party to the agreement, nor were some other smaller unions. The history of the Boilermakers' Society (founded 1834) has been written by Jim Mortimer, a former head of the Advisory, Arbitration and Conciliation Service (ACAS), made a statutory body in 1976 under the Employment Protection Act, 1975. See Mortimer, *History of the Boilermakers' Society*.

16 Traditionally, joiners were confined to working on wood less than 1.5" in thickness and used hammers and planes. Shipwrights undertook heavier woodwork with adzes and mallets.

entry of apprenticeships and the ratio of them to skilled tradesmen. Indeed, trade unions traditionally saw apprentice labour as a means for employers to undermine wages of time-served tradesmen (usually five years as indentured apprentices). Typically, the demand for workers varied widely according to the stage in the production process reached. For example, the boilermaking trades, angle iron smiths, riveters, platers, and, much later, welders were almost exclusively concerned with the construction of iron and, later, steel hulls. The fitting-out trades such as joiners, electricians, and plumbers were also highly unionised, but were more generally employable outside shipbuilding, particularly in construction of houses and in the building trades generally.

Although demarcation disputes between trades were commonplace, their effects were less significant in terms of working hours lost than was the case with general disputes, with the employers' organisations resorting to the general tactic of the lock-out and therefore closing their establishments until workers returned to work on conditions less favourable than those which began the dispute. Extended lock-outs also had deleterious effects on trade union finances.¹⁷ The adversarial and ultimately corrosive nature of industrial relations in shipbuilding and repair gave rise to an enduring level of suspicion in employer-employee relationships bordering on hatred, which only got worse in the largely depressed interwar period. Such dispute resolution that was in place was often circumvented by unofficial (non-trade union sanctioned) disputes. However, the extreme subdivision of labour in British shipyards was not mirrored in continental shipyards, where there was more interchangeability of workforces. Trade unions in Dutch shipbuilding, for example, were not delineated on a craft basis: they embraced all classes of workers, skilled, semi-skilled, or unskilled, and the six unions in Dutch shipbuilding were organised on a religious-political basis.¹⁸ Both Dutch and German shipbuilding workforces worked longer hours in a week (54 hours) and for less pay than their British counterparts (47 hours).

¹⁷ There were national lock-outs in 1897-98, 1907, and 1908 (twice), and in September 1910 the employers enforced a national lock-out of the Boilermakers' Society at one day's notice. The lock-out lasted for two months before the employers agreed to meet union delegates, and continued for another fifteen weeks. The financial effect on the Boilermakers' Society meant that they had to suspend the payment of unemployment benefit to its members for three years. See Pollard and Robertson, *The British Shipbuilding Industry*, 162.

¹⁸ *Glasgow Herald*, 30 December 1925. The six were: the Social Democrats, the Syndicalists, the Bolsheviks, the Christians (Protestants), the Roman Catholics, and the Neutrals.

Nonetheless, attempting to adequately quantify whether lower wages and working longer hours elsewhere severely disadvantaged British shipyards is difficult. Piecework (performance related to pay) was far more common on the continent than in Britain, and continental shipyards were more capital-intensive.¹⁹ One could of course determine absolute levels of wages from national statistics to make a general case. British shipbuilders, however, consistently laid the blame largely on their “difficult” and overpaid workforce.²⁰

The First World War

By state legislation from 1915, compulsory settlement of disputes lasted to the end of the First World War, and in 1919 the industry returned to the observance of pre-war agreements. Beforehand, the successful prosecution of war meant that the government demanded a less confrontational approach to industrial relations in what was a period of full employment. To ensure military victory, the production of munitions of war to the fullest output possible in the broadest sense, including shipbuilding and the protection of skilled labour, was paramount. In this regard, employers’ organisations were secondary: the Treasury Agreements of 17-19 March 1915 were a bilateral compact between the state through the chancellor of the Exchequer, David Lloyd George, the president of the Board of Trade, Walter Runciman (a shipowner), and trade union leaders, which *inter alia*, guaranteed restoration of pre-war practices. However, for the duration of the war only, it also allowed dilution of the workforce to include semi-skilled and female workers at skilled rates of pay.²¹ This agreement directly led to the Munitions of War Act, 1915, which prohibited employer lock-outs, strikes (the latter still occurred but on an unofficial basis, particularly on Clydeside), and the restriction of output. It also instituted controlled establishments, which prevented traditional mobility of labour in shipbuilding districts.²²

19 On piecework undertaken in continental shipyards, see Jones, *Shipbuilding in Britain*, 78-79. Piecework is a form of employment in which a worker is paid a fixed rate for each unit produced or action performed regardless of time.

20 When addressing the House of Commons Commercial Committee in 1925, the leading British shipbuilder, Sir James Lithgow, stated: “our lower hours and higher wages” had burdened British shipbuilding, “with a much greater cost than our world competitors”. See Johnman and Murphy, *British Shipbuilding and the State Since 1918*, 24.

21 Clause 6 of the Treasury Agreement provided for the relaxation of trade practices, “solely to work for war purposes during the war period. Operations on which skilled men are at present employed, but which by reason of their character, can be performed by semi-skilled or female labour, may be done by such labour during the work period”.

22 Munitions of War Act, 1915, 5&6 Geo.5, ch.54.

The Interwar Period

British shipowners lost nearly 9 mn gross registered tons (grt) of shipping during the First World War due to enemy action. A short-lived post-1919 replacement boom, resulting in a record launching output of the British shipbuilding industry of 2 mn grt in 1920, soon gave way to a collapse in freight rates.²³ Thereafter, the industry's prospects were largely poor as worldwide shipbuilding capacity, much of it built up abroad during the First World War for nationalistic reasons as British shipping lost many of its traditional markets, exceeded demand. Those larger firms in the industry, primarily the mixed naval and mercantile builders which could normally have expected some counter-cyclical respite by gaining naval work, were severely affected by international naval limitation treaties, first in 1921 and later in 1930 limiting the construction of warships to an agreed ratio.²⁴ Consequently, for the British shipbuilding and -repairing industries, the interwar period was largely one of contraction.

When freight rates collapsed in 1921 skilled and apprentice employees in the 29 member firms of the Clyde Shipbuilders Association totalled 42,209. With the collapse in demand for ships this figure had fallen in 1923 to 19,115, about 51 per cent of the 1913 figure. When labourers are included, overall male unemployment in Clyde shipbuilding in 1923 stood at 32,000. In April of that year the spectre of an employers' lock-out once again raised its head, this time over the Boilermakers' Society's refusal to sign a nationally agreed overtime clause. The resultant lock-out lasted seven months.²⁵ Consequent upon the 1921 depression in trade, wages were substantially cut and bonus payments, a feature of the last years of the war, were ended. With

23 Shipbuilding is particularly vulnerable to fluctuations in the volume of world trade. Capacity cannot be rapidly adjusted to changes in demand, which are immediately reflected in the level of freight rates.

24 The Washington Naval Treaty of 1921 secured parity of fleets between Britain and the United States and a margin of superiority over Japan both in terms of capital ships (battleships, aircraft carriers, and heavy cruisers) without the need for large expenditure on new construction. The treaty also provided for the cancellation of four British battlecruisers already on order but also allowed the building of two battleships of up to 35,000 standard displacement tons within a decade. The London Naval Treaty was an agreement between Britain, Japan, France, Italy, and the United States signed on 22 April 1930, which regulated submarine warfare and limited warship building. It remained in operation until 1936. A second London Naval Treaty was signed by Britain, France, and the United States on 25 March 1936. Beforehand, both Japan and Italy had withdrawn from negotiations. For this period, on shipbuilding, see Peebles, *Warshipbuilding on the Clyde*.

25 Johnman and Murphy, "An Overview of the Economic and Social Effects of the Interwar Depression", 234.

a substantial number of berths empty due to low demand, trade unions were obviously in a weak position, and wages and conditions continued to be cut. By January 1923, as Leslie Jones has noted, labour's wartime gains had been substantially lost and money wages had reverted almost to their 1914 level.²⁶

The labyrinthine complexity of wage rates, bonuses, allowances, and piecework rates in shipbuilding trades and the differing interpretations and practices in diverse shipbuilding districts put on them are difficult for non-specialist historians to comprehend. The sheer amount of time expended on pricing jobs and ensuring compliance to previously agreed rates of output, hours worked, and bonus payments applicable obviously indicated the need for some root-and-branch reform. However, the extant system suited employers, who knew that in times of weak demand they could cut wages and conditions; conversely, when demand was high, labour could and did demand increases in wages, which were met, but mostly only in part.²⁷ This boom-slump mentality pervaded the industry – organised labour was inured to periods of unemployment – and owners were particularly risk-averse to installing expensive capital equipment as no shipbuilder wished to be left with this equipment unused when the next slump *inevitably* came. Moreover, any introduction of labour-saving devices or processes would *inevitably* lead to trade union confrontation over staffing levels, allowances, conditions, etc.²⁸

Rather than press for increased capital equipment use in shipyards, the owners had begun to look at reinterpreting work practices to further cut wage costs and improve productivity. The first occasion that an order from a major British ship-owning firm had gone abroad obviously gave them reason to do so. By 1925, a Joint Enquiry into Foreign Competition and Conditions in the Shipbuilding Industry between the SEF and the trade unions had been established. The enquiry was occasioned by Furness Withy ordering for the round-the-world service of its subsidiary, the Prince Line, five motor ships

26 Jones, *Shipbuilding in Britain*, 190.

27 A good example of this is the reversal of the 1923 situation when output picked up through 1925-27. By 1927, weekly time rates were 37 per cent above the pre-war level for a cadre of skilled workers; rates for semi-skilled were 50 per cent above and for unskilled 65 per cent above pre-war. Average earnings for all pieceworkers in July 1927 were 90 per cent, higher for an average 41-hour week. See Jones, *Shipbuilding in Britain*, 193-194. It should be noted that the standard working week remained at 47 hours.

28 The National Archives, Kew, London (hereafter NA), T160/59. Destitution in the insured shipbuilding workforce was largely mitigated by National Insurance out-of-work payments (unemployment relief) from the state. As a senior official, R.W. Peck of the Scottish Health Board, put it, the casualised labouring classes had gained relatively most from unemployment relief, which had ensured at least a regular supply of food.

from a German shipyard, Deutsche Werft AG of Hamburg. The German tender at £850,000 was £60,000 less for each ship than the lowest tender from a British shipyard, £1,150,000.²⁹ The Furness Withy order provoked an entirely predictable storm of apoplexy from British shipbuilders and shipyard trade unions. The enquiry, reported on an interim basis in 1925, and later in June 1926. The employers put forward three proposals for securing greater interchangeability of the workforce without infringing on the broad principles of craftsmanship. None were accepted by trade unions and no action was taken.³⁰ There were also the usual allegations of unfair foreign competition fuelled by subsidy, which conveniently ignored government assistance to British shipbuilding and shipping under the Trade Facilities Acts, begun in 1922 and which were to be renewed until 1927.³¹

From almost all of the interwar period to the outbreak of the Second World War, unemployment in shipbuilding and ship repair remained stubbornly high and well above the average for all industries for most of this period. In the aftermath of the General Strike in 1926 precipitated by an employers' lock-out of more than 1 million coal miners, further conciliatory measures were ushered in but wage demands persisted. A new claim for higher wages in 1929 resulted in a significant breakthrough on wages in the interwar period, the introduction of a national uniform plain-time

29 Johnman and Murphy, *The British Shipbuilding Industry*, 23. Deutsche Werft promised delivery of the first ship in ten months – the lowest British tender promised delivery in fourteen months. For Furness Withy, see Burrell, *The History of Furness, Withy and Company Limited*, 95. All five motor ships of 6,734 grt were completed in 1926. Subsequently, it was reported that Deutsche Werft had built the ships at a loss.

30 National Maritime Museum, Greenwich, Shipbuilders and Repairers National Association papers (hereafter NMM SRNA), Joint Enquiry into Foreign Competition and Conditions in the Shipbuilding Industry, Report, June 1926, 11 and Interim Report, October 1925.

31 The Trade Facilities Act, 1921 (TFA), empowered the Treasury, on the recommendation of an Advisory Committee, to guarantee, in respect of interest or principal or both, loans calculated to promote employment in the United Kingdom. The aggregate capital amount of loans in respect of which guarantees might be given was not to exceed £25,000,000. The Treasury, in accordance with the act, agreed to guarantee such loans to a prescribed limit. The loans in question were raised by borrowers from various private sources, and there was no question of the Treasury making any payments unless and until it had to implement any of its guarantees. The Trade Facilities Act was renewed and its upper limit extended on occasion until it finally expired in March 1927. By May 1927, the final limit of £75 mn for TFA guarantees had almost been reached, with £74,251,780 already pledged. Of this total the amount of guarantees to the shipbuilding industry was £21,640,585 comprising 29.1 per cent of the total and making shipbuilding the largest beneficiary of the acts: British Parliamentary Papers (hereafter BPP), House of Commons Official Report, vol. 206, col. 918, 16 May 1927. For a full analysis of the Trade Facilities Acts and their effects on British shipbuilding and shipping, see Johnman and Murphy, "Subsidy and Treasury".

rate in 1930. Although national wage agreements had been in force since 1908 on a voluntary collective bargaining basis, there were numerous hangovers from the old system of district and local rates of pay leading to considerable variations in time rates. Custom dictated the negotiation of separate craft rates, which not only maintained wage differentials between skilled, semi-skilled, and unskilled workers (labourers) but also resulted in different rates between and within districts. The lack of uniformity of wage rates industry-wide was therefore a prime factor in wage parity claims. The 1930 agreement abandoned separate craft rates and brought in a uniform plain-time rate for skilled and unskilled workers, but not for semi-skilled workers. The latter category was to be given the same advance as the unskilled to preserve differentials. Those districts where rates were higher than the uniform rate were given time to iron out difficulties where the introduction of the new time rate would have resulted in hardship. The new uniform plain-time rate was accepted without serious industrial action and, given the worldwide depression consequent upon the Wall Street crash in October 1929, incidentally a "boom" year for British shipbuilding, this was hardly surprising. The uniform plain-time rate was strengthened in 1931 by reductions in pieceworkers' earnings through simplification and consolidation of piecework rates, which gave a closer correlation between output and earnings. Wages remained steady until 1936, when the pressure of rearmament began to tell and, as Jones noted, time and piecework rates rose accordingly up to 1938.³² Nevertheless, although the introduction of a national uniform plain-time rate was important, it in no way guaranteed the completion of the then 47-hour working week.

Contemporaneously, with the establishment of the uniform plain-time rate by the SEF in 1930, representatives of the industry's trade association, the Shipbuilding Conference, had been formulating a scheme of rationalisation, as they put it, in the face of increasing world capacity and subsequent competition. With aid from the Bank of England, a rationalisation vehicle, National Shipbuilders Securities Ltd (NSS), was formed in 1930.³³ By 1938, NSS had eliminated, through a series of restrictive covenants against any return to shipbuilding, one-third of the industry's shipbuilding capacity. No consideration was given that this capacity, much of it made redundant by a general increase in the size of ships, would have been closed in any event. Moreover, its activities in closing yards led to heavy localised unemployment, with the closure of Palmers on the Tyne sparking the Jarrow hunger

32 Jones, *Shipbuilding in Britain, 192-198*, discusses wage rates in this period in detail.

33 For NSS, see *ibid.*, 133-140. See also Slaven, "Self-Liquidation".

march to London and leaving an unemployment rate of 70 per cent in that town alone.³⁴ NSS was essentially a price-protective measure in the sense that remaining firms, faced with less competition, could raise prices: in this regard its activities were faux rationalisation. By this stage, however, the mixed naval and mercantile shipbuilders had returned to profitability owing to rearmament in anticipation of a coming war.

Up to this point the situation for labour in mixed naval and mercantile shipyards had improved. The naval race to build capital ships meant many years of work, actual and potential. However, for the mercantile-only yards, demand still lagged. Attempts by the British government to stimulate demand for mercantile tonnage through a short-lived scrap and build scheme from 1936 had provided some respite, but in effect had not solved the industry's fundamental problems in relation to international competition. Indeed, the industry's trade association, the Shipbuilding Conference, had informed the government in secret in 1938 that British shipbuilding could no longer compete with continental builders on the fundamental issues of price and delivery.³⁵

For shipbuilding and ship repairing labour, the 1920s and the bulk of the 1930s had been very difficult in terms of job security or, more correctly, the lack of it. At the nadir of the interwar depression in 1933, some 60 per cent of all workers in British shipbuilding and repair were unemployed and in Scotland the figure was 77 per cent.³⁶ In contrast to other industrialised countries, however, social welfare provisions for the unemployed in Britain were more advanced.³⁷ It is plain that the uncertain nature of demand meant that employers saw labour as a variable rather than a fixed cost of production – thus the burden of unemployment was placed firmly

34 For this, see Wilkinson, *The Town That Was Murdered*.

35 NMM SRNA 5 / H3, Summary of a Memorandum by Sir Amos Ayre on conditions existing in the shipbuilding industry at December 1938.

36 Percentages of unemployed are compiled from Ministry of Labour publications, various years.

37 In the interwar period, Britain had a relatively advanced welfare system compared to many of the other industrialised countries. In 1911, a compulsory national unemployment and health insurance scheme had been put in place by the Liberal government, funded through contributions from government, employers, and workers. Initially, the scheme applied only to certain trades, but in 1920 it was expanded to include most manual workers. The scheme ran on the level of contributions made rather than according to need, and was payable only for 15 weeks; thereafter, recipients had to rely on poor law relief or charitable help. In August 1931, the 1911 scheme was replaced by a fully government-funded unemployment benefit system that paid out according to need rather than the level of contributions, but was determined by means testing of claimants to ensure that they had no hidden earnings, savings, or other sources of income.

Table 2.1 Incidence of unemployment in selected industries, December 1921 to June 1939 (percentage of insured workpeople unemployed)

Date	All insured occupations	Shipbuilding and repair	Iron and steel	Coal mining
Dec. 1921	16.2	36.1	36.7	11.1
Dec. 1922	12.2	35.6	22.1	4.6
Dec. 1923	10.7	34.2	17.1	2.4
Dec. 1924	10.9	31.9	27.6	7.9
Dec. 1925	10.5	36.9	24.4	11.3
Dec. 1926	11.9*	42.2	34.5	10.2*
Dec. 1927	9.8	21.5	22.7	17.3
Dec. 1928	11.2	30.3	19.8	19.1
Dec. 1929	11.1	23.3	22.0	14.6
Dec. 1930	20.2	45.1	50.6	19.7
Dec. 1931	20.9	60.1	45.4	24.6
Dec. 1932	21.7	63.5	45.1	29.2
Dec. 1933	17.6	54.5	28.6	25.7
Dec. 1934	16.1	46.0	23.7	23.2
Dec. 1935	14.2	37.2	17.5	19.4
Dec. 1936	12.2	26.9	12.1	16.4
Dec. 1937	12.2	22.9	11.0	11.5
Dec. 1938	12.9	22.5	24.5	14.4
June 1939	9.7	19.6	9.6	13.1

Notes: * Exclusive of persons who were disqualified from unemployment benefit on account of the coal mining dispute commenced on 1 May 1926

In September 1937 a revised procedure for counting the unemployed was introduced.

Source: Ministry of Labour publications

on the workforce. Employers' strategies in the 1930s, NSS rationalisation exempted, included closing down shipyards completely until demand was re-established, sometimes for periods of five years or more.³⁸ Many unmarried workmen in particular left the industry for good or emigrated.³⁹ For those left attached to the industry, the major technical change during the interwar period – the adoption and more widespread diffusion of electric arc welding in place of the industry's principal method of metal

38 See Johnman and Murphy, "An Overview of the Economic and Social Effects of the Interwar Depression", 246.

39 *Ibid.*, 225 and 234. Skilled emigration to the United States alone from 1921 to 1930 accounted for over 18,500 male Scots metalworkers and engineers – the largest outpouring of an occupational group to any overseas destination. In the wake of the passing of the Empire Settlement Act of 1922 there is substantial evidence of Clyde shipyard workers emigrating to Canada in particular.

Table 2.2 World and British mercantile output 1920-1938: tonnage launched (ooo tons)

Year	Britain	% of world	World output	% British output for export
1920	2,056	35.1	5,862	18.2
1921	1,538	35.3	4,357	17.4
1922	1,031	41.8	2,467	15.7
1923	646	39.3	1,643	1.9
1924	1,440	64.1	2,248	21.5
1925	1,085	49.5	2,193	13.8
1926	640	38.2	1,675	8.0
1927	1,226	53.6	2,286	20.2
1928	1,446	53.6	2,699	18.9
1929	1,523	54.5	2,793	17.0
1930	1,479	51.2	2,889	31.6
1931	502	31.0	1,617	10.0
1932	188	25.9	727	9.0
1933	133	27.2	489	3.3
1934	460	47.6	967	8.4
1935	499	38.3	1,302	7.4
1936	856	40.4	2,118	6.9
1937	921	34.2	2,691	6.6
1938	1,030	33.9	3,034	9.3

Source: Lloyd's Register Annual Returns, various years

joining (riveting) – threatened the extant methods of division of labour. Unsurprisingly, the employers' attempts to make welding a semi-skilled occupation were fiercely resisted by the Boilermakers' Society which eventually captured, through a series of unofficial strikes, aggressive recruitment, and a coherent national strategy, the process for its own members against competing trade unions.⁴⁰ They were substantially aided

40 From 1932 onwards discussions between the Shipbuilding Employers' Federation and trade unions on a more widespread adoption of electric arc welding in shipbuilding were concentrated on the employers' attempts to introduce a new class of "ship welder". New entrants would be subject to enforced wage rates to keep any growth in wages containable as the process of welding gained more widespread application. The employers' attempts induced a series of strikes by the Boilermakers' Society on the Clyde and Tyne. The Boilermakers' Society, in the end, gained control of the process and thwarted the employers' attempts to isolate it. The initial schemes to introduce ship welders are analysed through the medium of SEF Circular Letters by McGoldrick, "Crisis and the Division of Labour". See also Johnman and Murphy, "Welding and the British Shipbuilding Industry", and Murphy, "The Health of Electric Arc Welders".

in this by two factors: employer disunity and rearmament, the latter ensuring a return to consistent profitability. Taken together, these factors eventually led to the crumbling of the employers' plans and the adoption of a payment-by-results scheme and recognition by employers that the Boilermakers' Society had the right to control the process.⁴¹ Such had been the advance of foreign competition during the interwar period that, by December 1938, Britain's percentage share of world shipbuilding output had slumped to 29 per cent, half the amount of 1914. Unemployment in British shipbuilding and repair in comparison to other basic industries is shown in Table 2.1.

Throughout the interwar period there had been a persistence of oversupply in shipbuilding and repair in relation to demand. It would be frankly ludicrous to assume that British shipbuilding would have kept or added to its 1914 percentage share of world output of 60 per cent indefinitely. Other countries, notably, Germany, the Netherlands, Sweden, France, Italy, and Japan, had built up their shipbuilding industries and to greater or lesser extents reserved the building of their fleets to their domestic industries. British shipbuilding exports, by definition, had to suffer accordingly.

British shipbuilding's failure to reform its work organisation and reinforce its previous lead in design and construction of ships would have telling effects. By the outbreak of the Second World War in September 1939, both the British shipbuilding and ship repairing industries were qualitatively and quantitatively weaker than they had been in 1918. Management and workforces were on the whole old, and equipment was largely outdated in comparison to more capital-intensive continental yards. Moreover, the war, its longevity, and its immediate aftermath would mask British shipbuilding and repair's fundamental weaknesses: lack of international competitiveness, lack of investment, and inherently corrosive industrial relations.⁴²

41 McGoldrick, "Crisis and the Division of Labour", 179.

42 Clydeside, the most important centre for warship building and passenger liner construction, had long been a battleground between unions and employers. Relationships in the other major centre of British centre of shipbuilding activity, the north-east coast of England, were on the whole better. A good indication of how Clydeside shipbuilding employers saw their workforces came to light in a Mass Observation study of 1942, when interviewers of one particular unnamed employer were "subjected to two-hour tirade against these animals", and several other prominent employers displayed "an almost pathological hatred of their workmen": NA CAB 102/379 Industrial Relations and Welfare in Admiralty Establishments and Contractors Works: unpaginated draft.

The Second World War

Shipbuilding and repair quickly came under the command of the British Admiralty, with three owners of private shipbuilding and repair firms in overall supervisory control of merchant shipbuilding by 1 February 1940.⁴³ As in the First World War, output was heavily skewed towards naval craft and warships, and ship repair was again vitally important.⁴⁴ As such, new construction of mercantile tonnage had lower priority, and orders for merchant ships were placed in the USA and in Canada.⁴⁵ The shipbuilding employers again had to co-operate with trade unions in the national interest and not in their own. Strikes, although outlawed, still occurred, and dilution of the workforce again took place with unskilled men and women entering employment, but only after unemployed tradesmen had done so and only after the transfer of former employees from other industries had taken place.⁴⁶ During the war and indeed the interwar period, the highest incidence of strikes in the munitions industries as a proportion of the workforce employed took place in shipbuilding.⁴⁷ The numbers of strikes during the war, by year, are given in Table 2.3.

As in 1915, the trade unions were party to legislation in 1942 which, after the war, would restore their pre-war practices.⁴⁸ Dilution of labour – male and female – did not have any measurable effect on shipbuilding and repair,

43 Sir James Lithgow, of the Port Glasgow mercantile shipbuilders, Lithgows Ltd, was appointed Controller of Merchant Shipbuilders and Repairs based at the Admiralty. Sir Amos Ayre of Burntisland Shipbuilders, Fife, was appointed as his deputy. Sir Lawrie Edwards of Middle Docks on the Tyne was given responsibility for ship repair. For British shipbuilding and repair during the Second World War, see Johnman and Murphy, *British Shipbuilding and the State Since 1918*, ch. 3. See also Ayre, "Merchant Shipbuilding During the War". For warship building, see Buxton, *Warship Building and Repair During the Second World War*. For the war at sea, see Roskill, *The War at Sea*.

44 For ship repair, see Edwards, "The War Effort and Organisation of British Shiprepairing". From January 1941 to June 1945 an annual average of 800,000 grt of shipping was permanently withdrawn from service solely due to repairs. In all a huge total of 180 mn grt of cargo-carrying shipping was restored to service, although many of these repairs were of a routine nature. More workers were employed on mercantile repairs than new construction for the duration of the war; see NA CAB 102/440 Merchant Shipping and Repairs, vol. II.

45 See Johnman and Murphy, "The British Merchant Shipping Mission to the United States". For the American shipbuilding effort, see Lane, *Ships for Victory*. For Liberty ships, see Elphick, *Liberty*. See also Lindberg and Todd, *Anglo-American Shipbuilding in World War II*; for Canada, see Pritchard, *A Bridge of Ships*.

46 For the role of women, see Murphy, "From the Crinoline to the Boilersuit".

47 Inman, *Labour in the Munitions Industries*, 394.

48 Restoration of Pre-War Trade Practices Act, 1942 5&6 Geo.6.

Table 2.3 Strikes in the British shipbuilding industry, 1939-1945

Year	No. of strikes beginning in year	No. of workpeople involved	No. of working days lost
1939	39	4,300	37,000
1940	65	10,100	37,000
1941	147	27,300	110,000
1942	111	42,000	192,000
1943	196	32,000	137,000
1944	199	44,000	370,000
1945	186	27,700	143,000

Source: NA CAB 102/877

nor did any general or specific move towards interchangeability of trades.⁴⁹ Indeed, shipbuilding and repair were not deemed to be essential industries for the control of labour until March 1941, when the Essential Work (Shipbuilding and Repairing) Order came into force. There was, however, virtually no change in the course of the war in the proportion of labour recognised as skilled in shipbuilding.⁵⁰ It was hardly surprising, therefore, given the shipbuilding industry's record of low investment in the interwar years, that two official investigative reports in 1942 laid bare its fundamental shortcomings.⁵¹ Arising from these reports, there began what the military historian Correlli Barnett has described as a remarkable feat of re-equipment during the war.⁵² By far the most important and far-reaching change during the war was the extension of electric arc welding in shipyards and associated plant, extensively funded by the Admiralty. By September 1943, at which stage the Battle of the Atlantic against the German U-boat threat had turned in the Allies' favour, 90 per cent of shipyard welding schemes had been completed or were nearing completion.⁵³

49 Johnman and Murphy, *British Shipbuilding and the State*, 69. In 1942, fifteen Clydeside shipbuilding firms had no dilution whatsoever in their hull trades.

50 After a slight drop from 50 per cent in 1940 to 47 per cent in 1942-43, it rose again to 48 per cent by the end of the war. See NA CAB 102/47 Labour Requirements and Supply, Shipbuilding and Engineering, 1939-1945, 191. This master copy in draft was used by Peggy Inman for her official history: Inman, *Labour in the Munitions Industries*.

51 NA ADM 1/11892 Labour in Mercantile and Naval Shipyards (Barlow Report to the Ministry of Production), July 1942. Barlow expressed a damning conclusion that "a degree of complacency among all concerned permeates the whole field of production": NA BT 28/319 Report to the Machine Tools Controller on the Equipment of Shipyards and Marine Engineering Shops (Bentham Report), September 1942. Bentham recommended "exceptional financial consideration ... to deal with improvements in plant", and improvements in welding, craneage and prefabrication.

52 Barnett, *The Audit of War*, 119.

53 Johnman and Murphy, *British Shipbuilding and the State Since 1918*, 82-83.

Later in the war, as the invasion of Europe loomed, the shipbuilders began to discuss the competitive position of the industry after the war. Unsurprisingly, they looked back before they looked forward; with Amos Ayre of Burntisland Shipbuilding stating that “the unions must be told what the situation was in 1938”.⁵⁴ However, early in 1945, the Clyde shipbuilder Sir Maurice Denny presciently stated that modernisation was an absolute necessity and, if not undertaken quickly, its absence would result in our “bequeathing to our successors the same legacy of strife, frustration and comparative stagnation that has been on the whole a characteristic of our industry in the past”.⁵⁵ As a result of these discussions the employers formed a Committee on Improved Shipbuilding Practice and a sub-committee on Methods of Shipbuilding Construction, the latter spawning four sub-committees.

As the war neared its end, however, the employers once again began to insist of their pre-war right to hire and fire at will. On Clydeside, employers paid off older tradesmen in the Boilermakers’ Society and were making a concerted drive to rid themselves on the obligations imposed upon them by wartime regulations, in order “to return to the old starvation method of applying discipline”.⁵⁶ From the point of view of the Boilermakers’ Society, however, just as they had wrested control of welding during rearmament, they did likewise on staffing levels on new technology such as automatic welding machines during the war and shipyard trades generally remained non-interchangeable. New technology altered the quantity of labour required, not its type.

War losses of British ships of 200 grt and larger numbered 1,719 and totalled 8,738 mn grt – around half the mercantile fleet afloat in 1939; however, some of this lost tonnage had been made good by new construction during the war and by ship purchases from abroad. Nonetheless, British tonnage was 3.5 mn grt less than in September 1939.

The post-1945 situation

Given that the competitive position in 1938 was worrying, if not yet fatal for British shipbuilding and repair, then the immediate post-war years presaged continuing profitability as large numbers of ships were reconverted to mercantile use and new construction began. The prospect of continuing

54 NMM SRNA 4/P11 Committee on Improved Shipbuilding Practice, 1944-45, shorthand notes.

55 NMM SRNA 4, P11/3 Sub-Committee on Welding, Denny to Ayre, 6 February 1945.

56 NA LAB 8/662 Efforts to Secure a More Efficient Use of Labour Supply in the Clydeside Area and in the Shipbuilding Industry, report for August 1944 to Reporting Officer, Scotland.

profits and returning to private rather than the national interest led to the employers' sub-committees begun in 1944 withering on the vine, and shipbuilders once again competing against each other rather than meaningfully co-operating on making the industry more internationally competitive. The Shipbuilding Employers' Federation duly returned to its pre-war position of determining labour matters and reinforcing its apparent obsession with procedure, and the trade unions returned (but were in a much better position than was the case in the majority of the interwar period) to the standard adversarial industrial relations that had bedevilled the industry beforehand. The big difference for labour was that this time, in a reversal of what had occurred post-1920, they did maintain their wartime gains in wages and conditions and indeed increased earnings in the favourable post-war climate. Britain's major pre-war competitors, the Allied-occupied Axis powers of Nazi Germany and imperial Japan, their economies in various states of temporary ruination, were not allowed to return to ocean-going shipbuilding in the immediate post-war period, and their economic stock was also subject to reparations and demolition.⁵⁷

It did not require remarkable prescience, however, to forecast that when they did, and when sufficient profits were made, more capital-intensive methods of production replacing outdated plant and equipment were likely to dominate. Moreover, concentration on fewer and, in all likelihood, larger ship types such as tankers and bulk carriers would result. Indeed, the lessons learned from multiple production techniques, welding of sections and plates, standardisation of products and equipment, prefabrication techniques, non-demarcated labour, and better shipyard layouts to facilitate production by reducing bottlenecks, as practised in the USA's emergency wartime shipbuilding programme, were likely to be copied elsewhere.

British shipyards, many of them dating from the days of wooden shipbuilding, were on the whole spatially constrained and had grown in a haphazard manner – no British shipbuilder with a full orderbook even contemplated a greenfield shipyard site in the post-war period. Intrinsicly, British shipbuilders still feared world overcapacity and the violent fluctuations in demand that had characterised much of the interwar period.⁵⁸ Moreover, the industry's

57 NMM SRNA Report of Executive Board of Shipbuilding Conference, 15 November 1946. At this stage little had been done towards the destruction of shipbuilding facilities in Germany. Some plant had been removed from Kiel, and the large gantries at the Blohm and Voss shipyard had been blown up.

58 For example, see Stephen, "Full Employment in British Shipyards": "No industry has had such a record of booms and slumps in the past as has British shipbuilding ... history has shown quite clearly that wars have had ... a very adverse effect on British shipbuilding". Stephen pointed out

leaders, wholly against a return to merchant shipbuilding by the Axis powers, also feared that the USA's plans for European reconstruction would inevitably result in a reversal of reparations policy and agitation for a return to German ocean-going ship construction for export. In this, they were to be later proved correct.⁵⁹ As for a return to Japanese ocean-going shipbuilding, Britain was in a much weaker position owing to American occupation of Japan.

This however, was some years off. In the interim, the situation in the market for ships was somewhat skewed as large numbers of American war-time emergency-built Liberty ships and tankers as well as Canadian-built emergency ships came on to the market. From 1 July 1945 to 30 June 1953, 11 mn tons of American shipping, chiefly Liberty ships, were transferred to foreign registers, with an estimated 1.56 mn tons going to British ship-owners.⁶⁰ The many ships remaining from what can only be described as a remarkable shipbuilding effort by the USA post-Pearl Harbor, predicated on speed of construction and maximum output of standard ships at high labour costs, were consigned to the US Reserve Fleet, which was, in terms of tonnage laid up, the largest in the world.⁶¹ British shipbuilders and -repairers

that as a result of the post-1918 boom the industry had expanded to 133 per cent of its pre-1914 capacity, having available less than its pre-1914 demand.

59 NMM SRNA Report of the Executive Board of the Shipbuilding Conference, 26 May 1949. Resulting from the Potsdam Conference of 17 July to 2 August 1945, Allied restrictions on any return by German shipbuilding to ocean-going ship construction were imposed. German companies were, in the interests of improving the European and German economy, allowed to develop a coastal fleet restricted to 1,500 grt per vessel, later raised to 2,700 grt. The extent of coastal fleet building was estimated to be at a limit of 517,000 grt, including 360,000 grt of dry cargo vessels. German shipowners were also allowed to purchase tankers of not more than 7,700 grt from abroad up to a total of 100,000 grt, and dry cargo vessels of not more than 7,200 grt up to a total of 300,000 grt. Demolition of plant and equipment in German shipyards also took place. In May 1949 it was reported that a United States decision had been made that Japan should retain 38 shipyards with an annual capacity of 800,000 grt, a third of which had been previously scheduled for reparations. As the Shipbuilding Conference Executive Board noted in July 1949, Japanese ship repairing and shipbuilding appeared to be developing without restriction as part of General Douglas MacArthur's policy of reviving Japan as an industrial nation. Accordingly, the Shipbuilding Conference anticipated severe competition in the very near future. By December 1949, as the Executive Board noted, all restrictions on Japanese shipbuilding had been lifted. By this stage German shipbuilding had also been allowed to construct ocean-going ships (excluding passenger liners) and tankers up to 7,200 grt.

60 Sturme, *British Shipping and World Competition*, 130-131.

61 The US National Defense Reserve Fleet (NDRF) was established under Section 11 of the Merchant Ship Sales Act of 1946, to serve as a reserve of ships with value for national defence purposes. These ships could be activated to meet shipping requirements during national emergencies. At its peak in 1950, the NDRF had 2,777 ships laid up in Atlantic and Pacific seaboard and Gulf of Mexico anchorages.

following reconversion of existing tonnage, then concentrated on restoring the British Mercantile Marine to its pre-war tonnage totals and repairing ships on a more normal basis.

During the war, and up to April 1946, the employers awarded five increases in wages, and another three were awarded as a result of National Arbitration Tribunal awards to workers in shipbuilding and repair. In 1947, no wage increases were awarded, but following a Court of Enquiry, the normal day-shift working hours were reduced from 47 hours to 44 hours per week; this took effect from March. As Jones has noted, the shorter working week was introduced without any changes in basic rates and this, in effect, meant an increase in the rate per hour for timeworkers and also allowed all classes of workers to increase earnings for the same number of hours worked.⁶² In 1948, the Boilermakers' Society submitted a motion to the Labour Party Conference calling for the nationalisation of the shipbuilding and ship repairing industries. A year later, the society's president, Ted Hill, noted the drastic effects of the interwar depression, the loss of a third of berths to NSS, and subsidisation of the industry at home and of shipbuilding abroad. To Hill it made little sense to leave the industry in the hands of owners who would cut it until it no longer remained viable and then take public money to build it up again.⁶³

Given the temporary post-1945 advantages that British shipbuilding had over its major competitors, Germany and Japan, some academics have pointed to the 1950s, considering the subsequent history of decline, as the crucial decade for the industry's international competitiveness.⁶⁴ Setting aside that every decade – and indeed year – is important in international competition, the 1950s was certainly a decade when the industry failed to match foreign competition in price, delivery, credit terms, and, crucially, meaningful investment in modernisation and expansion of its facilities to encompass new methods of production. The later debate on the relative and then absolute decline of British shipbuilding fell into two camps: those who blamed it on institutional rigidity and those who supported a more traditional management failure thesis.⁶⁵

62 Jones, *Shipbuilding in Britain*, 199.

63 *Monthly Report* (Boilermakers' Society), January 1949.

64 Lorenz, *Economic Decline in Britain*, 132-136. Lorenz identifies the 1950s as the key decade but leaves it to others to research its consequences. Barnett, *The Audit of War*, 123, states that the years 1951-54 were "commercially crucial". See also Hilditch, "The Decline of British Shipbuilding Since the Second World War", 129.

65 The main thrust of the institutional approach to decline is given in an influential collection of essays, Lorenz and Wilkinson, "The Shipbuilding Industry, 1880-1965", and by Lorenz,

With full employment in British shipyards for some years to come, no British shipbuilder, given the industry's record of booms and slumps in the interwar period, could have foreseen what would become from 1948 onwards a near 25-year period of continuous economic expansion and a concomitant huge increase in the volume of seaborne trade. Up to 1965 the world merchant fleet doubled, but the British Mercantile Marine grew by only 16 per cent.⁶⁶ Concomitantly, shipyard wages and earnings rose for timeworkers and pieceworkers in the industry; and by December 1949 the British Mercantile Marine had been restored to its pre-war tonnage level. Earlier, from 1 October, government licensing of British ship repairing had also been ended, freeing up ship repair yards to take orders from any source, but licensing of shipbuilding remained.⁶⁷

Prior to this, the ending of a steel price subsidy had elicited complaints from Norwegian and Swedish shipowners over the differential in price being passed on to them on existing contracts made before the ending of the subsidy.⁶⁸ This and huge difference in ship prices resulting from wartime and post-war inflation resulted in increased dissatisfaction from shipowners.⁶⁹ Norway had been British shipbuilding's premier export market in the interwar period, absorbing one-third of British shipbuilding

Economic Decline in Britain. Lorenz and Wilkinson emphasise the relatively small scale of British shipyards, the extent of family ownership, the craft structure of the work process, and trade unions as key elements in the industry's decline. Lorenz (*Economic Decline in Britain*) also points to a lack of trust between management and workforce as a key element in institutional rigidity, and introduced a behaviourist theory of bounded rationality as an explanatory model. The main thrust of the managerial failure thesis is evident in the work of Anthony Slaven. See for example Slaven, "Management Policy and the Eclipse of British Shipbuilding" and "Marketing Opportunities and Marketing Practices". Managerial failure is also examined in the works of Johnman and Murphy cited throughout this chapter. However, there is no generally mono-causal paradigm of decline. Institutional rigidity and management failure explanations are not mutually exclusive. It is more of a question of what particular weight is attributed to one or the other.

66 The world merchant fleet expanded from 29,340 vessels totalling just over 80 mn grt in 1948 to 41,865 vessels totalling more than 160 mn grt in 1965. The British Mercantile Marine in 1948 comprised 6,025 vessels totalling just over 18 mn grt. By 1965 the number of vessels had fallen to 4,437, although tonnage had expanded to 21.5 mn grt, but Britain's percentage of the world fleet had dropped from 24 to 13 per cent.

67 This cancelled the Restriction of Repairs of Ships Order of 1940.

68 NMM SRNA Shipbuilding Conference Executive Board Meeting, 28 July 1949, Letter from Swedish Shipowner to Chairman of Shipbuilding Conference, and Letter from Norges Rederforbund (Norwegian Shipowners' Association), 9 July 1949.

69 NMM SRNA 8/S47 "The Shipping Outlook", a speech by Erling D. Naess to the Norwegian Club, New York, 14 May 1947. Naess compared 1939 and 1947 prices of a 9,000-grt cargo liner capable of 16 knots and a 12,700-dwt tanker capable of 14 knots, Naess calculated that prices had risen by 250 per cent and 240 per cent respectively.

exports. However, as credit terms and mortgaging ships became more and more important in the post-war period, the Norwegian market for British shipbuilding, which had had accounted for 40 per cent of all British launchings for foreign account between 1948 and 1956, contracted significantly after 1956.⁷⁰

The 1950s: competition intensifies

By 1950 the most urgent demands of post-war reconversion and new construction had in part been met, and by the end of the year it had been forecast that some 188 berths in British shipyards would become vacant and that 75,000 workers would be unemployed as a result. However, the prospects of the industry brightened with the onset of the Korean War, and consequently a commodity boom, a large increase in freight rates, general re-armament, and a significant increase in demand for tanker construction, which now represented more than 42 per cent of all tonnage under construction in British yards.⁷¹ New orders for all shipping in 1951 totalled 4,152 mn grt, an all-time record, and total orders at December 1952 stood at 6,661 mn grt. This level of orders in hand presaged four to five years of work for British shipyards and increased work for the ship repair sector.

Despite the wartime expansion of welded construction techniques, the bulk of British shipbuilding yards remained committed to riveting as the principal method of metal joining of ships' plates. In 1950-51 only 3.8 per cent of British shipbuilding launching output was of all-welded construction, but it follows that the proportion of partly welded tonnage would have been considerably higher. The corresponding figures in 1950 for the USA (albeit a closed market) at 80.3 per cent and Sweden (open market) at 37.8 per cent are instructive.⁷² After the war, British shipbuilders saw a definite future for riveting and were on the whole reluctant to make a full transition from riveting to welding, as this would imply a full-scale and therefore costly reorientation of their productive facilities away from the berths to fabrication sheds to take advantage of prefabrication of flat ships' plates and sections that welding offered. Moreover, production planning to maximise

70 For the Norwegian market for British shipbuilding in detail, see Johnman and Murphy, "The Norwegian Market for British Shipbuilding". For credit and ship mortgages, see Johnman and Murphy, "A Very British Institution".

71 Jones, *Shipbuilding in Britain*, 204-208, describes the effects of tanker construction in detail.

72 Hilditch, "The Decline of British Shipbuilding Since the Second World War", 131, calculated from the trade journal, *Shipbuilder and Marine-Engine Builder*, 1950-51.

welding output and co-ordination of individual trades, materials, stock, and sub-contractors in a sequential manner all implied a greater deal of higher management control than had hitherto been the case. The modernisation in production processes that had occurred in British shipbuilding had mostly been undertaken piecemeal during the Second World War. But overall, as the First Lord of the Admiralty had warned in March 1944, the dangers of the “fossilisation of inefficiency” in British shipyards were very real. This sentiment was echoed by the Wartime Cabinet Reconstruction Committee, which presciently noted that British shipbuilding would have eight to ten years’ grace to increase efficiency before international competition became formidable.⁷³

With an orderbook glutted with mercantile orders from the Korean War onwards, profits rose accordingly and investment in fixed assets correspondingly dropped. Andrew Schonfield noted in 1958 that expenditure on plant and equipment can hardly have been sufficient to cover normal wear and tear and obsolescence in British shipyards. For an industry that was producing an average of £120 mn per annum, expenditure of £4 mn per annum on fixed assets – “such a low figure” – indicated “that someone was trying to get out of a business and in the meantime was determined to spend as little as possible on it”.⁷⁴ In terms of share dividends, a representative sample of thirteen firms between 1945 and 1956 paid average share dividends of more than 10 per cent, distributing over £2.6 mn per annum – over half what the industry was spending on fixed assets. Moreover, taking capital investment as a proportion of net output in British shipbuilding and repair and other industries from 1949 to 1957, shipbuilding and repair averaged under half of the all-industry average, and in terms of share price index for manufacturing at the end of 1949 to October 1956, with 1949 at 100, shipbuilding easily came out on top at 288 at October 1956.⁷⁵

These levels of profits and the distribution thereof did not escape the attention of trade unions, who understandably demanded increases in pay on an annual basis through the aegis of the Confederation of Shipbuilding and Engineering Unions (CSEU). Wage rises were duly negotiated and as usual met in part. However, a claim for an increase of 10 per cent in wage rates, which rumbled on through a series of job conferences from October 1956 to March 1957, was rejected by the employers, and resulted in the first

73 Barnett, *The Audit of War*, 123, quotes the First Lord.

74 Schonfield, *British Economic Policy Since the War*, 42.

75 Johnman and Murphy, *British Shipbuilding and the State Since 1918*, 117–118.

national strike for thirty years. The strike began on 16 March 1957 and lasted until 4 April, when the Ministry of Labour convened a Court of Inquiry into the dispute. Subsequently the CSEU agreed a rise of 11 shillings per week (6 per cent) with the employers, but with conditions attached including a one-year standstill on wage claims.⁷⁶

The year 1956 proved to be one of foreboding for Britain, not only for its ill-advised invasion of Egypt on 5 and 6 November in collaboration with France and Israel over the nationalisation and closure, by President Gamal Abdel Nasser, of the Suez Canal Company and Canal in July 1956. The inglorious withdrawal at American insistence in December finally ended any pretensions that Britain still retained great-power status in the world and also reflected the weakness of the British economy.⁷⁷ The Suez crisis drove up tanker charter rates and led to a boom in tanker orders. That year Japan took over Britain's mantle for the first time as the world's foremost producer of ships (mainly on tanker construction) and remained in that position for the rest of the twentieth century.⁷⁸ The Japanese shipbuilding industry had learned from the American wartime shipbuilding production methods practised at Daniel Ludwig's National Bulk Carriers leased facility at the former naval shipyard at Kure.⁷⁹ From the 1960s to the 1970s Japan secured more than half the international market for ships. Japanese shipbuilders had the capital through their links to *keiretsu* (huge family-controlled banking and industrial combines) and the technology – most of which it purchased from abroad, and a workforce that did not command wages rendering them uncompetitive.⁸⁰ Crucially, Japanese shipyards built tonnage for Greek and

76 Jones, *Shipbuilding in Britain*, 200–201.

77 In the aftermath of the Suez debacle, the Conservative Party prime minister, Anthony Eden, resigned on 9 January 1957 and was replaced by his foreign secretary, Harold Macmillan. For Suez, see Eden, *Full Circle*, Eisenhower, *The White House Years*, vols I–II, and Macmillan, *Tides of Fortune* and *Riding the Storm*. A more recent book on Suez containing a large selection of government documents released under the thirty-year rule is Gorst and Johnman, *The Suez Crisis*.

78 From April to September 1955, tankers accounted for 83 per cent of tonnage ordered in Japan, mostly for American and other owners for Panamanian and Liberian registration.

79 For Ludwig's enterprise, see Davies, "The Role of National Bulk Carriers in the Advance of Shipbuilding Technology in Post-War Japan". See also Chida and Davies, *The Japanese Shipping and Shipbuilding Industries*, 111–114.

80 The leading *keiretsu* (called *zaibatsu* before the Second World War) are Mitsui, Mitsubishi, Dai Ichi Kangyo, Sumitomo, Sanwa, and Fuyo. They gained a position in the Japanese economy with no exact parallel elsewhere. In 1937 the four leading *zaibatsu* controlled directly one-third of all bank deposits, one-third of all foreign trade, one-half of Japan's shipbuilding and maritime shipping, and most of the heavy industries. After 1945, the break-up of the *zaibatsu* was announced as a major aim of the Allied occupation, but in the 1950s and 1960s groups

Table 2.4 Shipbuilding percentage shares of the world export market

Years	UK	Japan	West Germany	Sweden	France	Netherlands	Others
1948-50	35	2	0	18	0	6	38
1951-55	22	11	15	13	2	9	29
1956-60	7	32	21	12	6	6	17

Source: *Lloyd's Register of Shipping*, various years

American owners who utilised the fast-growing flag of convenience fleets of Liberia and Panama during the 1950s and 1960s. They offered quality vessels at economic prices and on time, and shipowners naturally ordered from them. By the end of the 1950s, shipbuilding in Japan contributed 10.6 per cent of its total exports.⁸¹

In response to Japan's ascendancy, the president of the Shipbuilding Conference, Sir James McNeill, noted in a letter to the First Lord of the Admiralty, Viscount Hailsham, that "all time record launchings were established by [West] Germany, the Netherlands, Italy and Norway [which] indicated a definite comparative trend". In McNeill's view, British shipbuilding was facing a crisis.⁸² Table 2.4 shows the precipitous decline of the British shipbuilding in the export market for ships in the 1950s and the rise of Japan and West German competition.

For almost the entire period from 1945 to 1958, there had been a seller's market in shipbuilding. Yet, British shipbuilding output had remained largely static: its share of overseas orders had declined, and British shipowners increasingly ordered from overseas. Moreover, the major growth market segments after 1945 – increasingly large crude oil tankers and bulk carriers – had largely passed British shipbuilders by. On the whole the industry had remained wedded to producing to order for the British mercantile marine, had taken easy profits, and largely failed to re-invest them in modern plant and equipment. From 1958, by which stage the post-Suez spike in freight rates had waned, to 1961, a buyer's market reigned; the spectre of heightened foreign competition was all too real, and the likelihood of increased and heavily localised unemployment loomed.

based on the old *zaibatsu* re-emerged as *keiretsu*. The decision on the part of these groups in the post-1945 era to pool their resources greatly influenced Japan's subsequent rise as a global economic power.

81 Allen, *A Short Economic History of Modern Japan*, 231.

82 Johnman and Murphy, *British Shipbuilding and the State Since 1918*, 112.

The 1960s: consolidation of trade unions, and the state intervenes and directs

In the three years from 1958, British shipbuilding held its share of world shipbuilding launchings at around 15 per cent but its output remained static. Government, through its Shipbuilding Advisory Committee (SAC), which comprised shipbuilders (Shipbuilding Conference), shipowners, and trade unions, was well aware of the industry's concerns, but remained uncommitted to its entreaties. Indeed, the independent SAC chairman, Sir Graham Cunningham, had resigned in March 1960 in complete frustration over the shipbuilders' attitudes to forming a sub-committee to further examine its problems.⁸³ An original report (at the later suggestion of the shipbuilders, heavily amended) on the industry's research and development efforts from the Department of Scientific and Industrial Research (DSIR) castigated its record but had not yet been published. A leaked précis of its contents was published by *The Times* in October.⁸⁴

An SAC sub-committee Report on Prospects of 19 April 1961, couched in the usual generalities, could agree on only one recommendation, the provision of credit terms by government. In November 1961, a government-commissioned report on British shipowners ordering from overseas yards from the accountants, Peat Marwick Mitchell and Company, was published. It pointed out that the main reasons for ordering from abroad were price, price and delivery date, price and credit facilities, guaranteed delivery date, and UK shipbuilders' unwillingness to install foreign-built main engines. The report concluded that the availability of credit, spreading payment for ships over several years, did not appear in most cases to be of primary importance.⁸⁵

That the SAC and Peat Marwick were at odds, at least on the issue of credit, was obvious. Total employment had fallen from 80,954 in 1957 to 63,477 in 1961 with unemployment in shipbuilding and repair averaging

83 NA BT 291/49 Resignation of Sir Graham Cunningham from SAC, 16 March 1960; *The Times*, 24 March 1960; to limit political damage, the government quickly appointed Sir James Dunnett, Permanent Secretary at the Department of Transport, as chair of the SAC and established a sub-committee to look at the industry's prospects. As *The Times* stated, this justified Cunningham's views.

84 Hogwood, *Government and Shipbuilding*, 45-49. The original report's contents noted that the industry's record on productivity and modernisation was woeful, production control was primitive, and the total research effort and development effort were insufficient. It is hardly surprising, therefore, that the shipbuilders demanded amendments to the report and got them.

85 *Shipbuilding Orders Placed Abroad by British Shipowners*.

5.2 per cent at November 1961 against a national average for all industries of 1.7 per cent.⁸⁶ According to the Shipbuilding Conference, the state of the orderbook in the first three quarters of 1962 amounted to a post-war low of 317,000 grt, with third-quarter orders reaching only 34,000 grt. British shipbuilding had taken less than 8 per cent of orders in 1962 against West Germany's 12.7 per cent, and Japan's 30 per cent.

Given that Britain's launchings and completions were considerably down while those of its competitors were rising, the industry through the Shipbuilding Conference fell back on its 1930s solution – capacity reduction – and proposed a scheme to purchase yards whose owners wished voluntarily to get out of the industry with funds of £1.5 mn earmarked for this purpose. The conference envisaged that through these means and a levy on the surviving companies it would relieve the industry of 20 to 25 per cent of its capacity before going to the government for further assistance.⁸⁷ Subsequently, the conference scheme did not get off the ground because of legal difficulties, but discussions with government continued on a modified redundancy scheme, which was eventually rejected by the conference in April 1963.⁸⁸

The 1960s was to prove a challenging decade for the trade unions in shipbuilding and repair; with orders on the whole scarce, much more attention would be put on productivity relative to pay awarded. The DSIR report of 1960 noted that no improvement had taken place in gross tonnage produced per worker employed between 1946 and 1959. Indeed, average construction times (months) during the period 1957–59 were the UK nineteen, West Germany ten, Sweden nine, and Japan eight. These differences between the UK and its major competitors were too wide to be explained entirely by differences in the type of ships built.⁸⁹ The industry-sponsored

86 NA BT 292/67 Standing Committee on Shipbuilding and Ship-repairing, Survey of unemployment at November 1961.

87 NMM SRNA Report of AGM of Shipbuilding Conference, 18 October 1962. It was considered that Shipbuilding Corporation Ltd, as a company wholly owned by the Shipbuilding Conference, provided a suitable means of operating the scheme if a statement of its objects was amended. If the conference took over Shipbuilding Corporation's holding in the Ship Mortgage Finance Company, the corporation would have some £1.5 mn available at the first stage. It would be essential to obtain from the Board of Trade a redundancy company certificate under the Income Tax Act, 1952, so that, apart from other considerations, levies paid by contributors would be allowed for taxation purposes in their accounts. See NA BT 291/1 Note of a Meeting with the Shipbuilding Conference, 31 July 1962.

88 NA BT 291/2 Note of a meeting between Vice-Admiral J. Hughes Hallet, Joint Parliamentary Secretary to the Minister of Transport, and the Shipbuilding Conference, 26 April 1963.

89 Department of Industrial and Scientific Research, *Research and Development Requirements of Shipbuilding and Marine Engineering*, 7.

Patten Report on Productivity, which reported in February 1962 and whose members visited three shipyards in the Netherlands, four in West Germany, six in Scandinavia, and a representative seven in the UK, noted that there could be no doubt that flexibility and interchangeability of labour and the freedom of management to decide manning levels of individual machines and jobs to suit circumstances had significant effects in reducing labour costs of ships built in foreign shipyards.⁹⁰

Beforehand, the long march towards a negotiated 40-hour week progressed on 28 March 1960, when the working week was reduced from 44 hours (in situ since 1947) to 42 hours. Mostly ad hoc modernisation of many shipyard facilities had begun or was being contemplated, with much talk of unidirectional flows of materials from stockyard to berth to enable more efficient construction and quicker delivery times.⁹¹ No British shipbuilder yet contemplated anything on the scale of Götaverken's new Arendal shipyard in Gothenburg, opened in 1963 at a cost of £40 mn, with no problems of demarcation, flexibility, or interchangeability of labour, and set up for block assembly of ships' (mostly tankers up to 120,000 dwt and bulk carriers) sections in quick time undertaken under cover.⁹²

In the interim, blacksmiths' and shipwrights' representatives, with their numbers falling, contemplated merging their unions with the Boilermakers' Society. For the latter, representing the hull trades as a more or less single entity was an attractive proposition; it would allow more control over members and increase its negotiating power with employers. For the employers it was two fewer unions to negotiate with and theoretically would result in fewer problems with demarcation disputes, which continued to disrupt production in most yards. The Boilermakers' and Blacksmiths' had merged on 29 September 1962, and in a ballot of shipwrights, blacksmiths, and boilermakers in January 1963 amalgamation of shipwrights under the Boilermakers' Society was agreed. This came into effect from October

90 Productivity and Research in Shipbuilding, Report of the Main Committee under the Chairmanship of Mr James Patton OBE to the Joint Industry Committee, 26 February 1962, 2. By flexibility, Patton meant the freedom of a worker to undertake any kind of auxiliary work to progress his own job, and by interchangeability of labour the freedom to assign men to work outside their normal trade group.

91 The trade journal, *Fairplay*, noted on 5 October 1961 in a special supplement on 250 years of shipbuilding by Scotts of Greenock that the firm had completed its first all-welded ship, *Caltex Edinburgh*, only in 1956. Another trade journal, *Shipbuilder and Marine Engine Builder*, March 1963, hailed the advent of flow-line production at John Brown, Clydebank, when in fact Japanese, Scandinavian, and European shipyards had used similar techniques of materials flow for many years beforehand.

92 Olsson, "Big Business in Sweden".

1963, the new union titled as The Amalgamated Society of Boilermakers, Shipwrights, Blacksmiths. and Structural Workers.⁹³ By 1964 the new Boilermakers' Society, with the motto "Unity Is Strength", had 119,577 members, with the Boilermakers' section accounting for 90,853, the Blacksmiths' 8,829 and the Shipwrights' 19,895.⁹⁴

With discussions between the industry and government continuing throughout 1962 and 1963 on the industry's prospects, the first shipbuilding casualty of real note was the shipbuilder, repairer, and marine engine builder, Wm Gray of West Hartlepool, which voluntarily liquidated in 1962.⁹⁵ Gray's was followed into liquidation in 1963 by perhaps the most versatile of all British shipbuilding and marine engine building firms, Wm. Denny Bros of Dumbarton.⁹⁶ In the same year the lower Clyde shipbuilder, Wm Hamilton's Glen yard at Port Glasgow, was closed and its premises incorporated into the neighbouring Lithgows Ltd. During 1962 the loss-making Harland and Wolff, Belfast, had decided to close its three upper Clyde shipbuilding and repair yards, A & J Inglis at Pointhouse and D & W Henderson at Meadowside in 1962 and Harland and Wolff, Govan, in 1963. Thereafter, its shipbuilding operations were confined to its high-cost Belfast base. The year 1964 saw the voluntary liquidation of the tanker specialist, Blythswood Shipbuilding, on the upper Clyde, the dredger specialists, Simons and Lobnitz, at Renfrew, and the closure of the former specialist destroyer builder, J. Samuel White's East Cowes yard on the Isle of Wight.⁹⁷ One could, and should, view these closures as entirely rational business decisions given intense foreign competition.

93 Tuckett, *The Blacksmiths' History*, 362-366; Mortimer, *History of the Boilermakers' Society*, vol. III, 160-162; Dougan, *The History of the Shipconstructors and Shipwrights Association*, 326-328.

94 Mortimer, *History of the Boilermakers' Society*, 264.

95 Wm Gray, founded in 1874, collaborated with Marcus Samuel, the founder of Shell Oil, to build from 1892 eight oil small tankers capable of transiting the Suez Canal. The first, *Murex*, was built on extended credit terms. This allowed Samuel to build up a fleet in a relatively short period of time at low cost, and gave Gray's shipyard and engine works employment for an extended period. Gray's launched its last ship in 1961 and continued repair work into 1962.

96 Denny's personified the versatility of British shipbuilders. It had built clipper ships, cross-Channel ferries, flotilla craft, Clyde steamers, cargo liners, sloops, destroyers, and the D2 hovercraft. By 1964, however, its shipyard could no longer accommodate the seemingly inexorable rise in the size of ships, and the firm was voluntarily liquidated. For Denny ships, see Lyon, *The Denny List*.

97 Blythswood's shipyard was established in 1919 at Scotstoun with the profits of the sale of Dunlop Bremner of Port Glasgow to Lithgows Ltd. Blythswood closed in 1964 and its premises were acquired early in 1965 by a neighbouring shipyard, Yarrows Ltd. For Yarrows, see Borthwick, *Yarrows*. White's continued its marine-engine building facilities at East Cowes into 1965. For J. Samuel White, see Williams, *White's of Cowes*.

Table 2.5 World and United Kingdom launchings of merchant ships, 1947-1964

Year	World		UK		UK share as % of world
	No.	000 grt	No.	000 grt	
1947	741	2,093	341	1,193	57.0
1948	840	2,303	340	1,176	51.1
1949	899	3,126	320	1,267	40.5
1950	990	3,489	275	1,325	38.0
1951	1,002	3,639	261	1,341	36.9
1952	1,065	4,394	254	1,303	29.7
1953	1,134	5,095	220	1,317	25.8
1954	1,223	5,251	253	1,409	26.8
1955	1,437	5,315	276	1,474	27.7
1956	1,815	6,670	275	1,383	20.7
1957	1,950	8,501	260	1,414	16.6
1958	1,936	9,270	282	1,402	15.1
1959	1,808	8,746	274	1,373	15.7
1960	2,020	8,356	253	1,331	15.9
1961	1,990	7,940	247	1,192	15.0
1962	1,901	8,375	187	1,073	12.8
1963	2,001	8,539	160	928	10.9
1964	2,147	10,264	179	1,043	10.2

Note: 100 grt and above. World figures exclude USSR, East Germany, and China.

Source: *Lloyd's Register of Shipping*, various years

Nonetheless, the level of closures, actual and potential, and resultant levels of unemployment in the industry had begun to worry government. The general rise in ship size affecting largely spatially constrained shipyards obviously had an effect, as did the amount of capital expenditure required to increase the size of berths and docks. However, the steadily declining share of world output evident since 1947 (see Table 2.5) was particularly evident, and no real industry plan had been devised to combat foreign competition, particularly from Japan, Sweden, and West Germany. A short-term response to the industry's problems came in May 1963, when the Conservative government announced a Shipbuilding Credit Scheme of one year's duration and provided £30 mn at the Government Lending Rate for 80 per cent of the cost of a ship and loans which could be extended up to ten years. In the course of the year the financial limit was twice extended up to a total of £75 mn, and by October 1964 the scheme was fully subscribed, with 67 vessels from British shipyards on order totalling 892,000 grt.⁹⁸ At

98 Johnman and Murphy, *British Shipbuilding and the State Since 1918*, 141.

best, the scheme accelerated orders when they were much needed as the industry struggled to hold its share of the market.

Shipbuilding Inquiry Committee Report, 1965-1966

With the election in 1964 of a new Labour government after thirteen years of Conservative Party rule, yet another inquiry on shipbuilding and marine engine building, but not ship repair, was commissioned by the president of the Board of Trade, Douglas Jay, with a remit to increase the industry's international competitiveness.⁹⁹ Crucially, the SIC, which reported in March 1966, did not contain any shipbuilders and was chaired by the chairman of the Dunlop Rubber Company, Reay Geddes. Members of the SIC visited shipyards and marine engine building works in Denmark, Sweden, Norway, West Germany, the USA, and Japan, in tandem with visits to the largest twenty-seven firms in the United Kingdom. On the labour side, the report's authors acknowledged that management and unions had failed in their attempts to negotiate constructively and that at a time when skilled labour was scarce it was wastefully employed. Furthermore, it was also noted that shipyard workers and trade unions should believe in the reality of a fresh start "if they are ever to compete with Swedish and Japanese workers' willing response, steady effective work, and pride in their job".¹⁰⁰

The effectiveness of "ruthlessly efficient" Japanese tanker building specialists was such that, as one leading British shipbuilder, Ross Belch of Lithgows Ltd, observed, if Lithgows built a 52,000-dwt tanker for £2,500,000 then Japanese yards would undercut them on price by £500,000, and even if Lithgows paid out nothing in wages it still could not undercut Japanese competition.¹⁰¹ In 1966, the tonnage output, largely tankers, of five shipyards of Mitsubishi Heavy Industries in Japan exceeded that of the British

99 Shipbuilding Inquiry Committee 1965-1966 Report, Cmnd. 2937, March 1966 (London, HMSO, 1966). Its remit was to establish what changes were necessary in organisation, the methods of production, and any other factors affecting costs to make the shipbuilding industry competitive in world markets; to establish what changes in organisation and methods of production would reduce costs of manufacture of large main engines of ships to the lowest level; and to recommend what action should be taken by employers, trade unions, and government to bring about these changes. The SIC was concerned with shipyards regularly building ships of 5,000 grt and above (or warships of equivalent value). Its ambit therefore amounted to twenty-seven of the sixty-two extant shipyards in the UK.

100 *Ibid.*, 10.

101 Johnman and Murphy, *Scott Lithgow*, 151.

shipbuilding industry combined, and one yard, at Nagasaki, had exceeded the entire launching output of Clyde shipyards.¹⁰²

The SIC report did however mark a watershed in the industry's fortunes. It criticised the industry's short-term attitude to markets, men, and money and its insufficient influence over its customers and suppliers. It saw the industry's weakness in its fragmented structure; thus its major recommendations included grouping of firms on river centres to increase economies of scale, scope, and specialisation and a major rationalisation of marine engine building firms. Funds would be provided by a new three-man Shipbuilding Industry Board (SIB) subsequently established by the Shipbuilding Industry Act, 1967, empowered to provide grants and loans to facilitate grouping of shipbuilding firms, and whose operation would be at arm's length from government, which nonetheless would be providing the funds. Like the SIC, the SIB did not contain shipbuilders and was tasked to "promote the ability of the shipbuilding industry in the United Kingdom to compete in world markets". Its remit did not include ship repair.¹⁰³

During the SIC reporting stage, one of the six major shipbuilders in Britain and Glasgow's largest shipyard, the Fairfield Shipbuilding and Engineering Co. Ltd of Govan, entered receivership in October 1965.¹⁰⁴ Although the firm had an orderbook of some £20 mn, its major creditor, the Bank of Scotland, had called in a floating charge on the company of £1 mn and in so doing had secured first-creditor status. There then began a trade union campaign to save Fairfield and its marine engine building arm, David Rowan and Sons. Fairfield, which had modernised its facilities, had taken on a number of sophisticated contracts with tight delivery times.¹⁰⁵ The final loss occasioned on one vessel, *Nili*, a 7,500-grt ferry for a Swiss-Israeli consortium finally delivered in June 1965, was £1.5 mn for late delivery and cost overruns.¹⁰⁶ The Labour government stepped in and rescued the shipyard, but not David

102 *Greenock Telegraph*, Review of 1966: Shipbuilding, 26 December 1966.

103 Its members were: William Swallow, Chairman of Vauxhall Motors; Anthony Hepper of Thomas Tilling group; and Joe Gormley, a senior official of the National Union of Mineworkers.

104 The others were Harland and Wolff, Belfast, Cammell Laird at Birkenhead, Swan Hunter and Wigham Richardson on the Tyne, and Vickers at Barrow and the Tyne, and John Brown at Clydebank on the upper Clyde.

105 Fairfield, under control of the Port Glasgow-based Lithgow Group, had begun a system of prefabricating ship sections under cover in a new fabrication hall and had reduced their berths from six to five to allow ships of broader beam to be built and to allow space for travelling cranes to be installed. By 1960, £3 mn had been spent on modernisation. See the company's centenary booklet, Fairfield Shipbuilding and Engineering Co., *Fairfield, 1860-1960*.

106 Glasgow City Archives, Mitchell Library, Glasgow, UCS 2/1/8 Fairfield Board Minutes, 1965.

Rowan and Co., and a new company, Fairfields (Glasgow, 1966) Ltd, was formed in January 1966.

Under the chairmanship of Ian Stewart and with government approval and support, Fairfield became a proving ground for a new type of industrial relations, the “Fairfield Experiment”, which promised high and stable earnings, management-union co-operation through a yard council, flexibility within the workforce, increased productivity, and no strikes.¹⁰⁷ As K.J.W. Alexander and C.L. Jenkins noted, the aims of the “experiment” were never clearly or comprehensively set out “so that the criteria against which success or failure are to be judged are themselves in doubt and may be disputed”.¹⁰⁸ However, the voluntary abandonment of the strike weapon was not achieved but restrictive practices were substantially reduced. Manpower planning was restricted by the size of the yard and the inherited building programme; thus the “experiment” could not lay claim to have greatly reduced fluctuations in the demand for labour.¹⁰⁹

In the interim a number of schemes had been proposed to enlarge shipyards to enable them to enter the large tanker construction market. One proposal by Lord Aberconway, Chairman of John Brown at Clydebank – to divert the River Clyde at Newshot Isle and build an entirely new facility there capable of building super-tankers at a cost of some £29 mn with the new yard expected to take some three and a half years to build – did not get the support of the SIC or the Board of Trade.¹¹⁰ Geddes wrote, off the record, to Aberconway in January 1966 that there was no indication of a return on capital and that insufficient research had been undertaken on the likely demand for large ships.¹¹¹ Indeed, when published, the SIC Report was less than enthusiastic about the market for giant ships and exposed the fallacy of yard-based solutions to the problems of the industry as a whole. Moreover, there were no grounds for assuming that any new shipyard built on a greenfield site would be an economic investment. Neither did it find that the benefits of constructing ships in building docks, as practised in Japan

107 For the experiment, see Alexander and Jenkins, *Fairfields*. For the Fairfield collapse generally and the experiment, see Paulden and Hawkins, *Whatever Happened at Fairfield*. See also Johnman and Murphy, *Scott Lithgow*, 152-156. Sir James Lithgow had saved Fairfield from bankruptcy by purchasing the company in 1935, and the firm remained part of the Lithgow group of companies up to receivership on 15 October 1965.

108 Alexander and Jenkins, *Fairfields*, 209.

109 *Ibid.*

110 Johnston and Murphy, “The Newshot Isle Project”, 213, 215.

111 Glasgow University Business Archives Centre, Thurso Street, Glasgow, UCS 1/22/38 Letter from Aberconway in reply to correspondence from Geddes, 24 January 1966.

and Sweden, would outweigh the heavy initial capital investment outlay.¹¹² Thus, in perhaps the most important inquiry into the British maritime industries in the twentieth century, there was no vision whatsoever save a wish to group firms in accordance with Japanese practice; to increase efficiency of existing resources; and to rationalise marine engine building in the face of intense foreign competition.

In November 1965 there were around 140,000 employees in British shipbuilding and repair, of which some 53,000 were employed in the 27 shipyards subject to the SIC Report.¹¹³ Given that major changes were envisaged in how shipbuilding and repair would be conducted in future at the level of the firm and with a renewed emphasis on increasing productivity, it followed that a concomitant change in how the shipbuilding and -repair industries conducted industrial relations would ensue. Any change, however, should be seen against a background of government-inspired prices and incomes restraints – anathema to trade unions which existed to improve the terms and conditions of their memberships, and in particular to increase their wages. A move by the CSEU to work towards a 40-hour rather than a 42-hour working week (in situ since March 1960) in shipbuilding and repair, with no reduction in pay, had begun in May 1963, but was rejected by the SEF in October. Consequently, the CSEU imposed an overtime ban from 25 November. Negotiations were reopened on 3 December and by 17 December an agreement on a general rise in wages and reduction to a 41-hour week from 1 December 1964 with a further reduction to a basic 40-hour week from 5 July 1965 was reached.¹¹⁴ Throughout the negotiations the SEF had promoted the idea of greater flexibility among the workforce. This was outside the remit of the CSEU and within the ambit of individual unions. All the CSEU could do was to recommend to its constituent members that they engage in talks with employers on flexibility.

An informal discussion between the SEF and Shipbuilding Conference had taken place with the CSEU on 25 November 1965. The employers voiced their concerns on the parlous financial state of the industry, the heavy losses being incurred on fixed-price contracts owing to large increases in costs, particularly of direct labour, and “the loss of control by union leaders at yard level and the resultant state of virtual anarchy in labour relations in the yards”. Dan McGarvey, the president of the Boilermakers’ Society, and his other union colleagues had offered “no denial of the situation explained and had admitted

112 SIC Report, paras 97-99, 135-137, 245-246, and p. 74.

113 SIC Report, para. 342.

114 Mortimer, *History of the Boilermakers’ Society*, vol. III, 168-171.

that effective Trade Union control of labour had been lost".¹¹⁵ In effect, national collective bargaining had been superseded by local and yard-based bargaining, enabling shop stewards to win pay improvements over and above nationally negotiated minimum standards. The dichotomy between national and local collective bargaining for wages and conditions was in fact a long-standing problem in shipbuilding and ship repair for the entire century to date, and one not susceptible to quick solution by employers and unions.

By 1966, a Joint Industry Consultative Committee was set up comprising employers and trade unions to discuss various matters including general policy but not wages and conditions of employment. This coincided with the SIC Report's wish "that employers and employees should urgently review their past attitudes, establish mutual confidence at all levels, and make a fresh start".¹¹⁶ While laudable, this, given the past record of industrial relations, was highly unlikely, and was not aided by a separate, tentative SIC suggestion that five unions might cover all shipbuilding operations.¹¹⁷ Nevertheless, in August 1966, the Boilermakers' Society signed a new agreement with the SEF designed to eliminate demarcation disputes.¹¹⁸

From 1966 onwards progress on grouping of firms on river centres had been sporadic. On the Tyne, the major shipyard, Swan Hunter, led the grouping effort there, with the River Wear yards conducting separate talks. On the Clyde, where the SIC Report had recommended not more than two groups, negotiations on mergers and SIB funding through grants and loans had begun between Scotts and Lithgows on the lower Clyde, and between five shipyards on the upper Clyde, John Brown, Stephen, Connell, Fairfield, and Yarrow, bringing to a premature end the Fairfield experiment in industrial relations. The three other major geographically isolated firms, Cammell Laird at Birkenhead, Vickers at Barrow, and Harland and Wolff, Belfast, resisted grouping. Nonetheless, what came to be known as the Swan Hunter group had been established by 1968 as had Upper Clyde Shipbuilders. Clearly, the problems of merging disparate firms with separate ownership, product mixes, management and accounting systems, plant and equipment, labour agreements, etc., against a background of increasing and in fact unrelenting foreign competition would be difficult.¹¹⁹

115 SRNA NMM Report of a Meeting of the Executive Board of the Shipbuilding Conference, 2 February 1966, item 5.

116 SIC Report, 163, recommendation 87.

117 *Ibid.*, recommendation 95.

118 Mortimer, *History of the Boilermakers' Society*, vol. III, 228-229.

119 For this period, see Johnman and Murphy, *British Shipbuilding and the State Since 1918*, 158-190.

In 1967, a significant change in industrial relations from the employers' side took place with the creation of a new Shipbuilders and Repairers National Association (SRNA) amalgamating the SEF, the Shipbuilding Conference, and the Dry Dock Owners' and Repairers' Central Council in a central labour and commercial policy organisation. With grouping of firms now taking place, representation on the SRNA reflected this new reality. The SRNA represented all the major firms and covered around 95 per cent of all employees in shipbuilding and around 80 per cent in ship repair. It conducted national negotiations with the CSEU and individual trade unions mainly to establish minimum rates of pay and conditions of service. With groups of firms now extant, these were obviously big enough to conduct the bulk of their own industrial relations without undue recourse to the SRNA. Nevertheless, the largest groups in the industry were also predominant on the SRNA management and industrial relations committees, holding twenty-seven of twenty-nine places. Contemporaneously, with the establishment of the SRNA, a new National Procedure for Avoidance of Disputes had been agreed with the CSEU that formalised the position of elected shop stewards to represent their fellow workers only if they had been in continuous employment in shipbuilding for not less than one year and in ship repair three months.¹²⁰

April 1967 saw the liquidation of the Firth of Clyde Dry Dock Company, which had opened its Inchgreen Dry Dock at Greenock only in November 1964. When proposed, the dry dock was to be the largest in the UK and the sixth-largest in the world, with dimensions of 1000 ft by 150 ft and water to a depth of 30 ft. It was however, undercapitalised from the start and beset by labour difficulties and management inadequacies. The company soon got into difficulties, and was liquidated at a loss of £2.4 mn to the taxpayer. It was purchased by the two major shipbuilding yards in the area, Scott and Lithgow, in May 1967, at a price of £1.1 mn (it had cost £4.6 mn to build) for its fixed assets, which also included a 1300-ft repair quay, jetty, and a tank-cleaning installation.¹²¹

This at least kept a major ship repairing facility on the lower Clyde. During 1967 and 1968 there was also a long dispute in the South Wales ship repairing industry where the employers had given notice of their intention to end some existing agreements. Subsequently, the District Committee of the CSEU had agreed a number of new agreements with employers that were

120 NMM SRNA, Procedure for Avoidance of Disputes: Memorandum of Agreement between the SRNA and CSEU, 14 August 1967.

121 For this, see Johnman and Murphy, "No Light at the End of the Dock".

Table 2.6 British and Japanese mercantile completions in global comparison 1963-1970 (000 grt)

	World			Japan			United Kingdom				
	Dry cargo	Tankers	Total	Dry cargo	Tankers	Total	% of world total	Dry cargo	Tankers	Total	% of world total
1963	3365	2891	6256	1216	1053	2269	36.27	625	471	1096	17.52
1964	2757	4524	7281	1157	2607	3764	51.70	525	283	808	11.10
1965	4539	4876	9415	2269	2617	4886	51.90	735	547	1282	13.62
1966	6083	4657	10740	3762	2733	6495	60.47	721	353	1074	10.00
1967	8001	3756	11757	4752	2465	7217	61.38	1041	147	1188	10.10
1968	7790	5154	12944	4835	3514	8349	64.50	824	222	1046	8.08
1969	7082	7272	14354	4421	4747	9168	63.87	781	48	829	5.78
1970	7725	7914	15639	4998	5012	10010	64.01	821	503	1324	8.47

Source: *Lloyd's Register of Shipping*, various years

not acceptable to the Boilermakers' Society. However, other unions were willing to work under the new agreements, so the employers locked out the boilermakers and members of the shipwrights' union who supported them. Eventually a compromise was reached which restored employment but under changed conditions.¹²² This protracted dispute showed that certain ship repairing employers were more hard-nosed than their shipbuilding counterparts and that the sectionalised nature of trade unionism in the repair sector was more acute than that pertaining in shipbuilding.

On 19 May 1969, a National Demarcation Procedure Agreement was signed by employers and the CSEU.¹²³ This agreement finally revoked and

¹²² Mortimer, *History of the Boilermakers' Society*, vol. III, 234.

¹²³ The signatories were: the SRNA, the Amalgamated Society of Boilermakers, Shipwrights, Blacksmiths and Structural Workers, National Union of Furniture Trades Operatives, National Union of Metal Mechanics, Electrical, Electronic and Telecommunications Union-Plumbing Trades Union, Amalgamated Union of Engineering and Foundry Workers, National Union of Sheet Metal Workers, Coppersmiths, Heating and Domestic Engineers, Amalgamated Society of Wood-Cutting Machinists, Amalgamated Society of Painters and Decorators, Association of Patternmakers and Allied Craftsmen, and the Amalgamated Society of Woodworkers. Disputes at yard level were to be reported by shop stewards to foremen, who would then report to management, who would convene a meeting between the representatives of each class of worker involved. If no agreement was reached within a period of 48 hours then the dispute would be referred to the district level; if no resolution at this stage was acceptable to management within another 48 hours, then the dispute was referred to an independent arbiter, whose decision was binding on all parties including management.

replaced the General Demarcation Agreement of 1912 and on this occasion was signed by the Boilermakers' Society. Clause 16 of the agreement stipulated that demarcation disputes "shall not give rise to any stoppage of work of either a partial or a general nature or to any other form of industrial action". Up to April 1971, of thirty-four cases in which the Boilermakers' Society was involved, twenty-four had gone to independent arbitration.¹²⁴ Earlier, in December 1969, the CSEU had agreed with the SRNA to reduce the period of apprenticeship in shipbuilding and repair from five to four years starting at the age of 16 – the apprenticeship to begin before 17 years of age.¹²⁵

By the end of the 1960s, as Table 2.6 shows, British shipbuilding had further slipped behind the industry leader, Japan, which had almost doubled its market share over the decade, in two important sectors of modern shipbuilding, dry cargo and tanker construction.

The 1970s: the almost fatal decade

Before the general election of June 1970, the shipbuilding and -repairing arm of the Laird Group of companies, Cammell Laird at Birkenhead, was in deep trouble. Losses on shipbuilding work taken on at unremunerative prices were mounting, and the company faced a critical liquidity problem. An order from Peninsular & Oriental, their biggest customer, for four 24,000-dwt chemical tankers for its Panocean subsidiary, was expected to result in a minimum loss to Cammell Laird of £2 mn. By May, P&O were unwilling to negotiate contracts or take shares in Cammell Laird.¹²⁶ By mid-May, however, the Labour government through its Industrial Reorganisation Corporation had granted Cammell Laird through its parent company, the Laird Group, £6 mn to save its shipbuilding arm. A director of the SIB, Barry Barker, noted that apart from skilled labour and certain berths there were no other assets worth preserving, this despite an £18 mn modernisation programme begun in 1956, not all of which was committed to shipbuilding.¹²⁷ Barker estimated that reorganisation and modernisation of the shipyard would

124 Commission on Industrial Relations, *Report No. 22: Shipbuilding and Shiprepairing*, August 1971.

125 Mortimer, *History of the Boilermakers' Society*, vol. III, 238.

126 *Shipbuilding and Shipping Record*, 8-15 May 1970.

127 A major part of modernisation at Cammell Laird was the excavation of half a million tons of rock and earth to create a new graving dock. A 100-ton gantry crane was also purchased. See *Cammell Laird Magazine*, March 1960.

cost between £11 mn and £13 mn.¹²⁸ P&O were persuaded to cancel the order for four chemical tankers, and a rescue plan was announced by Cammell Laird and the IRC.¹²⁹ All but three of the seventeen directors were replaced, including the chairman, and 50 per cent shares in the shipyard were to be held by the public trustee on behalf of the workers; the other 50 per cent share was held by the reconstructed Laird Group as a trade investment, with no further say in management of the shipyard.¹³⁰

In the same period that Cammell Laird was saved, Upper Clyde Shipbuilders was also in deep financial trouble. The election of a new Conservative government in June 1970 did not augur well, as it was apparently committed to a “no lame ducks” industrial policy. When the Shipbuilding Industry Board that had been created in 1967 to dispense grants and loans decided before the 1970 general election not to lend UCS any more money, the Labour government directly lent UCS £7 mn; in so doing it and the SIB held 48 per cent of UCS shares. By June 1971, UCS informed the Conservative government that it required another £5 mn-£6 mn in the form of grant or equity subscription to save the five shipyards under its control. The government refused this plea, and the company had little choice but to appoint a provisional liquidator. However, the government then agreed to contribute towards the expense of keeping all employees on the payroll until 6 August 1971 to allow a report of experts to examine future prospects for mercantile shipbuilding reconstruction on the upper Clyde.¹³¹ The three-page report was published on 29 July 1971 and concluded that it should be possible to form a contracted but viable company from the ashes of UCS. The government accepted the report’s conclusions and advanced the provisional liquidator, Robert Courtney Smith, £4 mn.¹³²

Earlier, in February 1971, the Conservative government, in line with policy it had made in opposition, had allowed UCS’s only naval builder, Yarrow – the UK’s premier builder of frigates – to leave the consortium and advanced it a loan from the Ministry of Defence of up to £4.5 mn for

128 NA FV 37/134 Note on Cammell Laird, 24 April 1970; Johnman and Murphy, *British Shipbuilding and the State Since 1918*, 116, 212-213.

129 Panocean eventually ordered four less-sophisticated vessels from the Norwegian state-owned shipyard, Horten Werft, in July 1973. See Murphy and Tenold, “Strategies, Market Concentration and Hegemony”, 299.

130 Warren, *Steel, Ships and Men*, 290-291.

131 *Report of the Advisory Group on Shipbuilding on the Upper Clyde*, 1-3.

132 Johnman and Murphy, *British Shipbuilding and the State Since 1918*, 187; the report concluded that any continuation of UCS in its present form would be wholly unjustified and, indeed, could cause serious and widespread damage.

working capital. Yarrow also inherited a construction hall costing £1.5 mn, one of the few items of capital expenditure by UCS. The Working Party's conclusion to concentrate production at two of the remaining four yards in UCS, with the probability that up to 6,500 jobs would be lost, sparked the famous UCS work-in, when workers led by two communist shop stewards, Jimmy Airlie and Jimmy Reid, occupied the four yards and continued to work under the overall supervision of the liquidator.¹³³ In the end, by 1972, the famous John Brown yard at Clydebank was in part saved when the president of the Boilermakers' Society, Dan McGarvey, and John Service of the CSEU led a trade union delegation to Texas and persuaded Marathon Oil of Houston to build jack-up oil rigs at Clydebank, but with a much reduced workforce, changed industrial relations, and substantial government aid. The shipyard of Alexander Stephen at Linthouse, which had excellent steelwork facilities, was closed with its facilities earmarked for integration in a new company. The two remaining companies, the old Fairfield yard at Govan and the Connell Yard at Scotstoun, were saved and would be renamed Govan Shipbuilders and Scotstoun Marine respectively, with the government providing a £35 mn injection of cash over five years to ensure the future of the company. The decision between the government and Marathon dragged on longer than anticipated. This was mainly due to two facts: Marathon was intent on getting maximum assistance; and there was also still the matter of agreements to be sorted out between it and the trade unions. Negotiations with Marathon were concluded by 6 September, and one week later Govan Shipbuilders became a reality.

By this stage, the ship repair sector was also in trouble. Vickers had closed their repair yard at Hebburn on the Tyne because of continuing losses with the disappearance of 1,000 jobs. In South Wales, the Prince of Wales Dry Dock Company substantially reduced its activities through redundancies at Swansea and Port Talbot. In June 1971 Harland and Wolff ceased operations at North Woolwich and Tilbury on the Thames with the loss of some 700 jobs mostly in engineering, although another Thames repair firm, Green and Silley Weir, absorbed some 200 men into their ship repair facilities. Harland and Wolff retained its ship repair facilities at Liverpool and Southampton for voyage repairs, and the largest shipbuilder and ship repairer in the UK, Swan Hunter, concentrated on major repairs at its yards on the Tyne and Tees. By May 1973, PA Management Consultants had reported that the UK

¹³³ For the work-in and the general situation at UCS, see, for example, Thompson and Hart, *The UCS Work-In*; Buchan, *The Right to Work*; Herron, *Labour Market in Crisis*; and Foster and Wolfson, *The Politics of the UCS Work-In*.

ship repair sector had consistently declined over the course of a decade with output (at 1972 prices) falling from £120 mn in 1961 to around £60 mn in 1972, and employment declining from 35,000 to 17,000 men with the sector's turnover accounting for just 0.02 per cent of gross domestic product. PA concluded that there was a strong case for the operation of only one major ship repairer per estuary.¹³⁴

Ship repair was far more fragmented than shipbuilding: out of a total of 75 companies and groups, just 12 employed 90 per cent of the workforce; the leading seven ship repair companies, which included four shipbuilders and repairers, accounted for around half the numbers employed, with some 60 companies out of a total number of 180 (at August 1972) accounting for 90 per cent of those employed. Apart from the seven leading companies, only one other, British United Trawlers (formed in 1969), employed more than 1,000 workers.¹³⁵ Ship repair was also far more geographically fragmented, and on river centres there had been mergers, particularly on the Tyne where NECS (North East Coast Shiprepairers), an amalgamation of Middle Docks and Brigham and Cowan, had taken over the Mercantile Dry Dock Company at Jarrow in 1966. In 1970, NECS was purchased by the aviation, shipping, shipbuilding, and leisure conglomerate, Court Line.

Commission on Industrial Relations Report, 1971

August 1971 saw the publication of a Commission on Industrial Relations Report on shipbuilding and ship repairing, which had been commissioned by government to comment on developments and to make recommendations after the SIC Report of 1965-66. Both the employers through the SRNA and the trade unions through the CSEU opposed the setting up of the commission, arguing that the industries had been examined enough in the recent past. However, once the commission had been formally announced on 8 January 1970, the SRNA co-operated fully; by the end of March the CSEU did likewise.¹³⁶

The commission noted that the number of employees in mid-1970 was around 110,000 with approximately 75,000 employed in shipbuilding and 35,000 in ship repair. There were, in addition, around 15,000 employed in engineering activities linked to shipbuilding and repair companies. Of the manual workforce, 35 per cent in shipbuilding and 20 per cent in ship repair

¹³⁴ *The UK Ship Repair Industry*, 3, 4, 5, 10, 11, 13.

¹³⁵ Commission on Industrial Relations, *Report No. 22: Shipbuilding and Repairing*, 16-17.

¹³⁶ *Ibid.*, 4, 5.

were employed in the steel trades. Overall, craft workers accounted for 68 per cent of the labour force in shipbuilding and 60 per cent in ship repair. Of the 110,000 employed in shipbuilding and repair some 18,500 occupied staff positions and around 4,000 were in supervisory grades. Thirteen companies or groups covering around 55 yards employed over 85,000 workers or more than 75 per cent of the total workforce; 56 per cent of the workforce was over 40 years of age, and more than a quarter had been employed by their current firm for more than 15 years.¹³⁷

The commission can be seen as a logical extension to an earlier Royal Commission report, chaired by Lord Donovan, which reported in 1968 and was predicated on government concerns over the levels of unofficial strikes and wage inflation and by reports of economically damaging “restrictive practices” in the wider economy. Its official remit was “to consider relations between managements and employees and the role of trade unions and employers’ associations in promoting the interests of their members and in accelerating the social and economic advance of the nation, with particular reference to the Law affecting the activities of these bodies”. The commission’s report presented a “two systems” analysis of British industrial relations, identifying the “formal system” involving negotiations at industry level between the official institutions of trade unions and employers’ confederations and the “informal system” involving shopfloor-level bargaining between workers, shop stewards, and managers. According to the analysis, industrial conflict could be attributed in part to conflict between these two systems, between the assumptions and norms of the formal system and the practical realities of the informal. The commission argued that, whether or not it was supposed to, shopfloor bargaining existed, and that employers had lost control of the workplace because of their refusal to recognise the reality of shopfloor bargaining. The recommendations of the report can be summarised by the phrase “the formalisation of plant- and company-level industrial relations”, a process through which management should grant recognition and official status to shop stewards, the elected workplace representatives of workers, and work with them to draw up codified and written agreements at plant and company level.¹³⁸

The Commission on Industrial Relations raft of recommendations on shipbuilding and ship repair included the establishment of joint councils representing all manual workers on a standing basis; these councils were

¹³⁷ *Ibid.*, 13-24.

¹³⁸ Report of the Royal Commission on Trade Unions and Employers’ Associations (1968) Cmnd 3623.

to be responsible for all negotiations and disputes at the company level. Company and district procedure agreements should be negotiated and cover at least union recognition and representational rights and shop steward numbers, functions, and facilities. On the management side it urged that companies should review their industrial relations strategies at board level and that their personnel departments should be strengthened.¹³⁹ Whether the conduct of industrial relations in shipbuilding and ship repairing mirrored those recommended by Donovan is open to question; it was to a large extent already in train in these industries.

Booz-Allen and Hamilton Report 1972

By 1973, another major report into the British shipbuilding industry, *British Shipbuilding 1972* by the consultants Booz-Allen and Hamilton International BV; had been published by the Secretary of State for Trade and Industry.¹⁴⁰ In stark contrast to the SIC Report, Booz-Allen painted a depressing picture: between 1967 and 1971 tonnage launched in UK yards had remained static and the percentage share of UK tonnage launched, relative to world launches, had fallen to just 5 per cent. New orders in 1971 were at their lowest level since 1967, and in the third quarter of 1972 just 22,000 grt of shipping had been ordered. Overall, the industry was uncompetitive with international competition in terms of price, delivery, labour relations, technological development, and capital investment. Moreover, the extent of international competition coupled with rapid inflation in the cost of labour and raw materials had severely affected British shipbuilders' financial performance, and had made the industry generally dependent on government support and assistance.¹⁴¹

Booz-Allen also noted that the number of employees in shipbuilding and repairing had changed little since 1967 and that skilled labour accounted for 42 per cent of the total employed. Unofficial strikes in the shipbuilding and marine engineering sector through days lost per thousand employees were around three times the national average for all industries and services in 1969, and five times in 1971. However, as a result of the National Demarcation

139 Commission on Industrial Relations, *Report No. 22: Shipbuilding and Repairing*, 141-143.

140 A White Paper on Industrial and Regional Development published in March 1972 announced a decision to undertake an appraisal of the long-term prospects of the British shipbuilding industry. The consulting firm of Booz-Allen and Hamilton were commissioned and presented their report, subsequently edited to remove confidential material by the Department of Trade and Industry, on 1 February 1973.

141 Booz-Allen and Hamilton, *British Shipbuilding, 1972*, 1.

Agreement of 1969, working days lost through demarcation disputes in the two years 1970-71 amounted to only half a per cent compared with 32 per cent in the period 1967-69.¹⁴²

The major structural change recommended by Booz-Allen was to concentrate warship production in just three companies – Vickers at Barrow (nuclear submarines), Yarrow at Scotstoun (frigates), and Vosper Thornycroft at Southampton and Portsmouth (frigates and fast patrol craft) – as in the report's view there would be a large excess of warship-building capacity relative to domestic demand by 1976 and foreign orders would not compensate. This had potentially dire effects on the three large firms capable of naval and mercantile building, Swan Hunter, Cammell Laird, and Scott Lithgow, all of which had posted substantial losses in the years preceding the report, but which Booz-Allen recognised could continue as mixed naval and mercantile builders until 1976, but no later.¹⁴³

Three UK shipyards enter the giant tanker market

Both Swan Hunter and Scott Lithgow had entered the VLCC market with SIB funding after the SIC Report, as had Harland and Wolff at Belfast.¹⁴⁴ Between 1967 and 1973, demand for tanker tonnage outstripped supply, particularly because of the long Japanese orderbook, tempting these firms into this market segment. Moreover, much of the tanker market was speculative, meaning that owners would order tonnage with the expectation of selling it for a higher price on completion. This product specialism favoured the steelworking trades but the increasing amount of steel used in construction made its long-term storage in shipyards and shot blasting of steel plates paramount to counteract inflationary rises in the price, and also utilised recently modernised plant and equipment. However, such was world competition that many contracts had been taken on a fixed-price basis and, with increasing inflation in the wider economy averaging 6 per cent, the long trading cycle of individual firms, and the costs of modernisation, tanker construction had proven to be unremunerative. The tripling and then quadrupling of the crude oil price by the OPEC cartel in 1973-74 consequent

¹⁴² *Ibid.*, 169.

¹⁴³ *Ibid.*, 12, 13.

¹⁴⁴ *Ibid.*, 87. Harland and Wolff had incurred severe financial losses from 1965 to 1969. With the aid of an SIB loan of £8 mn, the company undertook a period of heavy capital investment including the construction of a giant building dock. Further grants totalling £7 mn were advanced by the SIB but losses continued; in 1972 the Northern Ireland Ministry of Commerce advanced a loan of £3.5 mn to the company, purchased £4 mn of equity, and provided a grant of £14.15 mn.

upon the fourth Arab-Israeli war of October 1973 led to a slump in demand for oil and the cancellation of orders for 60 mn dwt of tankers and the laying-up of 100 mn dwt of these vessels.¹⁴⁵ Internationally, shipbuilding launches dropped threefold: from nearly 36 mn grt launched in 1975 to 12 mn grt in 1979. Orders in British shipyards stood at 4.4 mn grt in 1973 but collapsed to 67,000 grt in 1975. This was indicative of the lag effects of the oil crisis, with world production of oil tankers peaking in 1974-1975 as shipbuilders tried desperately to fulfil orders which were too far along the process of construction to cancel.

PA Management Consultants report on ship repair, 1973

In 1973 the Conservative government commissioned yet another report on the United Kingdom ship repair industry from PA Management Consultants, which was published in May.¹⁴⁶ The report was vague about remedial solutions, save to emphasise that investment, which it considered necessary for the industry, would not be forthcoming from the private sector, and to advise individual ship repairers to take the initiative to make applications for government aid. The report showed that the ship repair industry had consistently declined over the previous decade, with employment halving. It suggested that the major firms on the main estuaries should be encouraged and identified a number of major obstacles to growth. They included outdated facilities of many ship repairers, which did not compare with those of their rivals on the continent and which would become even more unsatisfactory in the longer term. It also identified unsatisfactory labour relations and the impact of this upon international competitiveness.¹⁴⁷

Clearly, the British ship repair industry remained fragmented and had a rapidly declining workforce. The level of capital investment in the industry has been nothing short of disastrous and there was an urgent need for massive capital expenditure to bring about a rapid modernisation of ship repairing yards. Under private ownership it has been an industry generally noted for outdated, run-down facilities and poor working conditions.

145 For the tanker crisis, see Stokes, *Ship Finance*, and Ratcliffe, *Liquid Gold Ships*. For its effect on Norway, see Tenold, *Tankers in Trouble*.

146 *The UK Ship Repair Industry*.

147 *Ibid.*; see also Johnman and Murphy, "The Development of the British Ship Repair Industry", 100-101.

Maritime Fruit Carriers

It was reported in August 1973 that Yaacov Meridor's Maritime Fruit Carriers (MFC) had ordered twenty-four tankers from Swan Hunter and that a separate company, Swan Maritime, would be formed by MFC and Swan Hunter.¹⁴⁸ Earlier in January, through a subsidiary company, MFC had ordered six ULCCs from Harland and Wolff at Belfast; this was just one of thirty-six companies registered in the UK by MFC.¹⁴⁹ Later in September, two VLCCs were ordered from Scott Lithgow. Given the size of these orders in total, alarm bells should have been sounded.¹⁵⁰ Such was the favourable

148 *Maritime Reporter*, August 1973: "Maritime Fruit Orders 24 Tankers in Venture with Swan Hunter": "Maritime Fruit Carriers Company Limited has announced that it has completed financial arrangements for its joint venture with Swan Hunter Group Limited of Great Britain. The joint company, known as Swan Maritime Company Ltd., was established to engage in the purchase, sale, leasing and financing of vessels and has already executed shipbuilding contracts with Swan Hunter Shipyards for the purchase of 24 oil tankers. The vessels involved range in size from 31,000 deadweight tons to 261,000 deadweight tons and are scheduled for delivery from 1974-1978. They are eligible for receipt of British Government guarantees to finance 80 per cent of the cost price of each vessel, providing it flies the British flag, and 80 per cent of the sale price of each vessel sold for export. Swan Maritime also holds options for the construction of additional tankers which would be delivered in 1978-80. Swan Maritime will be capitalized at approximately \$26.5 million; its shares will be owned 65 per cent by Maritime Fruit Carriers and 25 per cent by Swan Hunter Group, the largest shipbuilders in Great Britain. In addition, 10 per cent has been reserved for Hutchison International Company Ltd. of Hong Kong, with whom negotiations are currently in progress. Maritime Fruit Carriers' equity investment in Swan Maritime has been primarily funded by a loan from the First National Bank of Boston for \$25 million." In the event, MFC came to own 75 per cent of Swan Maritime. The real figure ordered was 26 tankers.

149 These were ordered by a subsidiary of MFC, the Glasgow-based Island Fruit Reefers Shipping Company, on 31 January 1973 to take advantage of generous British government subsidies for a fixed price of £150 mn. In the event Harland and Wolff built two of the six ULCCs on order; the remaining four were cancelled (much to the relief, no doubt, of MFC). Both were completed in 1978 as *Coastal Corpus Christi* and *Coastal Hercules*. However, owing to a dispute initiated by the eventual owners, the Coastal States Gas Corporation of Houston, Texas, during depressed market conditions for bulk-oil transportation, Harland and Wolff laid up the two tankers in Scotland at Loch Striven for two years while arbitration rumbled on. By 1980 the two tankers sailed for cleaning at Lisnave in Lisbon and then to their owners with all the equipment on board that the owners had initially claimed to be defective. See Moss and Hume, *Shipbuilders to the World: 125 Years of Harland and Wolff*, 452, 468, 473. MFC had sold its 50 per cent interest in companies controlling the two 333,000-dwt ULCCs to Coastal States by March 1976; see *The Guardian*, 11 March 1976. The vast majority of the thirty-six companies registered were single-ship entities, each having share capital of £100 (the minimum required by company law in the UK). For the full list, see TNA MT73/571 Swan Maritime.

150 MFC's activities, including the sale of tanker newbuilding contracts, the use of tax-postponement devices to profitably sell tax-depreciation allowances to third parties, and MFC's

amount of subsidy pertaining that, by 1972, government guarantees to shipowners who agreed to build ships in Britain totalled £454 mn; by the end of 1975 this figure had reached £858 mn.¹⁵¹ However, the dire state of British shipbuilding in 1973 and political considerations thereon at this stage militated against any serious inquiry into how MFC could afford such a large order – worth some £300 mn – which far exceeded its assets. Indeed, the British government helped to oil the deal with substantial subsidies to MFC.¹⁵² By 1976 when MFC finally went bust, the total MFC tonnage on order in Swan Hunter, Harland and Wolff, and Scott Lithgow shipyards amounted to 35 per cent of all British shipbuilding industry orders in hand.¹⁵³ This dire state of affairs further encouraged the workforce to embrace nationalisation.

The long march towards nationalisation of shipbuilding and repair

July 1974 saw the collapse of the Court Line group of companies, which by this stage included aviation and leisure interests in addition to Appledore Shipbuilders in North Devon, North East Coast Shiprepairers, and Doxford and Sunderland Shipbuilders. The Labour government, anxious to preserve employment, stepped in and effectively nationalised these companies, saving some 9,000 jobs.¹⁵⁴ With Cammell Laird, Govan Shipbuilders, and Harland and Wolff also effectively nationalised, only two large SIC Report-inspired groups, Swan Hunter and Scott Lithgow, remained under private control.

From the general election of February 1974 the new Labour government was committed to nationalising shipbuilding, repair, and marine-engine building companies. This was reaffirmed in the second general election of that year in October, and subsequently a bill to nationalise the shipbuilding

very high level of borrowing with charter payments and reefer mortgages as security must have been known to the government; a cautious approach should thus have been taken. Of course, on the other hand, there was no law concerning high gearing of companies.

151 TNA MT73/571 Figures cited in letter to Stanley Clinton Davis, MP, Department of Trade, 27 June 1976.

152 Great Britain, Parliamentary Papers, House of Commons, Deb. Vol. 916, cc 184-5w, 27 July 1976. Ten MFC shell companies received investment grants under Section 5 of the Industrial Development Act, 1966, and two shipbuilders received construction grants under Section 11 of the Industry Act, 1972, in respect of thirteen ships.

153 Great Britain, Parliamentary Papers, House of Commons, Deb. Vol. 905, cc 385-6w, 12 February 1976, gives the figure of 35 per cent.

154 For the reasons behind the collapse of Court Line, see Department of Trade, *Court Line, Final Report*.

and aircraft industries was presented to Parliament in the spring of 1975. However, it failed to make it through the 1974-75 session of Parliament. Reintroduced in November 1975, the bill was later successfully challenged on the grounds of hybridity. Consequently, twelve ship repair firms (three of which were publicly owned) were omitted from the nationalisation process.¹⁵⁵

Despite the growing market challenges facing the industry – which, after OPEC, was experiencing the worst depression since the early 1930s – the period from 1974 to 1977 was characterised by internecine political bickering over nationalisation. The debate soon descended into an ideological dogfight in Parliament that unduly delayed the process not least because of the Labour government's insistence in combining aircraft and shipbuilding in the same bill. It also had a serious impact on the shipbuilding industry's ability to survive against withering international competition. High inflation, which stood at 25 per cent in 1975 alone, in tandem with fixed-price contracts, ate into the industry's profitability. Overstaffing was widespread, and owners of the remaining privately owned shipbuilding and -repair firms were reluctant to commit to capital expenditure with the spectre of nationalisation looming. The owners, through the SRNA, who were in regular touch with the Conservative opposition in Parliament, virulently opposed state control. Conversely, the shipyard trade unions – with their members' jobs at stake – were almost messianic in their desire for nationalisation. By the time nationalisation actually took place, however, most firms in the industry were unprofitable and faced an uphill fight to survive.¹⁵⁶

During the latter part of the nationalisation process, NECS had closed the River Wear ship repairer, T.W. Greenwell, in 1976, with the loss of several hundred jobs.¹⁵⁷ Strikes such as one at Cammell Laird at the beginning of 1977, where more than 4,000 men were laid off because 450 platers and shipwrights had struck for another £2 per week, were characterised by *The Economist* as “a peculiar form of ritual suicide”.¹⁵⁸ Such was the severity of

155 The legislative process towards nationalisation is explained in *Keesing's Contemporary Archives*, 13 May 1977. At first the bill was declared hybrid, as Yarrow was included but Marathon at Clydebank was not. The act gained Royal Assent on 17 March 1977, with a vesting day of 1 July 1977 for the nationalised company, British Shipbuilders Plc.

156 Warren, *Steel, Ships and Men*, 296. In its last full year before nationalisation Cammell Laird lost £9.2 mn on a turnover of £34 mn; over the last nine months to March 1978 it lost £26 mn. In 1978 Cammell Laird's new construction hall was completed, two years behind schedule and at a cost of £32 mn to the British taxpayer.

157 For the ramifications of this closure, see Great Britain, Parliamentary Papers, House of Commons, House of Commons Deb. Vol. 857, 9 April 1976.

158 *The Economist*, 15 January 1977.

Japanese competition that late in 1976 Japanese yards were quoting prices as much as 60 per cent lower than UK tenders.¹⁵⁹ Such was the dire state of British shipbuilding and indeed to some extent that of West European shipbuilding in general, the fact remained that Japan had the capacity to produce all of the world's shipbuilding capacity requirements by itself.

The British shipbuilding industry nationalised

Before British Shipbuilders Plc was established, the long road to nationalisation frustrated the original Organising Committee so much so that the Chief Executive Designate, Graham Day, who since 1971 had been managing director of the loss-making Cammell Laird, had left the Organising Committee in December 1976 in protest against the length of time taken to nationalise shipbuilding. Day noted that, "By early action we could have assisted a restructuring and a stabilisation with the minimum disruption for the individual yards and the maximum preservation of genuine job opportunities."¹⁶⁰

Subsequently, a new Organising Committee was established, and British Shipbuilders Plc was formed on 1 July 1977 as a result of the Aircraft and Shipbuilding Industries Act, 1977, which nationalised nineteen shipbuilding, five slow-speed diesel manufacturing companies, and three apprentice-training companies in Britain, with Harland and Wolff, Belfast – which was effectively nationalised in any event – exempted. A further six ship repair companies asked to be nationalised after July and these, and one more shipbuilding firm, Ailsa Shipbuilding of Troon, Ayrshire (added in 1978), comprised British Shipbuilders. Admiral Sir Anthony Griffin was appointed chairman and a civil servant, Mike Casey, chief executive. Collectively, British Shipbuilders accounted for 97 per cent of British merchant shipbuilding capacity, 100 per cent of its warship-building capacity, 100 per cent of slow-speed diesel engine manufacturing, and approximately 50 per cent of ship repair capacity. From 1 July 1977 to 1 March 1978, British Shipbuilders employed on average some 86,600 employees, 44,800 of whom were employed on merchant and mixed naval construction, 20,000 on specialised warship construction, 8,500 in ship repair, 5,600 on marine engine building, and 7,700 on general engineering and other activities. Of the 86,600 employees, 24,000 were located in Scotland and the rest in England.¹⁶¹

159 *Financial Times*, 16 December 1976.

160 Great Britain, Parliamentary Papers, House of Commons, Deb., vol. 922, 9 December 1976, col. 628.

161 British Shipbuilders Plc Annual Report and Accounts, 1977-78, 37.

British Shipbuilders Plc was set up with no common financial reporting system or corporate plan save that it was to be organised into four divisions: merchant shipbuilding, warship building, ship repair, and marine and general engineering. Crucially, with some exceptions, its constituent companies were still being run by the same people who had presided over the near-collapse of the industry under private control.¹⁶² Not surprisingly, British Shipbuilders attempted from the outset to bring its constituent companies under a standardised system of financial reporting and to impose cash limits on constituent companies. Under the act establishing British Shipbuilders, companies were to be treated as individual profit centres under a decentralised management system – a cataclysmic error on the part of politicians passing the act, as it allowed local management, especially the cosseted warship-building firms which operated under conditions of imperfect competition, to initially ignore the centre.¹⁶³

Originally based in London, British Shipbuilders subsequently moved to Newcastle upon Tyne – the same city in which the Boilermakers' Society had their headquarters. In the first financial reporting period from 1 July 1977 to March 1978, British Shipbuilders posted a loss of £108 mn before tax and after receipt of Intervention Fund monies. Unsurprisingly, a substantial part of that loss arose from contracts taken before nationalisation.¹⁶⁴ Given the perilous market situation, the government in consultation with the Commission of the European Economic Community had, under the Industry Act of 1972, established a Shipbuilding Intervention Fund (SIF) to aid British Shipbuilders to attract orders against Far Eastern competition by bridging the price gap between European and Asian prices. In February 1977, £65 mn was set aside for this purpose, and by 1978 the amount was raised to £85 mn subject to annual negotiations with the EEC Commission.¹⁶⁵

SIF assistance was initially intended as a temporary aid for merchant shipbuilding only and was provided for contracts taken on a non-profit basis

162 Owners of companies that were nationalised were compensated at 1974 share values.

163 Aircraft and Shipbuilding Industries Act, 1977. Clause 5 (2): "of seeking the largest degree, consistent with the proper discharge of its functions, of decentralisation of management and decision-taking to separate profit centres in the shipbuilding and ship repairing areas of Great Britain, and in particular of Scotland and Wales and, without prejudice to the generality of the foregoing, in relation to sales, pricing, production, the formulation and implementation of investment programmes, manpower planning and management, industrial relations, and responsibility for financial performance."

164 British Shipbuilders Annual Report and Accounts, 1977-78.

165 *Ibid.*; see Chairman's and Chief Executive's Reports. The Industry Act of 1972 had initially offered shipowners credits and shipbuilders tapering construction grants to 1975, most of which had been used to alleviate losses on fixed-price contracts.

to maintain capacity. Only by way of SIF assistance could British merchant shipyards be kept in business against Far Eastern competition. With the aid of the SIF, British Shipbuilders, broadly, concentrated on survival by attempting to weather the storm of international competition and reduced demand in the hope that it would once again pick up in the early 1980s.¹⁶⁶ This was almost exactly the position taken by the European Commission, with its various directives on shipbuilding subsidies up to and throughout the 1980s and beyond. However, simultaneously, the commission reduced capacity in the expectation it would not. As Bo Stråth noted, the two positions were mutually incompatible.¹⁶⁷

Late in 1977, negotiations were at an advanced stage between British Shipbuilders and the Polish government about an order for twenty-two cargo vessels and two crane ships.¹⁶⁸ In order to secure the business, the government agreed to give a subsidy from the SIF of not more than £28 mn.¹⁶⁹ British Shipbuilders provided finance to the joint venture company not with public funds, but with funds borrowed on the commercial market, and a Eurodollar loan of \$65 mn was raised from a consortium of banks without government guarantee.¹⁷⁰ However, the Polish deal was threatened by an overtime ban in support of a pay parity claim with the Boilermakers', imposed by outfit trades at Swan Hunter, which had been promised a number of the Polish ships. British Shipbuilders, as a precondition to placing the Polish order in their various merchant yards, required trouble-free production. Workers at Austin and Pickersgill on the River Wear had refused to accept any reallocated ships from Swan Hunter, but workers at Smiths Dock on the River Tees had agreed to accept two ships. In the end, after a three-month delay hoping that the Swan Hunter situation would be resolved, Govan Shipbuilders (which, it will be recalled, had survived only due to a massive government cash injection as a result of the UCS work-in 1971) agreed by February 1978 to take reallocated ships after Govan shop

166 Before December 1977, a £28 mn subsidy for a deal for twenty-four ships for Poland came out of the £65 mn SIF budget. After allowing for that commitment, in December there still remained around £10 mn uncommitted from the fund. Up to that point, the fund had been to secure orders for forty-eight ships. See BPP, House of Commons, Deb, vol. 941, col. 74, 12 December 1977.

167 Stråth, *The Politics of De-Industrialisation*, 22.

168 To facilitate this deal British Shipbuilders took a 50 per cent stake in Anglo-Polish Shipping Venture Ltd, a company registered in Poland. The joint venture company would bareboat charter the ships to the Polish Steamship Company for periods of thirteen to fifteen years.

169 The deal included a guarantee of export credit by the government's Export Credit Guarantee Department, a normal part of any export transaction. The amount of the guarantee met the normal EEC and OECD requirement of not more than 70 per cent of the export price.

170 British Shipbuilders Annual Report and Accounts, 1977-78.

stewards had been apprised of CSEU policy. At a mass meeting of 3,000 workers only 4 voted against.¹⁷¹ No British seaman would be employed on these ships, which would operate under the Polish flag. Indeed, nearly half of the engines were to be built in Poland as were the propellers and shafts, and anchor and chain cables, with decks to be built in Norway. The deal showed in stark terms just how bad the situation was for British Shipbuilders.¹⁷² Throughout the Polish ships episode, the CSEU had argued in terms of the survival of the industry as a whole, and the experience certainly persuaded them to embark upon national rather than yard-based collective bargaining.

Even if the constituent companies of British Shipbuilders were at this stage semi-autonomous, by January 1979 industrial relations were not. On nationalisation on 1 July 1977 to the end of 1978 the industry was subject to 168 separate collective-bargaining agreements on wages and salaries; by 1 January 1979 it was subject to one with a single negotiating date – a remarkable achievement but one which also reflected the gravity of the competitive position, which the trade unions involved were all too aware of. Just as British Shipbuilders became operational, the employers' organisation, the SRNA, disbanded. Nationalisation fundamentally changed the dynamics of industrial relations in the industry. Under the Aircraft and Shipbuilding Industries Act, British Shipbuilders was committed to a form of industrial democracy mainly of a consultative nature. Monthly discussions with the CSEU Shipyard Negotiating Committee were instituted to discuss and exchange views over a wide range of British Shipbuilders activities. In its first year of operations a number of agreements were made, including a new procedure for the avoidance of disputes, and following discussions with the government and the CSEU a special redundancy payments scheme was instituted under the Shipbuilding (Redundancy Payments) Act, 1978.¹⁷³ Indeed, one former trade unionist, Ken Griffin, had been made deputy chairman of British Shipbuilders, and three active trade unionists, Fred Baker of the General and Municipal Workers Union, Les Gregory of the Electrical, Electronic and Telecommunications and Plumbing Union, and John Hepplewhite of the Boilermakers' Society, had been made part-time board members.¹⁷⁴

171 Foster and Wolfson, *Politics of the UCS Work-In*, 405, 424-425.

172 See BPP House of Commons, Deb, vol. 941, col. 63, 12 December 1977.

173 A separate scheme was instituted for those leaving the industry over the normal retirement age.

174 Register of Interests, British Shipbuilders Plc Annual Report, 1977-78.

By March 1979, a Phase 1 Agreement consisting of eighty-four pages on wages and salary readjustments and a deal on productivity (self-financing bonus deals) had been agreed with the CSEU. Wages were now determined nationally for all shipyards, repair establishments, and marine engineering works, rather than by the previous system of local collective bargaining. Yard shop stewards, as a result of this deal, were now more reliant on national union officials and the CSEU.¹⁷⁵ Moreover, the promotion through the so-called social contract between the Labour government and trade unions urging centrally agreed maximum wage increases (in reality a government-imposed pay freeze) further eroded the power of yard shop stewards.

Six months after the Phase 1 Agreement, British Shipbuilders and the CSEU signed the Blackpool Agreement in August 1979, by which the CSEU accepted the reality of a cut in job numbers but only if there were no compulsory redundancies. In other words, employees had to volunteer for redundancies at favourable levels of remuneration. That contraction of the workforce was necessary given the ever decreasing market situation was now beyond doubt. The agreement estimated 6,000 redundancies, initially by paying off the long-term sick, natural wastage (employees leaving for other jobs, retirement, and death) and by transferring surplus labour on an inter-yard basis, plus a ban on adult recruitment; the remainder would be by voluntary redundancy. Simply put, the nationalisation process had been fully supported by the trade unions, but consensus was now under considerable strain by impending yard closures and the need to increase productivity. The latter – through a series of frankly bogus productivity deals prior to nationalisation to get around government price and income policies – meant that British shipbuilding workers were the least productive of the major shipbuilding nations in 1977.¹⁷⁶

Since nationalisation, the demand for newbuilding had been in steep decline. Sweden, so often held up as an exemplar of modern shipbuilding methods, marketing, and productivity, had also been affected by the post-OPEC crisis and Japanese competition, and nationalised the bulk of its shipbuilding industry under a holding company, Svenska Varv, in 1977, this despite its workforce being the most productive in the world.¹⁷⁷ The

175 British Shipbuilders Plc Report and Accounts, 1978-79, Chairman's and Chief Executive's Reports.

176 *Fairplay*, 24 August 1978, 61. In 1977, Sweden topped the productivity table, followed by Japan, West Germany, Denmark, France, Italy, and Britain. Swedish shipyard workers were 3.67 times more productive than their British counterparts.

177 The large Kockums yard at Malmö was nationalised in 1979. Subsequently, in 1986, the Swedish government decided to cease all merchant shipbuilding.

Swedish shipbuilding industry had no interest subsidy, and two of its largest shipyards, Eriksberg and Gotaverken, faced huge losses, not because of lack of orders but through currency speculation to compensate for the lack of interest subsidy. Both firms had financed suppliers' credits, given in US dollars, with low-interest loans given in Swiss francs. In 1974 the dollar began to depreciate, and neither yard had insured against the currency risk. The Swedish government stepped in to save these two large firms from bankruptcy and introduced a guarantee facility to finance ships on account, assuming they would be sold on completion. As Cees de Voogd has noted, this turned into a financial disaster for all concerned. Svenska Varv announced its intention to close shipyards in 1978, sparking widespread social and political discontent. The government postponed the closure of shipyards but the reduction in capacity continued. Employment had halved from 24,000 in 1975 to 12,000 in 1980, and by 1985 was further reduced to 3,000. At 1990 only 553 employees were left in the Swedish shipbuilding industry.¹⁷⁸

Japan had also been badly scarred post-OPEC. As the world's leading tanker builder it suffered the brunt of cancellations and was left with a great deal of redundant capacity relative to the large amount of docks capable of building VLCCs and ULCCs at its disposal. In 1974, Japanese shipbuilding received only eleven VLCC orders, all of which were taken in the first quarter of that year; this against fifty-four VLCCs and forty-one ULCCs in 1973.¹⁷⁹ By 1978, the Japanese Ministry of Transport had introduced a rationalisation scheme with the full co-operation of its shipbuilding industry. A year earlier there had been a number of spectacular failures due to financial insolvency. The year 1978 saw Japan commit 71 bn yen to the Japan Development Bank to subsidise interest payable on loans for ships ordered in Japan. In combination with low interest rates provided to Japanese shipowners, this effectively trimmed 20 per cent of the price of a newbuilding. July saw the inception of a rationalisation scheme. It was agreed that 35 per cent of the capacity to build vessels of 5,000 grt and over available in 1974 would be withdrawn from use. A special fund of 36.8 bn yen was set aside for shipbuilders, and a scrap-and-build scheme was instituted (which resulted in 1 mn grt of extra orders). By the end of 1979, employment, direct and indirect, had been reduced to 162,000 from its 1973 peak of 253,000, in part due to the elimination of 60 berths and building docks. By 1981 Japan's oversupply problem had been partly alleviated but

178 De Voogd, "Public Intervention and the Decline of Shipbuilding in the Netherlands", 251-252.

179 Todd, *Industrial Dislocation*, 8.

Table 2.7 British and Japanese mercantile completions in global comparison 1971-1980 (000 grt)

	World			Japan			United Kingdom				
	Dry cargo	Tankers	Total	Dry cargo	Tankers	Total	% of world total	Dry cargo	Tankers	Total	% of world total
1971	9725	8410	18135	6311	4808	11119	61.31	793	441	1234	6.80
1972	11585	7704	19289	7753	5108	12861	66.68	820	371	1191	6.17
1973	10604	11480	22084	6565	8096	14661	66.39	840	221	1061	4.80
1974	5490	11419	16909	3949	7558	11507	68.05	423	456	879	5.20
1975	10303	23202	33505	4251	12739	16990	50.71	579	590	1169	3.49
1976	12948	20378	33326	6397	9472	15869	47.62	734	767	1501	4.50
1977	15496	11623	27119	8798	2911	11709	43.18	583	437	1020	3.76
1978	12074	5828	17902	5551	756	6307	35.23	500	633	1133	6.33
1979	8854	5209	14063	3101	1596	4697	33.40	396	295	691	4.91
1980	8140	4811	12951	2964	3129	6093	47.05	339	88	427	3.30

Source: *Lloyd's Register of Shipping*, various years

output remained around half that of a decade earlier.¹⁸⁰ Towards the latter part of the 1980s, under pressure from government and with shipbuilding capacity exceeding demand, Japanese shipbuilders formed industry coalitions that later coalesced into production groups with the object of aligning capacity to perceived markets – in other words matching supply with demand. By the end of decade these arrangements had been waived, but eight large groups formed the vanguard of Japan's attempts to remain the world's leading shipbuilder.¹⁸¹

Table 2.7 follows on from Table 2.6 and shows a further decline in UK shipbuilding performance in two important sectors and a significant drop in Japanese share of the market owing to new entrants such as South Korea.

The 1980s: from nationalisation to privatisation and statistical irrelevance

Under its second chairman, Robert Atkinson, appointed in May 1980, British Shipbuilders Plc was restructured in October into five trading divisions according to product profile: merchant shipbuilding, warship building, engineering, ship repair, and offshore. The last division, comprising Cammell

¹⁸⁰ *Ibid.*, 53-71; Todd explains this period in extensive detail.

¹⁸¹ *Ibid.*, 236.

Laird and Scott Lithgow, at a stroke took two mixed naval and mercantile yards out of naval construction altogether and also brought them out of the ambit of the SIF. Atkinson quickly recognised the need for more centralised financial control but continued the mistake of his predecessor by leaving production and productivity deals to the constituent companies, which inevitably would lead to inter-yard friction and hostility, especially between the loss-making merchant yards and the profitable warship yards. He did, however, centralise marketing. The Thatcher government's 1979 manifesto had promised to denationalise shipbuilding but it did not feel confident enough to do so before 1984, particularly because of the very real threat of a total implosion of the largely unprofitable merchant shipbuilding sector and the likelihood that private investment in it would not be forthcoming. Initially, it pledged financial support continuing until 1981 contingent upon rationalisation and a return to viability, but trading losses after the intervention fund subsidy continued: more than £45.5 mn in 1978-79 and £110 mn in 1979-80.¹⁸²

The only substantial profit-earners were the three specialist warship yards, Vickers, Vosper Thornycroft, and Yarrow. By the end of 1981, however, the number of engine-building companies had been reduced from five to two. Employment had been reduced to 66,747 and ship repair had been reduced from 6 to 4 firms. Of these, Tyne Shiprepair (an amalgamation of NECS and Swan Hunter Shiprepairers) had incurred losses of £8 mn, and Grangemouth Dockyard had suffered a serious decline in its traditional business.¹⁸³ As Lewis Johnman has noted, from 1 July 1977 to November 1980, the industry consumed £316 mn in public dividend capital and £105.5 mn in Shipbuilding Intervention Fund monies, and was still unable to match prices quoted by competitors.¹⁸⁴

In April 1980, British Shipbuilders informed the CSEU that Caledon Shipbuilding (part of an SIC Report-inspired merger of the Henry Robb shipyard at Leith on the River Forth and Caledon Shipbuilding at Dundee on the River Tay in 1968) had to close. This was obviously against the spirit of the Blackpool Agreement with its rejection of compulsory redundancies. British Shipbuilders did, however, by means of voluntary redundancy and a process of attrition, scale down the Caledon workforce to just over 250. By September 1981 they sought to close the yard, with compulsory

182 British Shipbuilders Annual Report and Accounts, 1978-79 and 1979-80.

183 British Shipbuilders Annual Report and Accounts, 1981-82.

184 Johnman, "The Privatisation of British Shipbuilders", 6, quoting House of Commons Trade and Industry Report, Memorandum submitted by British Shipbuilders, 2 December 1981.

redundancies, but met with resistance from 145 of the men affected, who occupied the yard. A three-day strike ordered by the CSEU in support did not get the support of all other shipyards and did not take place. Caledon was duly closed down at the end of 1981, and Henry Robb limped on until early 1984 when it also closed, bringing to an end 600 years of shipbuilding on the River Forth.

By 1982, given the attrition rate of yard closures and its subsequent drop in membership, the Boilermakers' Society had been looking to amalgamate with a larger trade union and in so doing retain its internal structures. There were some in the society who wished it to amalgamate with a larger craft union such as the Amalgamated Union of Engineering Workers. However, talks continued with two other general (unskilled) unions, the Transport and General Workers' Union and the General and Municipal Workers Union (GMWU). The latter represented the bulk of unskilled labour in shipbuilding and ship repair, and by August an amalgamation between the Boilermakers' and the much larger GMWU had been realised. The new union would be known as the General, Municipal, Boilermakers and Allied Trades Union.¹⁸⁵ It was richly ironic, given the hierarchical structure of trades throughout the history of British shipbuilding, that its major craft union, the Boilermakers' Society, with its messianic protection of craft privileges and pay differentials throughout its lifetime, would eventually amalgamate with an unskilled union.

Not only was British shipbuilding suffering from Japanese competition, by this stage, a comparatively new entrant, South Korea, had increasingly won world market share; in 1982 this stood at 12 per cent, and new yards capable of building sophisticated high-value tonnage had also come on stream.¹⁸⁶ From March 1972 onwards, under the military dictatorship of Park Chung-hee and with trade unions under state control, the Hyundai Construction *chaebol* (family-owned conglomerate) had formed Hyundai

185 Mortimer, *History of the Boilermakers' Society*, vol. III, 353-354.

186 A good example was Daewoo's Okpo facility at Keoje Island, Pusan, a yard designed by A & P Appledore to construct virtually any type of ship, plant or offshore structure. Daewoo took over Okpo from KSEC in December 1979 when the yard was 25 per cent finished; it was finally completed in January 1981. See Jonnson, *Shipbuilding in South Korea*, 82. In the two years to 1982, the yard had constructed a series of four stainless steel chemical tankers, a series of six semi-submersible drilling rigs and speciality plant, including a barge-mounted seawater treatment plant for US oil companies operating in Alaskan waters. As Todd noted, the Okpo yard "was nothing less than a masterpiece of shipbuilding ingenuity". It employed 8,100 men and had a building dock of 530 m in length equipped with a Krupp crane capable of lifting 900 tons (then one of the two largest shipbuilding cranes in the world). See Todd, *Industrial Dislocation*, 187-188.

Heavy Industries (HHI) and began to construct, with state support, a huge shipbuilding complex at Mipo Bay, Ulsan, which was completed in June 1974. It was designed to construct five VLCCs per year with the aid of the British consultants A&P Appledore, the lower Clyde shipbuilders, Scott Lithgow, and slow-speed diesel marine engine builders, Kincaid, who provided training and production drawings. Prior to this Korean shipbuilding had ranked seventieth in the world, with only one state-owned company of any note whatsoever, Korean Shipbuilding and Engineering Company (KSEC), and with an annual capacity of just 250,000 grt in 1973. South Korea aimed for an annual output of 1.9 mn grt in 1976 and a huge 9 mn grt by 1985.¹⁸⁷

Shipbuilding and steel were seen as instruments to stimulate national industrial growth and even though the tanker market sank post-OPEC, South Korea determined to increase its market share despite its output projections, which were wildly optimistic. South Korean output (HHI and KSEC only) in 1976, in terms of tonnage launched, amounted to 625,950 grt (UK: 1.304 mn grt) and in 1985 (HHI, KSEC, Daewoo, Samsung) 2,750,536 grt (UK: 145,000 grt). South Korea, therefore, as Lars Bruno and Stig Tenold have noted, had expanded rapidly with huge state commitment in a period characterised by capacity reduction elsewhere.¹⁸⁸ Initially dependent on technology transfer and foreign know-how, the South Korean industry quickly assimilated this, overcame technological barriers, and nurtured its own technological capability; by utilising low labour costs and repression of the labour force, it quickly gained market share and useful foreign currency.

By 1979, two other *chaebols*, Daewoo and Samsung, had also entered shipbuilding. However, the industry did experience problems in the mid- to late 1980s largely as a result of years of taking export contracts at below-cost prices. By mid-1988, HHI, KSEC, Daewoo, and Samsung, had reputedly run up debts to USD \$4.5 bn, and the industry's workforce had contracted from 75,000 in 1984 to 51,000. By the end of 1988, labour unrest, strikes, and the granting of unsustainable pay rises, and severe price competition with Japanese shipbuilding, had all affected the industry's profitability. In April 1987, KSEC requested protection from its creditors, and in 1988 Daewoo Shipbuilding was rescued by its banks. A strike at HHI, Ulsan, in 1989 lasted more than three months and resulted in USD \$760 mn in lost production. That year, KSEC was sold out of bankruptcy protection to the Hanjin *chaebol*.¹⁸⁹

187 Todd, *Industrial Dislocation*, 18.

188 Bruno and Tenold, "The Basis for South Korea's Ascent in the Shipbuilding Industry".

189 Todd, *Industrial Dislocation*, 196-198.

The industry's plight was not aided by the state's inclination not to provide financial assistance, rapidly rising labour costs, and Japan's new low-interest export financing in support of Japanese shipbuilders. However, both the South Korean and Japanese shipbuilding industries – at that stage the world's most competitive – were expected to increase profitability in the early 1990s as older ships in world fleets needed replacing. By the end of 1989, it was strongly suspected that collusion between Japan and South Korea was de facto allowing new orders to be parcelled out between them.¹⁹⁰ In South Korea, Daewoo Shipbuilding posted its first profit in 1991 and in 1994 it merged with Daewoo Heavy Industries. With the onset of the Asian financial crisis in 1997, liquidity in shipbuilding became crucial to service accumulated debts from the rapid expansion programmes undertaken by South Korean *chaebols*. Daewoo Shipbuilding was restructured in 1999 and at the end of 2000 was demerged from Daewoo Heavy Industries. By 2001, its reconstruction was complete, the company becoming Daewoo Shipbuilding and Marine Engineering.¹⁹¹

By the end of 1982 British Shipbuilders had closed half of its merchant shipbuilding capacity, and the terms of the British Shipbuilding Act, 1983, gave the government the required means to compel British Shipbuilders to begin a process of the privatisation of its remaining companies.¹⁹² Losses for 1982-83 totalled £117 mn mainly due to the the Offshore Division. A new chairman, Graham Day (who, it will be recalled, had resigned from the original Organising Committee of British Shipbuilders) was appointed in succession to Robert Atkinson with a specific brief to reduce losses and privatise the profitable elements of British Shipbuilders, the warship yards.¹⁹³

From 2 April 1984 the number of British Shipbuilders divisions was reduced from five to two to prepare for its eventual size and shape after disposals and privatisation. Tyne Ship Repair and Grangemouth Dockyard had been sold and the remaining two ship repair companies, Falmouth and Vosper Shiprepairers, were now up for sale. Now only warship-building and merchant and composite building yards formed the core capability,

¹⁹⁰ *Ibid.*, 197.

¹⁹¹ See www.dsme.co.kr.

¹⁹² British Shipbuilding Act, 1983, c. 15, section 2: "the Secretary of State may, after consultation with British Shipbuilders, by order, give to it directions – (a) to discontinue or restrict any of its activities or to dispose of any of its property, rights and liabilities; or (b) to secure the discontinuance or restriction of any of the activities of a wholly owned subsidiary of British Shipbuilders or the disposal of all or any of its property, rights and liabilities or the winding up of any such subsidiary."

¹⁹³ For this, see Johnman and Murphy, *British Shipbuilding and the State Since 1918*, 231-232.

reflecting the progressive withdrawal from ship repair, offshore, and marine and general engineering.¹⁹⁴ Earlier in March, British Shipbuilders biggest loss-maker, Scott Lithgow, became the first constituent company to be privatised – sold to the industrial conglomerate Trafalgar House Plc for a knockdown price of £12 mn. After the sale, Trafalgar House received £36.649 mn in June 1985 from British Shipbuilders in compensation for continuing problems with completing a semi-submersible drilling rig. A record trading loss of £161 mn in the 1983-84 reporting year for British Shipbuilders was almost entirely due to losses in its Offshore Division. The entire adventure begun by Robert Atkinson in 1981 into offshore semi-submersible drilling rig construction at Scott Lithgow and Cammell Laird had been disastrous.¹⁹⁵

Privatisation

Thereafter, British Shipbuilders began the privatisation of its constituent companies in earnest by selling off its warship yards, its two remaining ship repair companies, Falmouth Shiprepair Ltd and Vosper Shiprepairers Ltd (sold in 1984 and 1985 respectively), and engine-building and general engineering companies. Brooke Marine at Lowestoft was redesignated as a warship yard and sold in 1985 to a management buyout, as was Vosper Thornycroft at Southampton and Portsmouth. Yarrow was also sold in that year to the conglomerate GEC-Marconi. In 1986 Smiths Dock on the Tees was closed, as was Clark Kincaid's Wallsend engine works, Vickers at Barrow was sold to yet another management buyout and was rebranded Vickers Shipbuilding and Engineering Ltd (VSEL), which also included Cammell Laird, redesignated as a warship yard in 1984 after the collapse of the Offshore Division, and sold to VSEL for a nominal £1. Swan Hunter had also been designated a warship yard and was privatised in 1986 by another management buyout, as was Hall Russell at Aberdeen. Redesignation of four of the seven yards above (three, Yarrow, Vosper Thornycroft, and Vickers, were already designated warship yards) precluded all seven from accessing SIF monies.¹⁹⁶

The year 1986 also saw the sale of the small Ailsa shipyard at Troon to the Perth Corporation. Ailsa was purchased by the Yorkshire-based

194 Merchant and composite comprised British Shipbuilders merchant and engine building facilities and included yards engaged in both merchant and warship construction, such as Swan Hunter.

195 For this period, see Johnman and Murphy, "A Triumph of Failure".

196 The Shipbuilding Intervention Fund existed for thirty-six years and at one point accounted for a third of the cost of a ship. It was finally abolished throughout the European Union from 1 January 2001.

Cathelco in 1996 and, after completing a £20 mn order from the Ministry of Defence for ten landing craft, closed in 2000. In 1988 Govan Shipbuilders was sold to the Norwegian conglomerate, Kvaerner, for a paltry £6 mn, with the loss of 500 jobs and with British Shipbuilders picking up the redundancy costs, allowing Kvaerner access to the SIF. This left British Shipbuilders with only one major merchant shipbuilding facility, North East Shipbuilders Ltd (NESL) at Sunderland, and the much smaller shipyards of Appledore-Ferguson at North Devon and Port Glasgow, and Clark Kincaid's engine works at Greenock. By 1989, Appledore, Ferguson, and Clark Kincaid had been privatised, and NESL's Pallion (the locus of a large construction hall) and Southwick shipyards closed in a backstage deal with the European Union Commission as a counterpart for aid. Counterpart funding was designed to assist those areas where shipbuilding closed, in this case, Sunderland, but only on condition that no future shipbuilding be conducted.¹⁹⁷

The remaining assets of NESL were then privatised in 1989 as A & P Appledore International, and were utilised for ship repair. The NESL closure ended volume merchant shipbuilding in Britain. In contrast, ship repair and conversion, most of it undertaken in former assets of British Shipbuilders, survived in part, and largely returned to the casualised system of labour which had characterised it beforehand. The result of privatisation had been an income to British Shipbuilders of £125.5 mn while costs had been £234.8 mn – leaving a negative balance of £109.3 mn. All told, British Shipbuilders Plc, from July 1977 to 1989, cost British taxpayers more than £2 bn.¹⁹⁸ In 1975, British shipbuilding had employed 48,000 employees in newbuilding; by 1990 the figure stood at 6,000. The comparative figures for the Netherlands and West Germany for employees engaged in shipbuilding in 1975 were 21,000 and 47,000 respectively. By 1990 these numbers had been reduced to 4,000 and 15,000 respectively. In 1975, Japanese shipbuilding, at 256,000 employees, employed far more workers than the UK, West Germany, the Netherlands, and Sweden combined (141,000). By 1990, however, shipbuilding employment in Japan had contracted markedly to 89,000.¹⁹⁹ From 1977

197 For this period in more detail, see Johnman, "The Privatisation of British Shipbuilders", and Johnman and Murphy, *British Shipbuilding and the State Since 1918*, 234–236.

198 Johnman and Murphy, *British Shipbuilding and the State Since 1918*, 240. British Shipbuilders Plc continued to exist as a shell corporation under statute law, accountable for liabilities arising from its operation until 2013. From March 2013, any remaining liabilities passed to the Department of Innovation and Skills.

199 Figures from De Voogd, "Public Intervention and the Decline of Shipbuilding in the Netherlands", 252.

onwards, British shipbuilding had marched towards statistical irrelevance. Table 2.8 shows British shipbuilding's decreasing market share during the 1980s.

In attempting to sum up the labour situation in British Shipbuilders from nationalisation to privatisation, one has to conclude that closures occurred with, on the whole, surprisingly little opposition from trade unions. In part this was due to quasi-nationalisation of a substantial part of the industry prior to 1977, the initial welcoming of full nationalisation by all trade unions concerned, the pseudo-corporatist structure of the British Shipbuilders Plc Board, the smugness of those employed in the warship division that somehow they were immune from competitive pressures, and the rather pious hope that an industry that had monumentally failed to confront foreign competition from the 1950s onwards could, in some mysterious way, rise phoenix-like from its competitive torpor. Concurrently, from 1980 onwards, the Conservative government passed a series of employment laws aimed at undermining trade union rights and weakening employment protection.²⁰⁰

During the years of British Shipbuilders control, strikes did of course occur, but those that did were of short duration, and closures and diminution of the workforce were easily bought off by generous redundancy terms. By 1979-80, days lost to industrial disputes were about one-seventh of the national average and, in the following two reporting years, days lost were less than 1 per cent of those available.²⁰¹ In the spring of 1981, the CSEU concluded an agreement for a 7.5 per cent wage rise and for the introduction of a 39-hour working week effective from 1 April 1982. Following a period of wage freeze, in the autumn of 1983, British Shipbuilders proposed to the CSEU radical alterations to traditional working practices to pave the way for a "step-change improvement in productivity". After lengthy negotiations, the CSEU agreed to these changes in exchange for an unconsolidated across-the-board increase in wages by a supplement of £7 per employee per

200 The Employment Act, 1980, outlawed secondary action by unions against an employer who was not directly a party to a given trade dispute, and the definition of a trade dispute was narrowed to encompass only disputes between workers and their own employer. The Employment Act, 1982, banned "union-only" clauses in contracts, and made it far easier to gain court injunctions against industrial action by trade unions. Trade unionists were also banned from refusing to work with non-trade unionists and from refusing to handle work from non-trade union companies. The Employment Act, 1988, required separate workplace ballots in certain disputes and outlawed industrial action to establish or enforce a "closed shop". It legislated on the prevention of union discipline against persons ignoring a strike call even though the strike call was supported by a ballot.

201 British Shipbuilders Annual Report and Accounts, 1979-80, 1980-81, 1981-82.

Table 2.8 UK and World shipbuilding launches, 1980-1990 (000 grt)

Year	UK	World	UK as a % of world
1980	244	13,935	1.8
1981	339	17,066	2.0
1982	528	17,290	3.1
1983	527	14,888	3.5
1984	191	17,732	1.1
1985	145	17,247	0.8
1986	238	14,914	1.6
1987	46	9,770	0.5
1988	91	11,977	0.8
1989	100	13,041	0.8
1990	79	14,894	0.5

Source: *Lloyd's Register of Shipping*, various years

week from January 1984 subject to the conclusion of local agreements. This was known as the Phase 5 Agreement.²⁰²

By March 1985, even British Shipbuilders headquarters staff had been further reduced to ninety-four employees, reflecting the changing composition of the constituent yards, cost reductions, and transfer of responsibilities to the operating level. This was an 18 per cent reduction over the reporting year, and man-days lost as a result of strikes totalled less than 0.2 per cent of those available. A Phase 6 wage settlement valued at 4.4 per cent of the total paybill was reached in 1984, offset by overall productivity improvements. Another cause for concern was that just over 90 per cent of merchant vessels on order throughout the world were scheduled for delivery in 1986. Indeed the market for newbuilding was in its ninth year of no real growth, with prospects little better. As Day noted, "unless more responsible policies are adopted in South Korea and Japan it is difficult to see how any European shipyard can maintain its capacity even at the present drastically reduced levels". He hoped that Far Eastern governments would require their domestic shipbuilders to tailor capacity, prices, and sales finance to responsible financial criteria.²⁰³ In relation to South Korea, this was wishful thinking at best, and with Japan it was only marginally less so. With the government-ordered privatisation of British Shipbuilders constituent

²⁰² British Shipbuilders Annual Report and Accounts, 1982-83, 1984-85; Mortimer, *History of the Boilermakers' Society*, vol. III, 389-390. By this agreement, provisions were made for flexibility and interchangeability of composite groups of workers within shipyards.

²⁰³ British Shipbuilders Annual Report and Accounts, 1984-85.

warship firms proceeding apace, British Shipbuilders had the unenviable prospect of losing its profitable core and being left with an unprofitable rump of mercantile-only yards.

Privatisation proved to be the means by which the British state annihilated its maritime industries. The axis between the state and merchant shipbuilding, evident for most of the twentieth century, was now irretrievably broken. Simply put, the state wanted rid of shipbuilding. In the course of the next decade, slow-speed marine-engine building manufacturing would also be annihilated, and the aim of promoting competition in warship building would be stymied by the creation of a quasi-monopoly.

The 1990s: the long goodbye

Clark Kincaid, British Shipbuilders' last engine works, sold to the HLD Group in 1989, was acquired by the Norwegian conglomerate Kvaerner in 1990 and was renamed Kvaerner Kincaid. It was sold to Scandiaverken in 1999 and closed in 2000, bringing to an end marine engine building in the once great maritime town of Greenock. Hall Russell, in receivership, was sold again in 1989 to A & P Appledore (Aberdeen) but closed in 1992, as did Brooke Marine at Lowestoft. Scott Lithgow closed in 1993, posting the largest single loss on a contract in the history of British shipbuilding. Scott Lithgow's disastrous entry into the large offshore structures market ultimately cost British Shipbuilders Plc £228 mn in losses and legal action by Trafalgar House Plc.²⁰⁴

In 1993 there occurred a bitter four-week strike over pay by 1,300 workers at GEC Marconi Marine's yard at Scotstoun (formerly Yarrow Shipbuilders). There had been no pay increase since 1991 and on 5 March 1993 the striking workers voted overwhelmingly to return to work. The action was initiated by an unprecedented 97 per cent vote of the manual workforce to strike, against the recommendations of shop stewards and union officials, and was the first strike over pay for nearly twenty years at the Scotstoun yard.²⁰⁵

In 1994, Swan Hunter entered receivership.²⁰⁶ It was subsequently purchased by a Dutch entrepreneur, Jaap Kroese, ensuring its survival

204 Johnman and Murphy, *Scott Lithgow*, 340-341.

205 *The Independent*, 6 and 21 February 1993. A full orderbook offered the strikers maximum leverage after more than a decade of redundancies, the grudging surrender of craft rights, and a two-year wage freeze. For an analysis of this strike, see McKinlay and Taylor, "Privatisation and Industrial Relations in British Shipbuilding".

206 For an analysis of the factors leading up to receivership, see Johnman, "Public Intervention and the Hollowing out of British Shipbuilding".

on a much-limited scale until 2006, when it ceased shipbuilding. VSEL closed Cammell Laird at Birkenhead in 1993 (Cammell Laird was thereafter purchased and reverted to ship repair and conversion but closed in 2001).²⁰⁷ VSEL was acquired by GEC-Marconi in 1995 as part of Marconi Marine to join Yarrow. By 1999, a mega £7.7 bn merger of two British companies, Marconi Electronic Systems (a defence, electronics, and naval subsidiary of the General Electric Company Plc) and British Aerospace (manufacturer of aircraft, munitions, and naval systems) resulted in the creation of BAe Systems in November 1999. Thus one company at the end of the century monopolised nuclear submarine construction at the former VSEL yard at Barrow and frigate construction at Scotstoun, and leased from Clydeport, on the withdrawal of Kvaerner from shipbuilding in 1999, the last merchant yard of any significance on the British mainland at Govan.²⁰⁸

Conclusions

The demise of almost all British merchant shipbuilding firms, the bulk of ship repair firms, and marine-engine building firms linked to shipbuilding in the twentieth century owed much to an inability to meet international

207 Part of the Birkenhead shipyard site was leased by the Coastline Group as a ship repair facility. Coastline eventually bought part of the shipyard and adopted the Cammell Laird name, before floating on the London Stock Exchange in 1997 and acquiring dockyards on the Tees and Tyne and a former Royal Dockyard at Gibraltar. The late withdrawal from a £50 mn refit contract for the *Costa Classica* cruise ship by Costa Crociere, a division of Carnival Cruises of the USA, tipped Cammell Laird Shiprepairers into receivership in April 2001. The Tees, Tyne, and Birkenhead yards were acquired by A & P Shiprepair Group in 2001. The Gibraltar dockyard was sold to a local management buyout. In 2005, A & P sold the Birkenhead yard to Northwestern Shiprepairers and Shipbuilders (NSS). Peel Holdings, owners of the Mersey Docks and Harbour Company, which owned a 50 per cent stake in NSS, acquired the Cammell Laird site and surrounding land in 2007 to facilitate a property development although NSS continued to maintain a long lease on the shipbuilding site. In November 2008, NSS, having acquired the Cammell Laird name earlier, was renamed Cammell Laird Shiprepairers & Shipbuilders Ltd. In February 2008 it was announced that the company had won a £28 mn Ministry of Defence contract to refit and overhaul the Royal Fleet Auxiliary ship, *Fort Rosalie*. In January 2010, a £44 mn order for the flight deck modules of the Royal Navy's new aircraft carrier, HMS *Queen Elizabeth*, was announced. Cammell Laird returned to shipbuilding with an order from Western Ferries for two ferries for its Clyde route in June 2012, for delivery in August 2013.

208 After 1985 Vosper Thornycroft had become known as the VT Group and later concentrated its activities at Portsmouth. In 2008 BVT Surface Ships was created as a joint venture combining the shipbuilding and naval support business of VT Group and BAe Systems yards on the upper Clyde. By the end of March 2010, Babcock International (which had taken over the former Royal Dockyard at Rosyth) had acquired the VT Group.

competition head on. From a position of unrivalled supremacy prior to 1914, British shipbuilding and repair's future prospects altered significantly during the protracted conflict of the First World War and in the mostly depressed interwar period.

Obsessed with reducing its capacity and utterly failing to alter its atomistic structure, its extant system of industrial organisation, inter-firm competition, and low levels of capital investment, the industry limped towards the Second World War in a far worse position than it had found itself in 1914. The war masked the industry's fundamental problems and served to maintain its inherent contradictions.

After 1945, ad hoc solutions applied sticking plaster to a fundamentally ill patient too weak to collectively challenge Japanese, German, and Swedish competition and of insufficient backbone to force change in the bitter climate of industrial relations it had largely fostered for its own ends. By 1958, when the long seller's market in shipbuilding had come to a jarring halt, firms had on the whole failed to read market trends evident elsewhere in the construction of larger oil tankers and bulk carriers. Modernisation schemes were largely piecemeal.

No British shipbuilder had the vision or the capital to contemplate a shipyard such as Arendal in Sweden or, later, Ulsan in South Korea. Large swathes of the British shipbuilding and ship repair industries increasingly looked to the state during the 1960s and 1970s for salvation; and an industry that had always abhorred nationalisation reluctantly embraced it, by which stage most of it was uncompetitive on price, delivery, and credit and teetering on the edge of bankruptcy in any event.

Nationalisation did little more than prolong the larger part of the industry's agony, and privatisation hastened its death throes. All of this proved, at great expense and to no great purpose, merely sufficient to keep alive a warship-building capability and a semblance of competition, which as the century ended had moved towards quasi-monopoly. BAe Systems with Babcock International and Thales UK at present are completing an aircraft carrier but, as this work has advanced, BAe announced in November 2013 the loss of 1,775 jobs and the closure of its Portsmouth shipyard in 2014. Around 800 of these jobs will be lost at BAe's shipyards at Govan and Scotstoun in Glasgow, which employ around 3,700 workers, the largest concentration of shipbuilding workers in Britain. These yards are now building three ocean-going offshore patrol vessels for the Royal Navy, with the first to be delivered in 2017, by which stage it is hoped that orders for a new generation of frigates will be won. Although the referendum on Scottish independence on 18 September 2014, if a yes vote had occurred, would have impacted on

this – no UK government would build warships in a foreign country – the fact that the majority of the Scottish electorate voted no gives some hope that new warship orders will eventually accrue. Nonetheless, the vast majority of the shipbuilding workforce in Great Britain is now wholly dependent on government largesse in a protected market. Just how far the mercantile side of the industry has sunk is witnessed by the South Korean Daewoo shipbuilding group winning an order in November 2013 worth £425 mn from the British government for four 37,000-ton MARS (military reach and sustainability afloat) fleet tankers for delivery in 2016 – a mere drop in the ocean for South Korea, who at May 2014 have some 774 merchant ships on order.²⁰⁹

As the twenty-first century unfolded, South Korea overtook Japan as the world's pre-eminent shipbuilder and in turn has been usurped by China in terms of volume, but not value. State sponsorship of shipbuilding has basically become a game of high-stakes poker. The countries with the deepest pockets and the willingness to throw huge amounts of money to their shipbuilding industries come out on top. Take Japan, South Korea, and China. What is apparent is that the latter two countries began their road to ascendancy by building relatively unsophisticated tonnage such as tankers and basic bulk carriers, with South Korea being far more export-oriented in its approach to the market. However, as their industry grew, indigenous firms began to build more sophisticated tonnage such as chemical and gas carriers, container vessels, and the like. It is likely that China, now the world's second-largest economy and as of 2014 vying for first place with the USA, will, for nationalist reasons, keep South Korea in second place, simply because it will pour huge financial resources into its industry, particularly as it expands its naval forces. That China now builds sophisticated tonnage should worry Japan, as the latter has concentrated on the sophisticated end of the market as increasingly has South Korea.

What both Japan and South Korea (the latter to a lesser extent) fear is that Chinese costs for labour, materials, etc., will continue to be heavily subsidised in order to undercut competitors and to ensure China tops the world output league. As to labour in these countries, the tendency over time is for wages to rise, but government subsidies to firms ensure that rising wage levels do not translate into higher costs for the product. On the demand side, shipping firms mostly are price- and delivery-conscious:

209 BBC News, 6 November 2013. South Korean figures from Clarksons Shipping Intelligence Network: May 2014.

shipbuilders know this and to get the work they often tender at unrealistic prices.

At present, with the exception of Japan – for most of the century an experienced builder of warships – South Korea and China are quickly catching up in warship construction, a field where West European countries and the USA still enjoy a comparative advantage as they do with cruise-liner construction. One must conclude in summarising the wider lessons of shipbuilding in the twentieth century that East Asian countries better understood the nature of capitalism than their West European counterparts. Are the workers in East Asia in the same boat as their dwindling European fellows? All governments to varying extents have bailed out their shipbuilding industries, some of which have been leakier than others: the trick for workers is to recognise which particular part of the industry in which to sell their labour over time in order to maximise their earning potential, and to raise their living standards – no easy task.

3 Bremer Vulkan

A case study of the West German shipbuilding industry and its narratives in the second half of the twentieth century

Johanna Wolf

Introduction

The author Wolfgang Kiesel commented on the closure in 1997 of Bremer Vulkan AG,¹ placing its fall within the overall context of the decline of the European shipbuilding industry.² More than half of Bremer Vulkan's 23,000 workers would lose their jobs in the near future. Beforehand, the company had attempted to compete against withering international competition but without government aid it was not strong enough to survive any longer. In general, particularly in the large tanker and bulk carrier markets, the West European shipbuilding industry had been overtaken by South-east Asian competitors for quite some time as the virtual collapse of merchant shipbuilding in the United Kingdom and Sweden demonstrated.³

The Bremer Vulkan shipyard was the last major shipyard in Bremen. Earlier, in 1983, AG Weser, the second *Großwerft* in Bremen, had had to close, and in the following years other medium-sized and smaller companies experienced a similar fate. Bremen had therefore to deal with great challenges. The region had been dominated by shipbuilding for centuries and had to look, like many other industrial regions in this period, for alternative forms of economic activity. Like other West German shipyards, Bremer Vulkan had been affected by the decline in demand since the mid-1970s. The history of Bremer Vulkan is similar to the transformations in the West German shipbuilding industry in general. But the workers and works council participated in the developments and took the initiative on co-determination. There were numerous confrontations, such as wildcat strikes and protests against collective redundancies, ultimately to no avail.

In this chapter I reflect on the history of the Bremer Vulkan shipyard in particular, and the West German shipbuilding industry in general. Following

1 The company, at the time of its closure, was owner of several shipyards in West and East Germany. With the events of 1989-90 it had taken over two major shipyards in East Germany.

2 Kiesel, *Bremer Vulkan*, 7.

3 See the chapters by Hugh Murphy (Chapter 2) and Tobias Karlsson (Chapter 4) in this book.

the relevant historiography I point out how certain narratives were established as a result of developments in the West German shipbuilding industry. The historical situation makes it clear why the narrative of decline was sharply pronounced. In my summary, I suggest some aspects of how comparative approaches and entangled history could generate a new impetus.

The West German shipbuilding industry and its history

After 1950, the West German shipbuilding industry had retained and expanded its output beyond its interwar performance, and by 1960 it had become a major shipbuilding nation. The introduction of technological innovations, such as welding, block building, and rationalisation, made the shipbuilding industry more cost-efficient, faster, and cheaper – and therefore internationally competitive. In the 1970s, the five largest German shipyards (*Großwerften*) together had a 70 per cent share of the turnover in West German shipbuilding.⁴ The craft had been passed on through generations, and the connectedness of the regional population to the shipyards was apparent at the ship-naming ceremonies that were celebrated as major events. Alongside large shipyards, medium-sized and smaller ones existed close to the others, occasionally supplementing the work of the large ones in times of high demand. These regional conglomerates were economically successful because of the benefits of reduced transport costs as well as those brought by face-to-face contacts between supplier and customer.⁵

The first “miracle” of West German shipbuilding production was connected to the stronger demand for oil. The closure of the Suez Canal between 1967 and 1975 led to a greater demand for big tankers to reap economies of scale because of the need to sail longer distances in the seaborne trade.⁶ Due to the positive situation, the shipyard workers improved their wages and

4 Stråth, *The Politics of De-Industrialisation*, 26. Stråth named AG Weser and Bremer Vulkan in Bremen, the Nordseewerke in Emden, Blohm & Voss in Hamburg, and the Howaldtswerke Deutsche Werft with yards in Kiel and Hamburg.

5 In this regard, Daniel Todd applied the theory of “clusters” by Michael Porter (Porter, “Location, Competition, and Economic Development”) to the example of the British shipbuilding industry and showed how the yards that were in regional clusters profited first; see Todd, “Going East”. Today, the formation of clusters is observed for South Korean companies too; see Hassink and Shin, “South Korea’s Shipbuilding Industry”. For the German shipbuilding industry, Todd’s assumption is not yet under investigation, but may be of interest as a comparative approach of economic agglomerations and their functioning.

6 Götz Albert stressed that this boom was mainly triggered by speculative demand; see Albert, *Wettbewerbsfähigkeit und Krise der deutschen Schiffbauindustrie*, 89.

working conditions. Although the shipbuilding industry has always been affected by fluctuations, short-time working or overtime can compensate for this. The huge IG Metall trade union, representing the interests of most shipyard workers, implemented the Works Constitution Act and fought continuously for an increase in wages.

The year 1973 halted the positive development of the West German shipbuilding industry, and the first OPEC oil crisis in the autumn of 1973 had significant consequences for it. Consequent upon the Arab-Israeli War in October 1973, OPEC reduced the deliveries of crude oil, leading to a rise in oil prices of about 70 per cent in the same month. This long-lasting high price of oil dramatically diminished Western consumption, and the tanker market collapsed in the second half of 1974. Because of the orderbook, the collapse in demand took some time to work its way through, although there were cancellations and a great deal of tonnage was laid up. The first signs of change could be recognised in the second half of the 1970s. Due to the decline in orders, the numbers of permanent staff had to be minimised, and mergers and shipyard closures followed in the early 1980s, increasing the numbers of unemployed in coastal regions. In this situation, IG Metall was forced to adjust its strategy. Instead of wage claims, the trade unionists demanded job security and the reduction of weekly working hours as well as a long-term structural policy for the region.

In much of the research during the events in the 1970s and 1980s, the crisis was a central issue.⁷ Although the oil crisis was a major explanation for the shipbuilding crisis, another was the change in production. Some studies show that by focusing on large shipbuilding, like container ships and tankers, specialisation in smaller vessels, such as yachts or ferries, was lost – a resource that would have been an important competitive advantage during the entry of new shipbuilding countries. Furthermore, the studies indicate that, through technological rationalisation, reduction in the workforce started earlier.⁸ When the work process was automated, fewer workers were needed, and the crisis of the 1970s simply accelerated this. Some authors argue that the internationally highly linked shipbuilding market had received a new impetus of interconnectedness by the industrialisation of so-called developing countries since the 1970s.⁹

7 See, for example, Robert Kappel, "Bremer Schiffbau im Strudel der Weltschiffbaukrise"; Albert, *Wettbewerbsfähigkeit und Krise der deutschen Schiffbauindustrie*, 102; Heseler and Kröger (eds), "Stell Dir vor, die Werften gehören uns...".

8 Sträth, *The Politics of De-Industrialisation*, 7; Albert, *Wettbewerbsfähigkeit und Krise der deutschen Schiffbauindustrie*, 103–104; Kloberg, *Werftensterben in Hamburg*, 36.

9 Porter, *Globaler Wettbewerb*; Amsden, *Asia's Next Giant*.

Götz Albert wrote one of the few books questioning the “crisis narrative” of the 1970s. Unlike in other books, Albert’s thesis is that the West German shipbuilding industry was already in crisis in the late 1950s and gained only a short-term boost from the construction of large vessels and container ships. This short-term recovery was ended by the ongoing effects of the mid-1970s recession in world trade. His argument is represented in the numbers of West Germany’s global market share of shipbuilding, which averaged from a post-1945 high of 19.5 per cent to 14 per cent between 1952 and 1963. It dropped down to around 7 per cent between 1964 and 1975, and to 4 per cent from 1976 to 1990.¹⁰

A specific field of research about the shipbuilding industry addresses the consequences for the labour market and society.¹¹ The research projects investigating this have changed over several years. They observed shipyard workers in their workplaces and the impact of automation and rationalisation; and they interviewed workers about their explanations for the development of the German shipbuilding industry and their personal perspective.¹² From optimistic analyses in the early 1970s, when the strikes were interpreted as a renewed “rebellion of the labour movement”, the studies evolved to seeing evidence about the “decline of the working class” and the “disappearance of industrial society” up to the 1980s.¹³ An analysis by Edgar Einemann showed that the workers were aware of the situation in the late 1970s as a crisis, but interpreted their own work perspective as still optimistic. They thought the short cyclical downturn would soon end in an economic upswing.¹⁴ Workers saw no solution in forging any kind of solidarity between the shipyard employees. When thinking about wildcat strikes and spontaneous activities, they decided on no action because they feared dismissals.¹⁵ They criticised low-wage policies and profit interests but could not deduce solutions for a broader mobilisation strategy. Additionally,

10 Albert, *Wettbewerbsfähigkeit und Krise der deutschen Schiffbauindustrie*, 102.

11 Heseler, “*Stell Dir vor, die Werften gehören uns ...*”; Kappel, “Bremer Schiffbau im Strudel der Weltschiffbaukrise”.

12 Einemann, *Industriearbeiter in der Wirtschaftskrise*; Schumann et al., *Rationalisierung, Krise, Arbeiter*; Zoll et al., *Krisenbetroffenheit und Krisenwahrnehmung*.

13 Hien, *Am Ende ein neuer Anfang?* See also the follow-up research five years later: Hien, *Ein neuer Anfang wars am Ende nicht*. Some of them end with criticism directed at the lack of political strategy on the part of the *Länder* and the state governments. Both had failed to promote the establishment of alternative industries in the region until too late to offer redundant shipbuilders other job opportunities; see Heseler, “*Stell Dir vor, die Werften gehören uns ...*”; Kappel, “Bremer Schiffbau im Strudel der Weltschiffbaukrise”.

14 Einemann, *Industriearbeiter in der Wirtschaftskrise*, 180.

15 *Ibid.*, 181.

they insisted on the state as the most important actor in creating solutions, being aware of their helplessness against withering international competition. From their perspective the trade unions could not secure steady employment nor could the state control the global market.¹⁶

While the remaining German shipbuilding industry had developed positively from the late 1990s to the mid-2000s, little new literature appeared.¹⁷ There are statistics, but no long-term interpretations of the data.¹⁸ In co-operation with the Institut Arbeit und Wirtschaft, Agentur für Struktur- und Personalentwicklung, and IG Metall Küste, surveys are carried out on all German shipyards on an annual basis.¹⁹ The results provide information on the situation of the German shipbuilding industry and employment in the sector. While the world market between 2000 and 2011 largely developed positively with the shares of first South Korea and, latterly, China increasing, output in Germany, in comparative terms, was statistically insignificant, its share dropping from 4.5 per cent in 2000 to 0.8 per cent in 2011.²⁰ But shipbuilding production fluctuates from year to year, and the trend is not an ever-falling curve. However, medium-sized shipyards also play a role, as they compete as producers of specialised vessels in the global market in the twenty-first century, such as the Meyer Werft shipyard in Papenburg.²¹

In addition to the emergence of these niche producers, European co-operation by way of industry associations also plays a role. Recent research has given these changes special attention.²² European shipbuilders have increasingly looked for co-operation and associations between yards through

16 *Ibid.*, 185, 205.

17 There are a small number of books that dealt with the situation of the East German shipyards during the 1990s and their future through the merger of the two German markets; see for example: Heseler and Löser, *Die Transformation des ostdeutschen Schiffbaus*.

18 Organisations that conduct surveys regularly include, for example: AgS-Monitoring Schiffbau; SEA Europe Market Monitoring; IHS Fairplay; Lloyd's Register of Shipping/EU Commission.

19 A survey was published in September 2013: Ludwig and Wolnik, *Beschäftigung, Auftragslage und Perspektiven im deutschen Schiffbau* (2013).

20 Kühn *et al.*, *Beschäftigung, Auftragslage und Perspektiven im deutschen Schiffbau* (2012),

11. The figures in themselves involve a difficulty. When interpreting the data only national developments are considered, although the figures vary from company to company. This problem seems especially important if the company has multiple locations in different countries or if several companies helped to build a single ship, but only the delivery is calculated as production.

21 Meyer builds passenger ships and cruise liners and says the company "enjoys an excellent reputation internationally regarding this field"; see www.meyerwerft.de/en/meyerwerft_de/schiffe/kreuzfahrtschiffe/kreuzfahrtschiffe.jsp (accessed 3 March 2014); see also a book published by the shipyard: Schwerdtner, *Meyer-Werft*.

22 See for example Ludwig and Tholen, *Schiffbau in Europa*, here 13.

cross-company and cross-national human resource management, product development, labour division productivity, and shared finance models.²³

Social scientific studies on the West German shipbuilding industry are similar to those of other West European industrial countries. It turns out that there were precursors to these developments, such as in the United Kingdom,²⁴ or when the shrinking demand in shipbuilding led to different conclusions, as in Sweden, where declining competitiveness resulted in an early restructuring of the shipbuilding regions.²⁵

Studies on other countries, however, are quite different, when the industry began to develop only in the 1970s and 1980s or was not affected by the crisis in this way. Japan, for example, succeeded in keeping its leading position in the world shipbuilding market in the latter half of the century not least through high domestic demand, but did nevertheless reorganise its productive capacity as South Korea gained greater market share. In Japan, the integration of high-tech production processes that had been developed and tested by research institutions enabled rapid and inexpensive production of ships.²⁶ South Korea established itself during the “West European shipbuilding crisis” as a new competitor. In the “crisis year” 1973 the first ship was built by Hyundai Heavy Industries (HHI), and ten years later it was the world leader in the shipbuilding industry, through a controlled industrial policy of the government under Park Chung-hee and the influence of large, diversified business groups called *chaebols*.²⁷

There is reason to assume that the crisis in the shipbuilding industry was a West European phenomenon in the 1970s and 1980s.²⁸ The literature supports this notion. Here, the main issue is how “the periphery” assumed

23 For example until February 2012, all European shipbuilding nations were members of the European shipbuilding association CESA (Community of European Shipyards Associations). CESA represented the shipbuilding industry from seventeen member states (Belgium, Bulgaria, Croatia, Denmark, Finland, France, Germany, Greece, Italy, Lithuania, Netherlands, Norway, Poland, Portugal, Romania, Spain, and United Kingdom). In February 2012, CESA merged with the European Marine Equipment Council (EMEC) into the association Ships and Maritime Equipment Associations of Europe (SeaEurope).

24 See, for example, Pollard and Robertson, *The British Shipbuilding Industry*, Jones, *Shipbuilding in Britain*, and Johnman and Murphy, *British Shipbuilding and the State Since 1918*. For the long view, see Slaven, *British Shipbuilding 1500-2010*.

25 See Chapter 3 in this book.

26 For Japan, see Davies, *Japanese Shipping and Shipbuilding in the Twentieth Century*.

27 For South Korea, see Amsden, *Asia's Next Giant*. This book has much information on the rise of Hyundai Heavy Industries, which went on to become the world's leading shipbuilding company. See also Jonsson, *Shipbuilding in South Korea*, and Bruno and Tenold, “The Basis for South Korea's Ascent in the Shipbuilding Industry”.

28 Stråth, *The Politics of De-Industrialisation*, and Todd, *Industrial Dislocation*.

the position of leadership of the world market by overwhelming traditional industrialised countries' market shares in the world shipbuilding industry. When concentrating on that question, there is a tendency to summarise Europe as a homogeneous area, where similar processes would have taken place. This tendency towards homogenisation can be found not only for Western Europe, but also for newly industrialised countries, in which case it manifests in the terms the "Asian challenge" or "Asian tigers".²⁹ They would have succeeded in gaining increasing market shares by maintaining relatively low labour costs and high government subsidies, and therefore had risen as "global players" while driving their high-cost "Western competitors" out of the market for at first relatively simple but latterly increasingly sophisticated vessels. How this narrative about the decline of the European shipbuilding industry can be resolved in new issues will be discussed at the end of the chapter.

A brief history of the Bremer Vulkan shipyard

The Bremer Vulkan shipyard, founded in 1883, was situated on the bank of the River Weser in the suburb of Vegesack in the north of Bremen, and was one of the largest shipyards belonging to an ever growing shipyard group until its closure under a cloud of financial mismanagement in 1997.³⁰ Beforehand, the European Commission had instituted proceedings on state aid over misappropriation of funds by Bremer Vulkan arising from its takeover of two East German shipyards, Meerestechnik Werft (previously named Mathias-Thesen-Werft) and Volkswerft, which were privatised in 1992 and 1993 respectively.

Bremer Vulkan was a successful company. The shipyard quickly recovered from the Second World War and the early years of Allied regulation of output, and successfully entered the market.³¹ But changes arose when

29 See, for example, Todd, "Going East", 260. Nonetheless, in the South Korean case, researchers attempted to question the narrative of a "sudden miracle" or less convincingly to deny the charges against high government subsidies; see Jonsson, "Shipbuilding in South Korea" (PhD); Hassink and Shin, "South Korea's Shipbuilding Industry".

30 Due to Bremer Vulkan's size and its exceptional end, three books on the company have been published: Behling and Thiel, *Bremer Vulkan*; Kiesel, *Bremer Vulkan*; Thiel, *Die Geschichte des Bremer Vulkan*. Additionally, books describing the Bremen shipyard region from a social-historical point of view have been published, see Kuckuk, *Unterweserwerften*; Kuckuk, *Die A.G. "Weser" in der Nachkriegszeit*. On Bremer Vulkan, see also Roder, "Der Bremer Vulkan".

31 Thiel, *Die Geschichte des Bremer Vulkan*, 30.

Bremer Vulkan faced difficult market conditions at the end of the 1950s. This corresponds to the developments in the German shipbuilding industry as a whole. In common with other large shipbuilding companies, the management decided to invest in the production of big container ships. It seems that building a new dry dock for ships up to 300,000 dwt, and subsequent additions to plant and equipment, led to success in the following years, proving the original decision to expand was sound. Looking at historical maps of the River Weser, one can find countless yards located there.³² The smaller shipyards functioned as suppliers for the larger ones: almost the entirety of Ronnebeck shipyard's production output, for example, went to Bremer Vulkan from 1971 onwards.³³ During the peak stage of production in 1968 Bremer Vulkan received 70 per cent of its orders from abroad, including customers from the United Kingdom, Sweden, Norway, and Denmark.³⁴

From the end of the 1970s Bremer Vulkan experienced difficult market conditions through managerial errors in estimating, pricing, delays in construction, and cost overruns, examples being the contract for the big cruise liner *Europe* and the construction of frigates for the German navy. The contract for building the frigates was only achieved because of a miscalculated tender that underbid the leading naval shipbuilder, Blohm & Voss.³⁵ These orders generated losses of approximately DM 300 mn, which led to government rescue operations in the early 1980s. Without the injection of *Länder* and federal aid, the shipyard would have been obliged to seek bankruptcy proceedings.³⁶ When the most important shareholder, Thyssen-Bornemisza, sold its shares, a portion of these went to the Hanseatische Industriebeteiligungsgesellschaft, a public company owned by the *Land* Bremen in December 1981.³⁷

Being aware of the difficult financial situation of Bremer Vulkan in the early 1980s, the federal government called for a new approach to the efficiency of the shipbuilding industry in the Bremen region. The Bremen Senate commissioned several consulting firms to produce an expert report on the shipyards of Bremen (*Werftgutachten*). When negotiations about a merger of AG Weser and Bremer Vulkan became serious, the Bremen Senate requested a

32 In a recently published book by Klaus auf dem Garten, on the smaller and medium-sized enterprises in Bremen, it becomes clear to what extent the shipyards were inter-linked; see auf dem Garten, *Boote, Yachten und Kleinschiffe aus Bremen*, 96.

33 Ibid.

34 Kiesel, *Bremer Vulkan*, 75.

35 Heseler, "Vom Tankerboom zum Werftenverbund", 218.

36 In several articles in the 1980s Heseler argued against the reactions of the Bremen Senate.

37 Heseler, "Vom Tankerboom zum Werftenverbund", 219.

substantial proposal by the two shipyards. On the basis of the *Werftgutachten* the shipyards proposed two models. While AG Weser insisted on a merger, Bremer Vulkan introduced a version without the other *Großwerft*. Since a merger, according to the *Werftgutachten*, would have meant a loss of DM 14.3 mn, the Bremen Senate opted for the closure of AG Weser in 1983.³⁸

Merger processes between Bremer Vulkan and other medium-sized shipyards in the region, like the Seebeckwerft, the Lloydwerft, and the Schichau-Werft, were completed by 1987. Regional associations appeared to be a proven method of business organisation, allowing companies to benefit from synergies for development and production, and economies of scale and scope, but their success or failure is reliant on a steady flow of future orders and proactive responses to competition.³⁹ After the federal government had started with Case Assistance (*Wettbewerbshilfen*) in 1987, Bremen followed with Restructuring Aids (*Umstrukturierungshilfen*) in the same year for the restructuring of the shipyard region of Bremen. With a specific restructuring concept the *Land* Bremen decided on a more extensive diversification: 30 per cent was to be put into investment in non-shipbuilding production, and newbuilding was reduced to 51 per cent of the overall capacity.⁴⁰

The subsequent years of Bremer Vulkan were marked by a phase of diversification and expansion. With the advent of German reunification Bremer Vulkan grew by acquiring smaller mechanical engineering and electronic companies as well as two East German shipyards. The Meerestechnik-Werft (MTW) in Wismar was taken over in 1992. In 1993, Bremer Vulkan obtained a majority stake of the Volkswerft in Stralsund.⁴¹ With the focus on East Germany, the West German part of the Bremer Vulkan group had been left behind; and financial difficulties of the shipyards in Bremerhaven became more and more apparent. In this situation the Bremen Senate exerted pressure on Bremer Vulkan, commenting on a concept of the *Unterweser* region that should draw attention to the “old” base of the company.⁴² Under this

38 On 20 May 1996 the *Bürgerschaft* (state parliament) of Bremen established a parliamentary committee on Bremer Vulkan. The inquiry committee submitted its report on 16 October 1998; see Bremische Bürgerschaft, *Drucksache*. The investigation focused not just on the merger plans, but mainly on the Bremer Vulkan group in the following years and the events surrounding its bankruptcy in the 1990s.

39 However, in reading the available literature, I find there is a lack of analysis as to why these strategies evolved.

40 Kappel, “Bremer Schiffbau im Strudel der Weltschiffbaukrise”, 239.

41 Bremische Bürgerschaft, *Drucksache*, 196.

42 *Ibid.*, 320.

pressure, the board of Bremer Vulkan developed a new financial concept in September 1994 that implemented the dismantling of the expansion, the sale of shares in the company, and rigid austerity – including a strict prohibition on entering into new investments. But this failed as the problems already ran too deep, and the mismanagement of the board of Bremer Vulkan became more and more obvious from mid-1995.⁴³ Using European Union funds originally allocated for the East German shipyards to deal with liquidity problems caused the entire company to fail in the end.⁴⁴ The European Commission then initiated proceedings for the misappropriation of funds. But extravagant behaviour and resistance to advice on the part of the Bremer Vulkan board during the expansion phase and later are mentioned as the main causes of failure in the literature.⁴⁵ After the *Land Bremen* was compensated for the remaining ships still under construction, the mayor announced the closure of Bremer Vulkan on 11 December 1996.⁴⁶

Produced ships and technological developments

From the mid-1950s there was greater demand for bulk carriers worldwide. Bremer Vulkan was involved in the development of these types of vessels, and the demand brought about the decision to build two slipways and a bigger fabrication hall for ships of 45,000 tonnes. Additionally, the shipyard had to build a tailrace pool in order for bigger ships to be launched into the River Weser.

The first “miracle” of West German shipbuilding production was connected to the stronger demand for oil and led to a greater need for big tankers in the industry generally and in Bremer Vulkan in particular. After the OPEC price hikes of 1973-74, oil consumption diminished, and the tanker market collapsed dramatically in the second half of 1974.

The third wave of innovation in the German shipbuilding was the container ship. It is well known that the initial development of this type of ship began in the United States.⁴⁷ However, there is no indication about technological influences in West German shipbuilding companies generally,

43 *Ibid.*, 335.

44 *Official Journal of the European Community*, No. C120/4 State Aid – Germany, 18 April 1997, eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:1997:120:FULL:EN:PDF (accessed 5 March 2014).

45 Bremische Bürgerschaft, *Drucksache*, 343.

46 Thiel, *Die Geschichte des Bremer Vulkan*, 210.

47 See, for example, Broeze, *The Globalization of the Oceans*, and Levinson, *The Box*.

and the chroniclers of Bremer Vulkan did not mention the trigger that led to the building of container ships from the end of the 1960s. Following the narrative of success, the West German shipbuilding industry won a great deal of the world market for container ships because of their relative short delivery times and high quality of production. Containerisation was interpreted as a “transport revolution” because of the rapidly changing character of intermodal sea and land transport in containers.⁴⁸

At the end of the 1960s, Bremer Vulkan also began to build in series production the so-called German multi-purpose cargo ship *German Liberty*, 132 m long and 15,000 dwt. Furthermore, the company built a new dry dock for the production of larger ships in 1973. It was 332 m long and 59 m wide. A technological development at this time was block building, which gave the opportunity to construct ships in larger steel blocks before they were assembled at the dock. In addition, Bremer Vulkan developed a factory-based shipbuilding technology to shorten the distances between the fabrication halls and the building docks.⁴⁹ While finishing the first container ships with this new system, it transpired that future orders in bulk were unlikely; given that similar ships were being built more cheaply elsewhere using the same technology. Consequently, by the late 1980s, production dropped and Bremer Vulkan switched to ship repair and conversion and invested in building smaller specialised ships, but without its former success.

Role of the government and subsidies

State aid always played an important role in the West German shipbuilding industry.⁵⁰ The first political impact of subsidies began in 1950 with federal funding of about DM 31 mn for the coastal *Länder*. Bremen was awarded around DM 12 mn to build new trawlers to get the industry started after

48 Broeze, *The Globalization of the Oceans*; Levinson, *The Box*; Kiesel, *Bremer Vulkan*, 78.

49 Kiesel, *Bremer Vulkan*, 96.

50 Götz Albert conducted a very detailed analysis of the different shipbuilding programmes of the West German government after 1950; see Albert, *Wettbewerbsfähigkeit und Krise der deutschen Schiffbauindustrie*. However, according to Heißner’s descriptions from 1933, political influence in the shipbuilding market was already an issue in 1908. In that year, 1908, when recession was having an impact on the shipbuilding industry, government thought about intervening to minimise the number of ships by scrapping old vessels; see Heißner, *Strukturwandlungen und Konjunkturschwankungen im Schiffbau*, 5. Furthermore, discussions about subsidies always had a political meaning; see Rulfs, *Welthandelsregeln für den Schiffbau*. Rulfs discusses the long-running international disputes over subsidies.

the ending of Allied restrictions.⁵¹ After the first upswing of the 1950s, a collapse followed, which needed a subsidy that aimed to avoid undue distortions of competition created by subsidies abroad. The government decided to develop the Shipyard Aid Programme (*Werfthilfeprogramm*) that would be reissued either on an annual basis or after a specific time period. The first one began in 1961. The scheme was by way of a riposte to shipbuilding industry in Japan, and the first loans were export credits for ships. Subsequently, the entire Shipyard Aid Programme reached a total of DM 5.078 mn until 1990. With the fifth Shipyard Aid Programme between 1966 and 1969 in addition to export credits, for the first time loans were granted for yards to balance the difference between capital-market interest rates and interest rates for export credits. These differences were paid out of the federal budget.⁵² The loans came from Kreditanstalt für Wiederaufbau. Within the framework of this Shipyard Aid Programme the recipients varied over time. First, they subsidised only exports into non-European Economic Commission countries. However, from 1971, the programme also applied to EEC countries, and in 1973 they supported orders from West German shipowners. From 1977, credits for exports to developing countries followed.

The Shipowner Aid (*Reederhilfe*) subsidy programme to support shipowners investing in inland orders ran between 1962 and 1987. A government report on the shipbuilding industry acknowledged that there was a gap in German investment compared to international competitors, and insisted on large-ship construction and on growing market share. Therefore, they prepared an Investment Aid (*Investitionshilfen*) programme from 1969 to 1974 to encourage sectional construction, serial production, and the use of new materials. The federal government and the coastal *Länder* shared the subsidies equally. In addition, the shipyards had to provide investment equivalent to that they were receiving.⁵³

In implementing this plan, more than 10,000 employees were made redundant in the following years. The IG Metall agreed to the policy despite the loss of jobs. In common with the Federation of the German Shipbuilding Industry (VDS), they believed in guarantees of a major investment programme by the federal government. The rationale of government subsidies was to overcome the crisis by adjusting the structure of the industry to deal with the new situation. But, as described above, the emphasis on building bigger ships was not as successful as promised. Given this, the

51 Thiel, *Die Geschichte des Bremer Vulkan*, 66.

52 Albert, *Wettbewerbsfähigkeit und Krise der deutschen Schiffbauindustrie*, 205.

53 *Ibid.*, 208.

federal government decided again to shift emphasis in 1979, and supported the industry with a direct Aid for Orders (*Auftragshilfen*) programme for building ocean-going ships of higher technical value. These were direct construction subsidies to the shipyards, comprising up to 20 per cent of the contract price – financed 75 per cent by the federal government and 25 per cent by the *Länder*. This decision was made first and foremost because of trade union pressure for investments in new production areas to create new job opportunities.⁵⁴

The federal government decided in 1981 to withdraw the subsidy after incurring costs of DM 640 mn, and in light of the failed recovery reduced the Shipyard Aid Programme. Nevertheless, the *Länder* tried to continue, but did not have the financial means to maintain the subsidies as before.⁵⁵ After the closure of several shipyards in the 1980s, Restructuring Aid was granted to encourage rationalisation processes and factory closures. Additionally, there were individual Case Assistances aiming to avert insolvencies or support mergers and restructuring. In particular, this assistance had the objective of maintaining employment in structurally weak regions, and preserving some yards in case the shipbuilding sector were to be revived.⁵⁶

In addition to this federal government aid, several programmes were provided by the *Länder*, mainly to avoid bankruptcies or to support mergers and restructuring, as was the case with Bremer Vulkan. For example, the Procurement Aid (*Beschaffungssubventionen*) of the Federal Defence Ministry helped Bremer Vulkan to finish production of loss-making frigates in 1977.⁵⁷

Employment

Employment in the West German shipbuilding industry increased until 1958 to a maximum of 113,000 employees, but declined in the following years.⁵⁸ Because of new developments in technology and rationalisation processes in the early 1960s, the working conditions of the shipyards changed and the process became more automated, with an increasing use of plant and equipment and less reliance on traditional craft skills. Although bulk

54 *Ibid.*, 209.

55 *Ibid.*

56 *Ibid.*, 209-210.

57 *Ibid.*, 210.

58 Albert used this trend to explain his thesis about the peak of the West German shipbuilding industry in the late 1950s. He considered the decline of employment after 1958 the first indication of a structural crisis. See *ibid.*, 104.

carrier production resulted in increasing production volume, employment stagnated, and the two were thereby decoupled from each other. By 1990, employment had been reduced by 55 per cent compared to 1975, and by 70 per cent compared to its historical peak in 1958.⁵⁹

The development of employment at Bremer Vulkan corresponded to West German progression in general. In 1964 about 4,600 employees worked at the shipyard. During this year the workforce consisted of 3,900 industrial workers (*gewerbliche Mitarbeiter*), and about 700 salaried employees (*Angestellte*). Of the total workforce, 140 were foreign employees (*Gastarbeiter*). Ten years later, employment at Bremer Vulkan reached its peak with about 5,700 employees. In 1974, the shipyard employed 4,700 industrial workers and about 1,000 salaried employees. The number of foreign employees rose to more than 1,400. Again ten years later, in 1984, after the difficult economic changes and the restructuring programmes, more than 2,300 employees had lost their jobs. This affected about 42 per cent of the industrial workers and 30 per cent of salaried employees, while 67 per cent of all foreign employees left the company.⁶⁰

Labour conditions and wages

General problems of the shipbuilding industry include the need for a different labour process during ship construction as opposed to fitting out the vessel, and the irregular nature of ship orders.⁶¹ Due to these circumstances it was difficult to employ workers regularly. In the 1950s, the workers had been hired on very-short-term contracts based on order volumes. The general lack of workers as the wider regional economy grew, as well as pressure from the trade unions, influenced decisions to offer longer contracts in the 1960s and 1970s. The management tried to balance fluctuations in production through internal procedures, particularly in times of crisis. Additionally,

59 *Ibid.*, 104-105.

60 The numbers were presented at the beginning of every meeting between the board and the works council of the Bremer Vulkan; see Minutes of the meetings between Board Bremer Vulkan and works council, 1962-87, StAB 7,2121-646-648. The shipyard archive is located in the Staatsarchiv Bremen (StAB); 95 linear metres went to the archive shortly after the closure of Bremer Vulkan in 1997. The material can be found under the heading "works council" in the board's records. They only document the official representation of the meetings between the works council and the management. There are no transcripts of council meetings or discussions within the workforce.

61 Friedmann, "Arbeitsplatzabbau ohne Opfer?", 75.

the German trade unions and works councils established, through collective bargaining, layoff protections or layoffs only in the framework of dismissal by choice or early retirement. During crisis periods, an initial policy of short-time work was enforced to secure the permanent workforce. These strategies changed with the beginning of the decline in the mid-1970s. The first break in production was balanced by short-time work, overtime, and extra shifts, but was later replaced by the interchange of workforce between companies or temporary employment (*Leiharbeit*).⁶²

Thus, temporary employment was an issue from the 1970s. The interchange of workforce between the shipyards had a very long tradition in the German shipbuilding industry. It was a flexible instrument for compensating for the lack of employees. But the new forms of temporary employment were different. Such service contracts (*Werkverträge*) should guarantee the independent production of one entire production part. But in reality the “borrowed” workers were integrated into the whole production process of the shipyard. Sub-contracting firms established a monopoly position in the market by hiring all the available workers.⁶³ Moreover, the yards encouraged these trends because of the increased flexibility that resulted. One effect of these strategies was the reduction of the core workforce in favour of a “standby workforce” and a separation of the two groups. This kind of development also happened at the Bremer Vulkan shipyard. Short-time and overtime work were always an issue during down- and upturns, but when the economic situation did not recover from the 1980s, the management decided to reduce the number of core workers while hiring temporary workers from contractor companies.

The influence of wage costs is often described as an important criterion for the competition of shipbuilding industries worldwide. It is not only the wage level that influences the situation of the industry, but also the productivity of the company, identified by the development of unit labour costs.⁶⁴ While unit labour costs rose from the 1960s to the 1990s in West Germany, productivity did not develop in the same direction. Accordingly, rising labour costs and no corresponding increase in productivity led to the German shipbuilding industry losing its price competitiveness on the international market.⁶⁵ The wages at Bremer Vulkan experienced a constant increase. In 1964, the piecerate per hour was DM 4.11. In 1974, this had more

62 *Ibid.*, 77.

63 *Ibid.*, 80.

64 *Ibid.*, 107.

65 *Ibid.*, 114.

than doubled and was DM 9.86. Ten years later, the piecework wage had reached DM 16.22 per hour.⁶⁶ During the same period the registered tonnage of the newly built ships increased from 85,000 grt in 1964 to 249,000 grt in 1973. Some ten years, in 1984, later production reached a mere 66,000 grt.⁶⁷

These figures led some authors to argue that the blame for industrial decline should be put on the trade unions, which failed to comprehend the specific situation of the international shipbuilding market while bargaining on wages.⁶⁸ This view tends to absolve management of responsibility for decline. In the literature on the British shipbuilding industry, specialist economic and business historians point to fundamental management and ownership failures, and state ignorance and inaction, as the major reasons for the decline of the industry.⁶⁹

West German trade unions and works councils

German trade unions and works councils played a special role in the bargaining for wage increases in the shipbuilding industry, and also fought for employment protection and against dismissals. Comparing different periods, it is obvious how successful West German trade unions were during the prosperous phase. Much of the extant literature has presented the “boom phase” of the German trade unions as a “miracle”.⁷⁰ The West German trade unions had reached, after an initial post-war phase, a successful consolidation of union membership within the “economic miracle” that ran well into the 1960s.⁷¹ The trade unions continued to expand steadily until the first recession of 1966–67. The phase from the late 1960s to the early 1980s is often interpreted as the “golden years” in many ways. From the perspective of most trade unionists the political trend shifted favourably, not solely but

66 The numbers were presented in the beginning of every meeting between the Board and the works council of the Bremer Vulkan; see, Minutes of the meetings between the Bremer Vulkan board and works council, 1962–87, StAB 7,2121-646-648.

67 See Minutes of the meetings between the Bremer Vulkan board and works council, 1962–87, StAB 7,2121-646-648.

68 Albert, *Wettbewerbsfähigkeit und Krise der deutschen Schiffbauindustrie*, 128.

69 See, for example, Johnman and Murphy, *British Shipbuilding and the State Since 1918*, and on an inter-firm basis, Johnman and Murphy, *Scott Lithgow*.

70 For comparative reasons it would be interesting to know if this combination of economic conjuncture, welfare statism, and trade union power is a historical exception.

71 For a general overview of West German trade unions, see Silvia, “German Trade Unionism in the Postwar Years”. For trade unions in Germany during the 1970s, see, for example, Schroeder, “Gewerkschaften als soziale Bewegung”.

primarily because of the Social Democratic Party (SPD), which held power from 1967 to 1982. The SPD spearheaded the passage of legislation expanding co-determination rights in 1967 to 1978 (*Konzertierte Aktion*) and expanded the West German welfare state in several respects. From the crisis of the mid-1970s trade unions did not “fight the bosses but rather [pressured] governments into taking responsibility for the crisis and its handling”.⁷²

What has to be mentioned in the German case is the specificity of the German dual system of industrial relations, which goes back to the Works Council Act of 1952. It is not the trade union that is responsible for the representation of the factory workers, but the works council, as a union independent body whose sphere of action is limited to the company context. It has no right to strike on the factory level, but has co-determination rights, such as combating accidents and health hazards and managing the pension funds and the housing and welfare facilities of the company. In the case of non-tariff regulation the works council also bargains on working hours and holidays. It is allowed to complete company agreements (*Betriebsvereinbarungen*) and can verify hiring and firing, as well as initiate a procedure opposing the dismissal of a worker.⁷³

From the mid-1960s, an internal union debate on the reform of the Works Constitution Act developed. With growing labour unrest in the factories, the limitations of the institutional system became apparent. The point here was the weak participation rights of the works councils that emerged in the economic recession of 1966-67. The idea was to form smaller working groups within the workforce, whose members should act as mediators between the works council and the workers. The German Trade Union Federation did not support this proposal. However, it resulted in a new discussion with the social-liberal coalition under Willy Brandt in 1969. Despite opposition from conservatives and employers' organisations, the new Works Constitution Act came into force in January 1972. Positive achievements included the extension of co-determination and participation rights of the works councils and the representation of young trainees. Furthermore, the position of trade unions in the Works Constitution Act was codified. However, co-determination on economic issues and the co-operation of the works council with trade unions was not realised.⁷⁴ These negotiations were accompanied by an increasing number of wildcat strikes in numerous companies from the late 1960s to the beginning of the 1970s with regard

72 Sträth, *The Politics of De-Industrialisation*, 12.

73 Milert and Tschirbs, *Von den Arbeiterausschüssen zum Betriebsverfassungsgesetz*, 49.

74 *Ibid.*, 81.

to global transformations and protests.⁷⁵ They also occurred at Bremer Vulkan. The unrest was a reaction to complex transformation processes and was prompted by external influences as well as tensions inside the trade union movement.

Labour protests

When the German shipbuilding industry reached fourth place in the shipbuilding market worldwide during the 1950s and expanding the industry was seen as a “national task”, both in rebuilding the merchant fleet and through exports gaining much-needed foreign currency, the German metalworkers’ union, IG Metall, negotiated an increase in the hourly wage from DM 1.36 to DM 1.44 for the Bremen *Länder* shipyards in 1951. This was followed by a further increase to DM 1.49 in 1952.⁷⁶ On this “road to success” IG Metall held a strike in 1953. Their achievements were mainly the participation of two union members on supervisory boards, legally codified in the Works Constitution Act, and improvements in the accommodation situation for workers.

During the next upswing in the German shipbuilding industry at the end of the 1960s, the works council of Bremer Vulkan organised several wildcat strikes concerning pay. The relationship between the works council and management had been deteriorating during this period. As part of the workers’ mobilisation in West Germany, the workforces of Bremer Vulkan began to make their own claims, separate from IG Metall’s bargaining. They started to refuse overtime work in order to increase non-tariff allowances in 1968. The board was outraged and demanded talks with the works council. After wildcat strikes in July 1968 Director Schiff stated in a meeting with the works council that he would expect respect for democratic rules and discussions with each other; only if they could not reach agreement could the works council take other measures. He emphasised that taking other measures should not become a habit and that he was sure that the trade unions would not support such behaviour.⁷⁷

The (mostly successful) new forms of protest continued during subsequent years. The management finally accepted some of the demands after pressure

75 There is a growing number of studies dealing with the attitudes of the workers towards the global moment of 1968; see van der Velden *et al.* (eds), *Strikes Around the World*; Horn and Gehrke (eds), *1968 und die Arbeiter*; Birke, *Wilde Streiks im Wirtschaftswunder*.

76 Thiel, *Die Geschichte des Bremer Vulkan*, 25.

77 See Minute of the meeting between Board Bremer Vulkan and works council, 3 July 1968, No. 4/68, Vol. 1, 1962-80, StAB 7,2121-646.

from the works council or refusals of the workforce to work. In 1971, 1,000 employees withdrew their work for two hours and marched in a demonstration through the Vegesack district.⁷⁸ In 1973, with a week-long wildcat strike the Bremer Vulkan workforce demanded a wage increase of about DM 70 per month, and a thirteenth month's salary.⁷⁹ The board regretted the form of these new protests and sharply criticised the attitude of some people who they suspected had political ambitions. In the 1973 annual meeting, Director Schneider expressed his opinion in a speech to the works council:

Export means international competition. If this fact is disregarded and the excessive wage demands continue, the cost will be borne by the employees. Maximum demands, beyond what is sustainable, are useful only to those who have set themselves a target of changing the system. But whether a system change will be to the benefit of the workforce, everyone can make his own judgement by looking at the conditions in the Eastern bloc countries. Those who speak with those who have relocated from the Eastern bloc countries to the Federal Republic can get a clear picture of how the socialist system changed the lifestyle of the individual. Our main concern is defending the current economic system, which has brought better living standards to German workers.⁸⁰

At this meeting, the works council chairman Bettelhäuser countered:

The wage agreement of 8.5 per cent last year was a moderate wage increase, but still has not achieved the stabilisation of prices. The strike could have been avoided, in retrospect, if the suggestions of the works council had been taken up in the months before the strike. The workforce were not interested in a strike, but in successful co-operation.⁸¹

In the end, they agreed upon a DM 50 increase and the differentiation of wage groups, which resulted in better wage rates for most employees.⁸² After this success, one last upsurge of the workers emerged with a strike in the Unterweser region in 1974, in which IG Metall achieved a wage increase of 13 per cent, collective wage maintenance, and special protection against

78 Thiel, *Die Geschichte des Bremer Vulkan*, 117.

79 *Ibid.*, 125.

80 See Minute of the annual meeting, 17 December 1973, Vol. 1, 1962-80, StAB 7,2121-646.

81 See Minute of the annual meeting, 17 December 1973, Vol. 1, 1962-80, StAB 7,2121-646.

82 Forschergruppe "Metallerstreik 74", *Streik und Arbeiterbewußtsein*, 76.

dismissal for older employees.⁸³ However, not all interpreted this as a successful result. Some union workplace representatives (*Vertrauensleute*)⁸⁴ condemned the executive committee of IG Metall during an assembly at Bremer Vulkan. The trade union affiliation rate at Bremer Vulkan was about 95 per cent at that time. Twenty-five members of the works council along with twenty-nine shop stewards belonged to IG Metall. The number of union workplace representatives at the company was about 210, and they met monthly during working hours for two hours.⁸⁵ The core of the criticism was that the results of negotiation after three weeks of striking were far from earlier aims. At this assembly they agreed that the board of IG Metall should have prolonged the strike. At the very end the workers at Bremer Vulkan proposed that the district managers of IG Metall in Hamburg and Bremen, Otto vom Steeg and Arno Weinkauf, be expelled from the union. This turmoil within Bremer Vulkan can be seen as an example of the mistrust between factory workforces and the trade union. The clashes between rank-and-file workers and union delegates were a big issue during the 1970s. In the Bremen case, the proposal to expel failed and the initiators were later locked out from IG Metall because of their membership of political groups.⁸⁶

At the beginning of the 1980s, in view of the poor economic condition of Bremer Vulkan, another form of protest emerged to fight against mass dismissal and the merger discussions with AG Weser. This again put to the test to the strained relationship between management and the works council. The works council advocated a social plan in the difficult situation, which would prevent collective redundancies and regulate staff reductions through early retirement, compensation, and short-time work.⁸⁷ Among the workers, there was a high level of acceptance, which is likely why the works council responded positively to management offers. The first to make use of these deals were foreign and older workers.

Because of the immense difficulties with the construction of naval frigates and the cruise liner *Europe* mentioned above, the shipyard went into

83 Heseler, "Vom Tankerboom zum Werftenverbund", 214.

84 A union representative or shop steward (*Vertrauensmann/frau*) is an employee of a company who represents the interests of the employees but who is also a voluntary trade union official. As a result, the union representative is a significant link between the union and the works council of the company.

85 Forschergruppe "Metallerstreik 74", *Streik und Arbeiterbewußtsein*, 75.

86 *Ibid.*, 30.

87 From 1978 company agreements about short-time work were concluded almost every month; see Company Agreements between management and works council, Vol. 2, 1971-80, StAB 7,2121-639.

crisis in 1982. At this time, several leadership positions changed hands in Bremer Vulkan, and the restructuring of the shipyard was planned.⁸⁸ On 21 September 1982, in letters to the workforce the management announced proposals to dismiss 500 employees.⁸⁹ On the same day the works council sent information to the employees and called for a joint struggle against “the destruction of all of our jobs. Bremen-Nord should not become the poor-house of Germany!”⁹⁰ Over the following days, the works council reacted with wildcat strikes at the shipyard. They protested not only against these drastic measures, but also because they had not been informed in advance about the dismissal plans – a procedure that was required by the Works Constitution Act.⁹¹ The management argued that the board would have informed the works council on the same day, and the employees were addressed in general. The letters said nothing about decisions on individuals.⁹²

The Bremische Bürgerschaft observed the procedure at Bremer Vulkan and supported the charges of the works council while condemning the violation of the Works Constitution Act. Despite the wide-ranging expression of support, the board of Bremer Vulkan did not withdraw its decision and initiated the dismissals of 500 employees. The works council started to negotiate with the board and suggested proven measures such as short-time work and retirement of older employees. The council fought against the use of overtime and especially temporary employment, which has been

88 The decisions were made on the advice of management consultants. The management consulting firm Knienbaum and Treuarbeit and the company Knight Wegenstein together found the necessary savings of DM 25 mn, which was to be achieved by reducing the number of excess personnel. See Draft of the Supervisory Board meeting on 22 September 1982, in Records of the collective redundancies of 500 employees in 1982, StAB 7,2121-661.

89 It is not clear if the management wrote the letter to the entire staff or if only the employees affected by dismissal received the information.

90 See “The Works Council informs”, No. 14/82, StAB 7,2121-661.

91 See Minute of the meeting of the works council, 27 September 1982, StAB 7,2121-647. The Dismissal Protection Act says dismissals are justified only by the employee’s attitude or urgent requirements of the company. However, they remain unjustified if social aspects are not taken into consideration. Social selection (*Sozialauswahl*) is determined by workplace characteristics and social criteria, such as age, seniority, and familial responsibilities. The works council has to be involved in dismissal matters; see Betriebsverfassungsgesetz, § 1; Toews, *Die Entwicklung des Kündigungsschutzes*, 94.

92 It is not entirely clear whether the board was not informed about the process of collective redundancies, or whether they ignored the rules. In 1976 the works council had recommended the advanced education of managers concerning labour law and the Works Constitution Act; see Minute of the meeting of the works council, 6 December 1976, StAB 7,2121-646. In 1980, the manager, Dr Kuhn, confirmed that if dismissals were necessary the works council would be informed in time as prescribed in the Works Constitution Act; see Minute of the meeting of the works council, 8 February 1980, StAB 7,2121-647.

established for some time at the yard.⁹³ Two days after the first letter by the management, on 23 September 1982, the works council demanded an end to temporary employment at the shipyard in a letter:

The works council has little sympathy for employing temporary workers here while you terminate 500 Bremer-Vulkan colleagues. The council asks you to dismiss these temporary workers and to replace them with Bremer Vulkan employees.⁹⁴

One month later, the issue of overtime work was still highly controversial. In an internal message to the board on 22 October 1982 the works council wrote:

We would like to draw your attention [to the fact] that the works council knows that you put workers to overtime work in the past week. In this regard the works council is going to initiate proceedings against the head of department according to §23 of the Works Constitution Act. We point out that they have violated the decision of the Labour Court in this matter. The works council is not willing to accept violations during such difficult times.⁹⁵

During the negotiations about the dismissals in September 1982, the management countered that mass dismissals would be unavoidable in the current situation. However, they accepted that some of the workers within the company would be transferred between sections to reduce the number of redundancies.⁹⁶ What they did not admit to the works council, but what became apparent in the board's internal discussions, was the issue of overtime work and temporary employment. They argued for specific capacity requirements that were dependent on overtime work and external workforce.⁹⁷ In order to calm the situation, the management accepted the request of the works council for restrictions on overtime and on external workers, but only for a period of time, as the figures on overtime and the hours worked by temporary workers exemplify. The number of overtime hours fell from about 321,000 in 1982 to 127,000 in 1983, although they increased in the subsequent years (189,000 in 1984 and 372,000 in 1985). The same happened to the hours worked by temporary workers from contractor

93 At the time of negotiations, approximately twenty-six foreign companies were still at the shipyard; see Report, 1 October 1982, StAB 7,2121-661.

94 See Internal Information, 23 September 1982, StAB 7,2121-661.

95 From the minutes of the Board Meeting, Bremer Vulkan, 1 November 1982, StAB 7,2121-563.

96 See Minutes of the Board Meeting, Bremer Vulkan, 4 October 1982, StAB 7,2121-563.

97 See Minutes of the Board Meeting, Bremer Vulkan, 1 November 1982, StAB 7,2121-563.

companies. Even in 1981 temporary workers worked 790,000 hours. This figure declined drastically in 1982 to 5,200, and in 1983 the company announced there would be no temporary work at the shipyard. But in 1985 the hours rose to 188,000, and reached 233,000 in 1986.⁹⁸

Since the works council did not approve the management's decision on the announced terminations during the negotiations in 1982, the so-called Arbitration Board (Einigungsstelle) was called on 14 October and led in the end to the dismissals of 290 employees.⁹⁹ Once again, the council had to claim its rights and demanded a redundancy programme as well as a list of all employees to review their social selection beforehand. Only thereafter would proposals for re-education and early retirement recommended by the works council be taken into consideration.¹⁰⁰

While mass dismissal could not be avoided, the merger was prevented. However, this harmed the employees of AG Weser. As already described, negotiations about the efficiency of the shipbuilding industry in the Bremen region had begun in the early 1980s. Seeking a lasting solution to the crisis, the Bremer *Land* government under the guidance of Lord Mayor Koschnik urged the yards to find a cross-company way forward in 1982. At the beginning of 1983, the management of Bremer Vulkan and AG Weser, the two major shipyards in the region, responded with plans about combining some activities but did not support the merger as a solution. Additionally, IG Metall and the works councils of both shipyards conveyed their worries about job losses. The works councils of AG Weser and Bremer Vulkan – traditionally antagonistic to each other – rejected any idea of a merger. While IG Metall could not make up its mind to strike, the works councils did protest. Koschnik tried to escape from this situation via a letter to the two works councils. He argued that he was not to blame for the crisis in shipbuilding:

To foster the illusion that appeals to the Senate and the federal government are the only real way to get out of the shipbuilding crisis must be deceitful for those hit, and avoids the real causes and responsibilities. To compress complicated contexts into simple demands on the state does not correspond to our social and economic reality.¹⁰¹

98 From the Records of the meeting of the works council, StAB 7,2121-646-648.

99 Thiel, *Die Geschichte des Bremer Vulkan*, 165.

100 See Minutes of the Board Meeting, Bremer Vulkan, 1 November 1982, StAB 7,2121-563.

101 Letter from Lord Mayor Hans Koschnik to the works councils of AG Weser and Bremer Vulkan, 14 July 1982, quoted in Str ath, *The Politics of De-Industrialisation*, 36.

IG Metall rejected this with a paper offering a strategy for diversification and alternatives in the regional industry. But the federal government in Bonn intensified pressure and threatened a substantial reduction in workforce, of about 9,000 employees, in the framework of a general restructuring of the whole German shipbuilding industry. During the process of convergence, two decisive steps forced the decision into a particular direction. During the negotiation Henke, the chairman of the Bremer Vulkan board, demanded the closure of AG Weser. In addition, Bremer Vulkan's most important shareholder, Thyssen-Bornemisza, decided to withdraw from its recent promise about taking a financial share of the merger costs, and sold its remaining share for a symbolic DM 1 to the Bremer Senate. With this action, all alternatives were precluded.¹⁰² AG Weser, with 2,200 employees, was to be closed. There were some protests by the workers, but they had no impact on the decision. The second major shipyard had to be closed in 1983.¹⁰³

Conclusion

As this case study of Bremer Vulkan exemplifies, the West German shipbuilding industry developed from a giant to a dwarf, from a major player in the global shipbuilding market to a niche industry. This observation runs like a red line through the German shipbuilding literature. If one looks at the changes and challenges that came with the crisis, such a focus is more than understandable. This account can, however, illuminate other narratives that may be of interest to more diverse stories.

Following this attempt, first of all, historicisation would be necessary for analysing the research field, looking for master narratives and gaps in research. The books and articles published about the shipbuilding industry are relatively broad and heterogeneous, but technical and economic research papers dominate: there is no large and comprehensive historical work describing longer processes or making a diachronic comparison, as would make sense for the crises of 1975 and 2008. Discussing crises in the shipbuilding industry is not a new phenomenon, however: in 1933, Herbert Heißner wrote about economic fluctuations in the shipbuilding industry, which would be probably called a crisis today.¹⁰⁴ In addition, social-historical work and labour history on workers and trade unions in the shipbuilding

102 Heseler, "Vom Tankerboom zum Werftenverbund", 222.

103 Little is known about the situation during the 1980s and 1990s; further research is needed.

104 Heißner, *Strukturwandlungen und Konjunkturschwankungen in Schiffbau*.

sector could resume the results of sociological studies of the 1980s. Historical research might historicise the studies and could enrich them with sources that give new insights.

The second conspicuous aspect is the focus on national processes in the description of developments in the shipbuilding industry. As the basis of the analyses, nation-states are discussed in isolation, and rarely in relation to others. Comparative or inter-cultural transfer approaches that transcend national borders are rarely applied and, if they are, they are designed to strengthen the argument for national case studies.¹⁰⁵ This often goes hand in hand with spatial dichotomies, between the “West” and the “East”. It divides the world into spatial stereotypes, which are characterised either by the loss or the rise of the industry. These observations could be relativised by long-term perspectives and differentiated by comparisons to avoid oversimplistic and homogeneous interpretations. Furthermore, the inter-cultural transfer approach could be used to broaden the narratives to include entangled and interlinked connections. For example, it is often mentioned that South Korean entrepreneurs looked to West European engineers to develop their own industry.¹⁰⁶ But there is little information about how the knowledge came to West German shipyards, and how the decisions for further development of certain types of vessels were made. In his *Short History of German Shipbuilding*, Fritz Giese mentioned that numerous German shipbuilders travelled to the “leading shipbuilding country”, Britain, to gain knowledge on iron shipbuilding in the nineteenth century.¹⁰⁷ However, there is little information about knowledge transfer in the twentieth century. An example for comparison is the idea of “clusters” mentioned above. Daniel Todd examined the theory of economic zones for the shipbuilding industry,¹⁰⁸ and it has been discussed in the British and South Korean context.¹⁰⁹ For the German shipbuilding industry, Todd’s assumption is not yet under investigation.¹¹⁰ But it would be of further interest

105 See, for example, Detlef Rother, “Strukturwandel im Weltschiffbau”.

106 The establishment of the Hyundai shipyard and associated engineering works at Ulsan in the early 1970s was undertaken with foreign expertise. The British firm A & P Appledore and the Scottish shipyard Scott Lithgow furnished layout plans, ship plans, technical advice, and training. See Johnman and Murphy, *Scott Lithgow*; for the origins of South Korea’s shipbuilding industry, see Todd, *Industrial Dislocation*, 183–198.

107 Giese, *Kleine Geschichte des deutschen Schiffbaus*, 25.

108 Todd, “Going East”.

109 Hassink and Shin, “South Korea’s Shipbuilding Industry”.

110 However, the historical documentation showed that co-operation of regional companies was not a natural concomitant from the beginning. In 1926, shipyards fought tooth and nail against co-operative strategies. Heißner recognised that the reasons for this resistance were

how this concept worked in other contexts. Bremen, for example, was a region of countless interlinked yards, and it is of great interest how these economic zones and the relationships between the shipyards developed, and if they show similarities or differences with other regional clusters.

Finally, almost nothing is known about regional, national, and international associations of shipyard workers and their relationships. In an interview, the former works council chairman of Bremer Vulkan, Fritz Bettelhäuser,¹¹¹ makes clear that shipyard workers showed much solidarity during strikes and supported fellow workers when shipyard closures were announced. Bremer Vulkan workers also supported workers in other countries, such as during the Solidarity movement at the Gdańsk shipyard. They ranged from material assistance to political solidarity and established in some cases a long-standing partnership. There were also exchange visits with non-European shipyard workers, for example with Japan, where they shared ideas about the development of production and wages. But if and how they developed a kind of common idea about the global shipbuilding market or any international strategy is not known. The same applies to the exchange of trade union delegates at the international level. IG Metall organised several national shipbuilding conferences to which union delegates from abroad were invited. When in 1971 the European Metalworkers' Federation was established they founded a shipbuilding group, which sought to respond to the West European shipbuilding crisis. The Shipbuilding Department of the International Metalworkers' Federation was engaged in the same issues.¹¹² It is of great interest how these trade union leaders responded to the new processes of globalisation in the shipbuilding industry. It requires more precise research to find out whether they discussed ways other than simple national solutions and to what extent an exchange of trade unionists at European and international level seemed promising to them. In following these approaches, narrow perspectives would be transcended and broader views of the shipbuilding industry and its workers would be opened up.

based on the traditional behaviour of the former shipbuilders; see Heißner, *Strukturwandlungen und Konjunkterschwankungen in Schiffbau*, 26.

111 Interview with Fritz Bettelhäuser, 1 March 2013.

112 The archives of the EMF and IMF are located in the Archives of Social Democracy in Bonn. While the archive collection of the EMF has been developed and systematised in recent years, that of the IMF still lies ahead. In my dissertation I am concerned with the development of shipbuilding issues in the IMF and the European initiatives as well as those questions of exchange and linkages between international trade union representatives.

4 From boom to bust

Kockums, Malmö (Sweden), 1950-1986

Tobias Karlsson

Introduction

Kockums in Malmö, Sweden, was one of the major ship producers globally in the 1950s and 1960s. The shipyard experienced a final boom in the early 1970s but could not be saved from nationalisation and restructuring in the aftermath of the OPEC oil crisis of 1973-74. In 1986, production of ships for civilian use ceased at Kockums, ending a tradition of more than a century. This chapter describes and analyses how production, workers, and relations of production developed at Kockums during the period 1950 to 1986.¹

Kockums' national, regional, and international importance makes it a relevant case in a global history of shipbuilding workers. A further reason for Kockums' inclusion is that the shipyard can be seen an illustrative example of the Swedish (or Nordic) model of industrial relations, characterised by co-operation and features of industrial democracy.² *Inter alia*, this was manifested in an ambitious sociological inquiry, which took place in the late 1960s: the so-called Kockums report.³ The report provides unique insights into how changing production relations, related to the application of principles of scientific management to shipbuilding, were perceived by ordinary workers. The Kockums report received international recognition and made the shipyard known as "one of the most modern and progressive shipyards in the world".⁴ Indeed, foreign delegations representing firms and trade unions visited Malmö and were impressed by the relaxed atmosphere between managers and trade unionists. However, the Kockums report was

1 I would like to thank Jonas Ljungberg, Lars Berggren, and John-Erik Olsson for sharing their knowledge of Kockums and the shipbuilding industry. This chapter has also benefited from the comments and suggestions of participants at Arbetarhistorikermötet in Landskrona 2013 and at project meetings in Amsterdam and Bergen in 2013 and Lisbon in 2014. The usual disclaimer applies. Finally, I would like to acknowledge financial support from the research foundation Jan Wallanders och Tom Hedelius Stiftelse.

2 Lundh, *Spelets regler*; Heiret, "Three Norwegian Varieties of a Nordic Model".

3 Ohlström, *Kockumsrapporten*. Similar investigations were carried out in other Swedish shipyards at about the same time, but without direct union involvement.

4 Svensson, *Från ackord till månadslön*, 309.

not just an outcome of good relations among parties. It was initiated by alarming rates of absenteeism and labour turnover, and revealed serious discontent among the workers.

The Swedish shipbuilding industry

Until the First World War, the Swedish shipbuilding industry was strongly oriented towards the domestic market and was far from the technological frontier.⁵ However, during the interwar period big Swedish shipyards became competitive in producing motor-driven ships, which in turn paved the way for their participation in the expansion of shipping for oil transport after the Second World War.⁶ In 1950, the Swedish shipbuilding industry produced about 10 per cent of total tonnage worldwide, and was around the same size as its Japanese counterpart.⁷ By 1960, the total number of shipbuilding workers had more than doubled from 15,000 in 1930 to 32,500. In 1960 the Swedish shipbuilding industry's share of the total number of workers in the manufacturing sector was about 3.5 per cent. In contrast to some other countries, the Swedish shipbuilding industry had not been integrated with suppliers of raw materials, energy, or various manufactured parts.⁸ Instead, the Swedish shipyards relied on a wide network of external suppliers, initially foreign. However, from the Second World War onwards, suppliers were increasingly found within the country. Indeed, at the beginning of the 1970s, Swedish shipyards made two-thirds of their purchases domestically.

While shipbuilding and repairing in many countries have served domestic markets, Swedish shipyards had since the interwar period been highly export-oriented, with Norwegian shipping companies as their most important customers.⁹ In the 1960s, 74 per cent of newly produced Swedish ships

5 Olsson, *Från pansarbåtsvarv till tankfartygsvarv*.

6 Olsson, "Big Business in Sweden", 315. Overall, the Swedish shipbuilding industry has been the object of much research. Svenska Varv funded an important project that resulted in a number of monographs in the 1980s: Bohlin, *Svensk varvsindustri 1920-1975*; Kuuse, *Varven och underleverantörerna*; Olsson, *Från ackord pansarbåtsvarv till tankfartygsvarv*; Stråth, *Varvsarbetare i två varvsstäder*; Svensson, *Från ackord till månadslön*. Former shipbuilding workers have also produced useful documentation on work and employment conditions. See for example Nilsson (ed.), *Vårt Kockums*, and Salomonsson (ed.), "Kockumsknogaren".

7 Ljungberg, *Tillväxt och stagnation i varvsindustrin I*, 32.

8 Kuuse, *Varven och underleverantörerna*.

9 Ljungberg, *Tillväxt och stagnation i varvsindustrin I*, 31.

were exported.¹⁰ If we accept crude measures, such as tons produced per worker, Sweden outperformed Japan and other competitors in the 1950s and 1960s.¹¹ However, compared to the old shipbuilding nations, the productivity figures of the Swedish shipyards may have been somewhat exaggerated. Whereas Sweden, like Japan, mainly built big and rather unsophisticated vessels,¹² shipyards in Britain and Germany produced more tailor-made ships, whose interiors and equipment were particularly labour-intensive.

According to Thommy Svensson, the key to Swedish success in shipbuilding after 1945 was labour policies characterised by the common drive to increase productivity of employers and unions.¹³ The Swedish Metal Workers' Union (SMWU) accepted managerial prerogatives over the use of labour, as long as its members received better pay in return. The metalworkers did not resist the move from riveting to welding or the introduction of block-building techniques of production. Performance-based pay was not something that was forced upon the workers; it was something that they demanded. Around 1960, about 90 per cent of the work done by Swedish shipbuilding and repair workers was paid by the piece, which was probably the highest proportion in the world. In the 1960s, further attempts were made to apply scientific management to shipbuilding, with the introduction of the motion-time measurement (MTM) system and more pronounced division of labour – horizontally and vertically. Towards the end of the decade, when the average serial length of production became shorter, the costs of rationalisation – for example, in the form of excess personnel turnover and absenteeism – became increasingly obvious.

Contemporaneously, Swedish shipyards began to experience tougher competition, but the situation appeared to improve in the early 1970s when the industry experienced a boom; the atmosphere has been described as “euphoric”.¹⁴ Big investments in dry docks and cranes were made in Gothenburg, Malmö, and Uddevalla. It appears that politicians were caught up in the pre-OPEC climate of positive prognoses for the future. Instead of restraining capacity, the Swedish government did the opposite and decided to support the expansion of shipbuilding.

10 *Ibid.*, 32.

11 Svensson, *Från ackord till månadslön*, 291-297.

12 In the period 1970-75, 97.5 per cent of the newly produced ships in Sweden were bulk and tank ships: Ljungberg, *Tillväxt och stagnation i varvsindustrin I*. See also Hamilton, “Public Subsidies to Industry”.

13 Svensson, “Changing Industrial Paradigms”, 357-359.

14 Ljungberg, *Tillväxt och stagnation i varvsindustrin I*, 71.

However, the boom turned out to be short-lived. In 1974, a deep crisis at the Eriksberg shipyard, related to currency speculation, was revealed, which led to nationalisation in the following year.¹⁵ In 1975, the total number of shipbuilding workers in Sweden was at the same level as in 1960. Thereafter, there followed a period of downsizing, nationalisation, and plant closures. By 1990, the total number of shipbuilding workers was below 10,000 and corresponded to less than 1 per cent of blue-collar employment in the manufacturing sector. The big shipowners, who had been close allies of the shipyards, turned to producers in other countries. The problems for the Swedish shipyards were not caused merely by a fall in demand. The oil crisis also forced previous customers to cancel payments, which further aggravated the situation for the shipyards since ships typically were sold on pay-off terms.

The Swedish government responded to the international crisis of the late 1970s by raising subsidies and introducing various rescue schemes directed towards specific firms.¹⁶ Shipyards received subsidies to produce ships speculatively, under the condition that they reduced their workforces.¹⁷ A state-owned enterprise, Svenska Varv, was founded in 1977 in order to facilitate restructuring and plant closures. The nationalisation of the Swedish shipbuilding industry and the subsequent restructuring and reductions in the labour force were generally accepted by the trade unions.¹⁸ There were local protests, but the main response of the Metal Workers' Union was to demand replacement jobs for redundant workers.

Throughout most of the twentieth century, employment in the Swedish shipbuilding industry was concentrated in four shipyards: Eriksberg and Götaverken in Gothenburg, Uddevallarvet in Uddevalla, and Kockums in Malmö. In the late 1960s, these shipyards accounted for more than 90 per cent of tonnage produced in Sweden. These firms were also major international actors and contributed to the development of technology to build ships in blocks. The Uddevalla shipyard had become insolvent in 1958; it became partly state-owned in 1963 and entirely so in 1971. Its production was finally closed down in 1986. Eriksberg was nationalised in 1975, became part of Svenska Varv three years later, and was closed down in 1978. Götaverken was nationalised in 1977; attempts were made to diversify production but were not successful in the long run. Götaverken delivered

15 Ljungberg, *Tillväxt och stagnation i varvsindustrin II*, 71-74.

16 Carlsson, "Industrial Subsidies in Sweden", 11; Hamilton, "Public Subsidies to Industry".

17 Ljungberg, *Tillväxt och stagnation i varvsindustrin II*, 72-73.

18 *Ibid.*, 79.

its last ship in 1989 but has survived with a reduced workforce as a shipyard focused on ship repairing.

In addition to the big Swedish shipyards, there have been, and continue to be, significant naval production and repairing in Karlskrona, which from 1961 was run as a state-owned enterprise. Moreover, there were a number of small and medium-sized shipyards in locations such as Gothenburg (Lindholmen), Landskrona (Öresundsvarvet), Stockholm (Finnboda), Helsingborg, and Oskarshamn. The medium-sized shipyards blossomed in the 1940s and 1950s but found it difficult to restructure production to larger ships in the 1960s. Shipyards in Helsingborg and Oskarshamn were closed in 1966 and 1967, respectively, and Lindholmen was taken over by Eriksberg in 1971.

Kockums Mekaniska Verkstad

Kockums Mekaniska Verstad was established in 1840, and began to build ships in the 1870s. Kockums was, until its introduction to the Stockholm stock exchange in 1972, a family-owned firm with strong local ties. For a great part of the twentieth century Kockums was the largest privately owned workplace in the Malmö region.¹⁹ With a total workforce of 5,700 persons in the mid-1970s (Figure 4.1), the shipyard employed almost one-fifth of all industrial workers in Malmö. In addition, the company had about 1,000 sub-contractors in the region, of which the most important ones together employed 9,000 people.

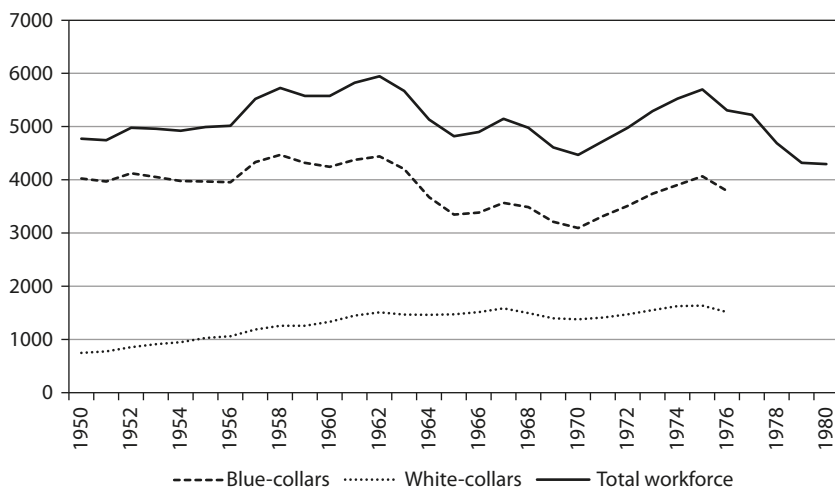
Kockums originally had a fairly diverse production, including railway wagons and a variety of metal goods. Eventually shipbuilding became an important part of the company's business, encompassing both merchant and naval ships, including submarines. In the first half of the twentieth century Kockums successfully participated in the Scandinavian shipbuilding expansion. Diesel engines and tank ships were the key features of the expansion. Kockums was also a pioneer in welding, and its first ocean-going ship with a wholly welded hull was launched just before the Second World War.²⁰

The post-1945 years were characterised by continued expansion and diversification as the company sought to decrease its sensitivity to swings in the business cycle and open up new markets.²¹ In 1968, it was concluded that

19 Berggren, "The Effects of the Shipyard Crisis in Malmö", 199.

20 Svensson, *Från ackord till månadslön*.

21 For example, Kockums acquired a mechanical engineering company (Landsverk) in the neighbouring town Landskrona in 1948 and became part-owner of the Lisnave shipyard in

Figure 4.1 Total workforce, blue-collar and white-collar, at Kockums, 1950-1980

Source: Malmö stadsarkiv, Kockums mekaniska verkstads arkiv, Årsredovisning och revisionsberättelse, B3, vols 2-3

the diversification strategy had failed, and that it had made Kockums even more sensitive to swings. In the following two years the annual dividend to shareholders was cancelled for the first time in decades, and there was also a change of managing director. The new post-holder, Nils-Hugo Hallenborg, regarded “poor morale” among the workers to be the most serious problem for the company. The rate of personnel turnover at Kockums was far too high, at around 50 per cent. Hallenborg initiated two investigations: one concerning the shipbuilding section and another on the rest of the company’s sections. Interestingly, he asked the Swedish Confederation of Labour (LO) to undertake the former investigation and American consultants to do the latter.

The performance of Kockums, particularly the shipbuilding section, was substantially improved in the early 1970s. Moreover, productivity development was stronger than that of the Gothenburg shipyards,²² the stock of orders grew, profits were higher than ever, and Kockums’ share price skyrocketed.²³ In 1973, Kockums was the biggest shipyard outside

Portugal (together with Götaverken and Eriksberg) in 1962. See Arlebäck, *Från ägarmakt till företagsledarmakt, 192-197*; Ohlsson, “I kranens tidevarv”, 103-105.

22 Bohlin, *Svensk varvsindustri 1920-1975, 202-204*.

23 Ohlsson, “I kranens tidevarv”, 108-111.

Japan, and management self-confidence was at its peak. The managing director proudly declared to a newspaper, "All new shipyards that are built in Japan are now using Kockums as their model."²⁴ Moreover, he did not see any upper limits to how big ships could be built and painted vivid pictures of giant ships for transportation of coal and virtual islands for production of nuclear energy.

However, when the OPEC oil crisis hit, the demand for ships was dramatically reduced. In 1974, Kockums did not receive a single order, and in the following year two orders were cancelled. The enthusiastic atmosphere of the previous years did not end immediately, but gradually managers and workers realised that adjustments were necessary. Personnel reductions began to be discussed openly, and in 1976 the company was divided into separate units: from now on shipbuilding was conducted within Kockums Varv.

Since the 1960s, the inhabitants of Malmö had been suffering job losses as a consequence of the difficulties experienced by the textile industry.²⁵ When Kockums began to face problems in the latter half of the 1970s, local politicians and citizens rallied to defend the jobs of the Kockums workers. In 1979, the shipyard was taken over by the state through Svenska Varv, and in 1986 production of merchant ships ceased. Production of submarines continued, however, but the physical shipbuilding was moved to a specialised naval yard at Karlskrona. The yard's huge shipbuilding crane, once the world's biggest, was sold for USD \$1 to the Hyundai shipyard in South Korea in 2002. Today, a screwed skyscraper, the Turning Torso, situated close to the old shipyard, marks the new skyline of Malmö. The shipyard area has been taken over by new companies, a university college, and fashionable apartment blocks.

Production

During the Second World War, Kockums was a huge supplier of military equipment in general and ships for the naval forces in particular.²⁶ Production of large cargo ships for civilian use expanded rapidly in the decades after the war.²⁷ Consequently, huge ships for transportation of bulk goods or

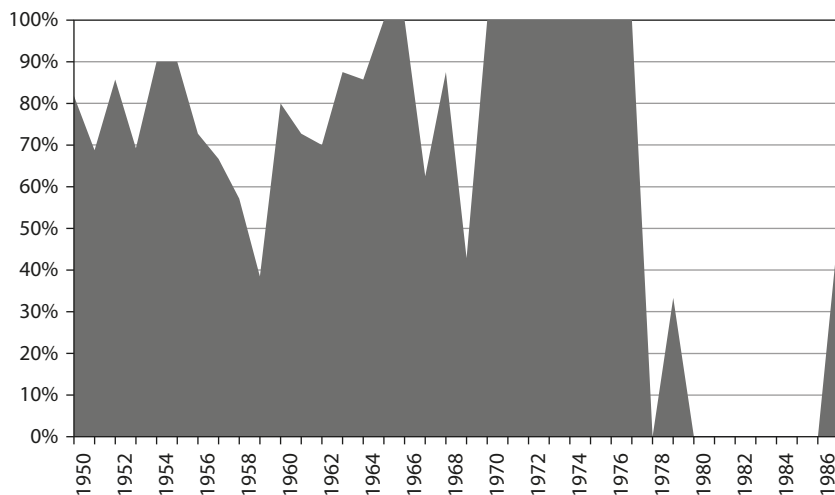
24 Quotation from Ohlsson, "I kranens tidevarv", 110 (author's translation).

25 *Ibid.*, 136.

26 Nilsson, *Kockums marina fartyg*.

27 Kockums did repair jobs, but in the period of investigation it was mainly a shipyard for new production.

Figure 4.2 Tankers, cargo ships and bulk carriers as a percentage of ships produced at Kockums, 1950-1987



Source: Own calculations based on data compiled by *Varvshistoriska föreningen i Malmö*

liquids dominated production. Of the 244 ships built at Kockums between 1950 and 1977, 190 were either bulk or tank ships. As seen in Figure 4.2, tanker production was particularly important before the oil crisis. Between 1970 and 1976, all ships produced were in fact tankers. After the oil crisis, production became more diversified; including vessels for transporting liquified natural gas, and roll-on-roll-off ships, some of them intended for passengers. The last ships for civilian use were luxury cruisers.

Over three decades the size of ships built by Kockums grew substantially. In 1949, Kockums built ships with a carrying capacity up to 16,510 dwt.²⁸ In the following decade, the biggest ships built at Kockums were of over 41,000 dwt. In the 1960s, this figure had grown fivefold, to 212,000 dwt. In the 1970s, Kockums typically produced ships of about 350,000 dwt each.

The increasing capacity to build big ships was made possible by investments in various physical facilities. Considerable investments were undertaken in the latter part of the 1960s, when a new dock, cranes, and assembly hall were built. Even bigger investments followed in the early 1970s, with the intention to speed up production, and which facilitated lifting of heavy

²⁸ Figures on the carrying capacity of Kockums ships were obtained from *Varvshistoriska föreningen i Malmö*.

objects.²⁹ Among other things, a saddle crane with a track 175 m wide and 710 m long was put into place. Its lifting capacity was estimated at up to 1,500 tons. As a result of the various investments in plant and equipment, Kockums' lead time for big ships could be reduced to forty days.³⁰

Workforce

Most of Kockums' workers under the period of review had open-ended employment contracts and were organised in the SMWU. Temporary employment contracts were used in times of need, but directly employed temporary workers did not constitute a significant part of the workforce at any point. However, temporary workers employed *indirectly* by sub-contractors appeared in greater numbers from the mid-1960s onwards. With high levels of personnel turnover, recruitment of skilled labour was a more or less constant problem in the decades following the Second World War. Apart from turning to the public employment service and sub-contractors, Kockums also made conscious efforts to attract workers from abroad as well as women.

The Metal Workers' Union

The SMWU was based on the principle of industrial unionism and was made up of locals that in turn were divided into workplace "clubs" and occupational sections. The Kockums club was for a long time the most important unit of the SMWU local in Malmö. The club leadership was characterised by continuity; the period 1918-86 saw only five chairmen.³¹

Over time, the union activities at Kockums became increasingly professionalised and efficient. Before the 1970s, the club chairman was basically the only person who could work full-time on union issues.³² With new legislation in 1974, the rights of union officials were strengthened. Union officials were protected from harassment, had the right to paid leave and to return to their previous job after a period of union duties, and enjoyed wage guarantees. This changed the preconditions for union activities drastically. Before the 1970s, members turned to the club board at an open meeting if they experienced problems with picecrates or similar. The board decided

29 Arlebäck, *Från ägarmakt till företagsledarmakt*, 197; Ohlsson, "I kranens tidevarv", 109.

30 Arlebäck, *Från ägarmakt till företagsledarmakt*, 197.

31 Stråth, *Varvsarbetare i två varvsstäder*; Salomonsson, "Kockumsknogaren", 185.

32 Salomonsson, "Kockumsknogaren", 189.

what action to take and replied to the member at next meeting, a month later. However, due to a growing number of salaried union officials, small matters of discontent could be solved much more quickly and without being voiced at a member meeting.³³

The activities of the SMWU club at Kockums also increased in scope. Before the 1940s, the union was mainly involved with three issues: wages, occupational health and safety, and working hours. In the aftermath of the general agreement concluded in 1938,³⁴ the labour market parties agreed to increase union involvement in issues concerning production, personnel policies, and social issues.³⁵

The 1970s also saw a substantial expansion of the international activities of the SMWU.³⁶ For example, the union was heavily involved in exchange of information and co-ordination with its sister organisations in the other Nordic countries.³⁷ The international activities of the SMWU were mainly organised centrally. Still, the union club at Kockums was affected by these contacts as it often hosted delegations from other countries. Initially, these visitors typically came from neighbouring countries, such as Denmark or Germany, but over the years delegations from more distant countries appeared, for example Japan (1964, 1969), Canada (1972), and "Latin America" (1971). The international interest in Kockums seems to have increased considerably in the early 1970s (after the Kockums report). In the early 1980s the union club at Kockums began to take more of its own initiatives in international issues, for example by establishing contacts with Solidarność in Poland.³⁸

Indirectly hired workers

Since Kockums and the other big Swedish shipyards were capital-intensive, interruptions in the production process were expensive. Thus companies were prepared to engage labour from staffing companies, even though it was more expensive than employing labour directly.³⁹ In the interwar period,

33 *Ibid.*, 187.

34 The so-called Saltsjöbaden Agreement (SAF) between the LO and the Swedish Employers' Confederation.

35 Stråth, *Varvsarbetare i två varvsstäder*, 327.

36 Thörnqvist, "Metall och världen", 951ff.

37 *Ibid.*, 939-940, 952-953, 1001-1002, 1005.

38 *Ibid.*, 987; Arbetarrörelsens arkiv i Skåne, Malmö (hereafter AAS), Metall avd. 4, Kockums verkstadsklubb, Års- och revisionsberättelser.

39 Bohlin, *Svenskvarvsindustri 1920-1975*, 297-301; Gråbacke, "Internationalisering och teknisk omvandling", 163-166.

Swedish shipyards had already brought in sub-contracted labour to perform specific tasks, such as painting and electrical installation work.⁴⁰ What changed in the post-war period was that sub-contracted labour performed ordinary jobs as welders or sheet-metal workers. Thus, a situation emerged in which there were two groups of workers who did similar jobs but had different terms of employment. Legally, however, the sub-contracted firms operated in a grey zone. According to prevailing legislation, private profit-making employment agencies were not allowed. Yet, in practice it proved difficult to apply the legislation, and the use of temporary work agencies was a matter of disagreement between employers and unions.⁴¹

At Kockums, the use of sub-contracted workers on a larger scale seems to have begun in 1963 and expanded in the latter part of the decade.⁴² In 1967, there were 1,500 temporary workers at Kockums,⁴³ which corresponded to more than 40 per cent of the average number of blue-collar workers that were directly employed in the same year. Many of the temporary workers had foreign origins; a particularly large group had come from Finland. The Kockums report revealed widespread distrust among the workers interviewed, not only of the management but also of temporary workers. Many quotations suggested that temporary workers were assigned the “good” jobs, earned more, and took less responsibility for handling of tools and materials.⁴⁴

The use of sub-contracted labour at Kockums almost disappeared after the publication of the Kockums report,⁴⁵ but reappeared again towards the mid-1970s. Interestingly, this practice was argued against not only by the unions, but also by the Swedish Engineering Employers' Association, who thought that hiring labour through sub-contractors aggravated problems with wage drift.⁴⁶ Not until the late 1970s did Kockums and the union club reach an agreement on the proper use of sub-contractors.⁴⁷

40 Bohlin, *Svensk varvsindustri 1920-1975*, 297; Eckhart, “Djurgårdsgänget”, 82-89.

41 Bohlin, *Svensk varvsindustri 1920-1975*, 305-306. The issue of staffing companies was also discussed at the Nordic level: Thörnqvist, “Metall och världen”, 941.

42 Malmö stadsarkiv (hereafter MS), Kockums mekaniska verkstads arkiv, Övriga personalhandlingar rörande arbetare, F16 BB: 11.

43 Lundin, *Malmö industristaden*, 26.

44 With regard to earnings, it should be noted that the main difference between ordinary and indirectly hired workers was that the latter had tax-free subsistence allowances on top of the wage.

45 MS, Kockums mekaniska verkstads arkiv, Övriga personalhandlingar rörande arbetare, F16 BB: 11.

46 Gråbacke, “Internationalisering och teknisk omvandling”, 165.

47 AAS, Metall avd. 4, Kockums verkstadsklubb, Års- och revisionsberättelser.

Labour import

After the Second World War, Kockums made intense efforts to recruit foreign labour. In 1947, there were fifteen different nationalities represented in Kockums workforce, of which the biggest group was from Denmark. In spite of initial union resistance, immigrants were recruited in great numbers in the following decades. In 1969, immigrants constituted 31 per cent of the workforce.⁴⁸ The most important countries of origin at the time were Yugoslavia, Portugal, and Finland. Most immigrants were relatively unskilled and received basic training at Kockums. Although the company provided some instruction in foreign languages as well as interpreters, their introduction at Kockums must have been an overwhelming and not entirely positive experience for many immigrants. According to the Kockums report, mistrust of the interpreters led many immigrants to quit. The interpreters were thought to be loyal firstly to the company and to disadvantage their clients (the immigrants) in disputes over piece rates.

Kockums offered training in the Swedish language at an early stage, but this was poorly adapted to working hours. Following the Kockums report, the company began to focus recruitment on a limited number of languages and undertook some measures to improve integration.⁴⁹ The passing of new legislation on language training gave immigrants opportunities to learn Swedish during working hours. It also appears that the union club's attitude towards immigration changed over time: from having a main ambition to restrict the numbers of immigrants to improving their integration.⁵⁰

Women at the shipyard

While the composition of the workforce changed drastically with regard to country of origin, Kockums remained essentially a male domain. In the early 1960s, however, the management reviewed jobs in production and found that 225 positions would be suitable for women.⁵¹ A programme to recruit and train women in welding and other trades was initiated, but with meagre results. In 1968 there were only twenty-five women on the shop floor and by the mid-1980s women only constituted 1.3 per cent of the workforce.⁵²

48 Salomonsson, "*Kockumsknogaren*", 150.

49 Nilsson, *Vårt Kockums*, 201-204.

50 Salomonsson, "*Kockumsknogaren*", 153.

51 Gråbacke, "Internationalisering och teknisk omvandling", 167-169.

52 Lundin, *Malmö industristaden*, 23.

Similar attempts were made by the shipyards in Gothenburg, where the competition for labour was even more intense than in Malmö.⁵³ In the early 1970s, about 100 women were hired at Eriksberg. At Götaverken, women formed separate work teams. Most women at Götaverken were either young (or childless) or in their forties. At the modern Arendal shipyard there were special changing rooms for women. Managers there had a positive view on women as workers. According to the personnel manager at Götaverken, for example, women were “careful and ambitious”.⁵⁴ Yet, even though the labour-force participation of Swedish women increased substantially from the 1960s onwards, few women entered the shipbuilding industry. There, the share of women increased, but from a very low level, and it never exceeded 4 per cent.

Wages and working hours

In the decades after the Second World War, male shipbuilding workers were among the most well-paid groups of blue-collar workers in the Swedish labour market, including metalworkers.⁵⁵ Indeed, the gap between shipbuilding workers and other metalworkers increased until the mid-1970s, when shipbuilding workers on average earned between 10 and 12 per cent more.⁵⁶ After the mid-1970s, working in the shipbuilding industry became somewhat less rewarding. Between 1976 and 1981, the average hourly earnings decreased by 10 per cent, a change that, *inter alia*, related to the shift in wages from piecerates to monthly wages.⁵⁷ Yet, in the mid-1980s, shipbuilding workers were better off than most metal- and manufacturing workers.

The nominal earnings of Kockums workers increased at about the same pace as for workers in the mechanical engineering industry as a whole. This implied a significant improvement of the material standard of living. While prices rose fourfold between 1950 and 1976, earnings rose ninefold in the same period. The improved living standard was reflected in many

53 Trosell, “Kvinna på varvet”. See also Persson Bertheaud, Sandberg, and Bosdotter (eds), *Kvinna på varvet*, for documentation of women’s experiences in the Gothenburg shipyards.

54 Quotation from Gråbacke, “Internationalisering och teknisk omvandling”, 169.

55 Women in the shipbuilding industry were relatively well paid compared to other groups of female manufacturing workers. However, the male-female gap in earnings was as big, or even bigger, in shipbuilding than in the labour market as a whole: Gråbacke, “Internationalisering och teknisk omvandling”, 69-71.

56 Wage additions for overtime, shift work, work on holidays, vacation, and other benefits included: Statistiska centralbyrån, *Wages. Part 2: Wage-Earners in the Private Sector*.

57 Gråbacke, “Internationalisering och teknisk omvandling”, 69.

ways. Whereas a typical metalworker in the interwar period had lived in a one-room apartment, the same metalworker had a three-room apartment in the late 1960s.⁵⁸ At that time, most metalworkers owned cars, which were used during the summer holidays.

The raised living standard was also translated into more leisure. Working hours in the Swedish labour market had since 1920 been subject to legislation that prescribed a maximum of 48 hours per week. This level remained until the 1960s, when the normal working week was reduced through legislation and agreements to the level of 40 hours in 1970.⁵⁹ Paid holiday was likewise prolonged step by step, from two weeks in 1938 to five weeks in 1977.

Occupational identity and lifestyle

To characterise the occupational identity and lifestyle of workers at Kockums is difficult. While there are plenty of anecdotes, there has been no systematic research into the issue. As in other shipyards,⁶⁰ the Kockums workers made much use of nicknames and jargon.⁶¹ This suggests the existence of a relatively stable core of workers, in spite of high levels of turnover.⁶² The increased use of sub-contracting firms in the late 1960s seems to have given rise to two parallel cultures at Kockums: where the ordinary workers regarded the outsiders, who often were unmarried Finns, with suspicion and a certain envy.⁶³

Like the cultures of other occupational groups over time, one may assume that the shipbuilders' culture had been constantly evolving. A study of cultural and class boundaries in Landskrona, which was even more dominated by shipbuilding than Malmö, suggests that shifting economic circumstances shaped the attitudes and behaviour of different generations of workers.⁶⁴ It is likely that similar processes were at work at Kockums. While those who entered the trade in the interwar period were stamped by the experience of crises and unemployment, those who became shipbuilding workers in

58 Magnusson, "Metallarbetarnas levnadsförhållanden", 138.

59 Isidorsson, *Striden om tiden*, 61-66; Thörnqvist, "Metall och världen", 953.

60 Andersson and Sjölin, *Ackordsliv*, 56-58; Salomonsson and Wikdahl, *Varvet som var*, 28.

61 Svärd, *Blåstätt*.

62 John-Erik Olsson, employed at Kockums in 1947 and chairman of the union local 1968-87, estimates that about half of the workforce or more was stable, even during the period of high personnel turnover: interview, 9 October 2013.

63 Ohlström, *Kockumsrapporten*, 68-70; Lundin, *Industristaden Malmö*.

64 Wikdahl, *Varvets tid*.

the post-war period enjoyed rapid improvements in their standard of living. They became less interested in security and put more emphasis on freedom. They moved out of traditional working-class neighbourhoods to the suburbs, which had more mixed populations. The boundaries between blue- and white-collar workers became less pronounced. Another study of Landskrona showed that occupational boundaries among the blue-collar workers were also reduced.⁶⁵ When the shipyard became more of a factory than a workshop, the contacts of workers from different occupations increased, which served to strengthen their common identity of shipbuilding workers.

Relationships of production

Organisation of production

Until the mid-1930s, riveting was the main method of metal joining for building steel ships. At that time, Kockums built ships of around 10,000 tons, which were assembled at slipways. Several ships were built simultaneously. Most jobs were performed outdoors, with only specific portions constructed in workshops. The transition to welding took place in the mid-1930s and was generally accepted by the workers, as long as it did not result in wage reductions.⁶⁶ Welding reduced the noise level at the shipyards, but its smoke introduced new problems in the working environment.⁶⁷

Welding paved the way for the next big change – the building of ships in blocks – an important step in the transition from craft-based production to a system of work organisation that was more in line with the logic of industrial production generally.⁶⁸ Investments in larger production facilities also meant that much bigger ships could be built. Ships of 200,000 tons or more were basically constructed one at a time. Various parts of the ships could be built in parallel and then assembled. Previously, for example, the installation of the ship's pipes could be done only when the actual hull was finished. With block building, the pipes could be installed in each block before the hull was assembled. Block building, introduced at Kockums in the early 1960s, was associated with profound changes in the working

65 Salomonsson and Wikdahl, *Varvet som var*, 38-44.

66 Svensson, *Från ackord till månadslön*, 343.

67 Berggren and Olsson, "Arbetsmiljö, hälsa och arbetarskydd", 76. For the British case, see Murphy, "The Health of Electric Arc Welders".

68 Ljungberg, *Tillväxt och stagnation i varvsindustrin I*, 37.

environment, both good and not so good. On the one hand, more jobs could be done under cover, and the workers at Kockums became increasingly protected from the harsh weather conditions of southern Sweden, which had been a source of great discontent. On the other hand, the intensification of work led to an increased number of accidents, which tripled from the late 1960s to the mid-1970s.⁶⁹ In this regard the situation in shipbuilding was worse than in the Swedish metal industry overall.⁷⁰

Rationalisation of shipbuilding at Kockums was not associated with increased horizontal division of labour and deskilling. According to Bo Ohlström, hardly “any worker performed a job that can be characterised as monotonous in the same way as at an assembly line”.⁷¹ Compared to other manufacturing industries, shipbuilding still retained a high share of skilled workers, and the developments at Kockums often meant that the content of jobs became more varied. After ships had begun to be built block by block, a sheet-metal worker would, for example, perform a wider variety of tasks than before. Some parts of the ship, such as the bow and stern, also required particular manual skills to produce well into the 1980s.⁷²

The upgrading of jobs at Kockums was also reflected in how new workers were trained.⁷³ When shipbuilding was done by riveting, training had been based on the simple principle “watch and learn”. Young workers assisted senior workers with simple tasks while at the same time observing how more complex tasks were performed. As the new recruits became older, they were promoted to positions involving more complex tasks until they were finally considered ready to do skilled jobs. With the transition to welding, training became more formalised. Kockums initiated a systematic training programme, and in 1957 the company set up its own vocational school.⁷⁴

However, it appears that the introduction of block building did give rise to co-ordination problems and led to increased vertical division of labour and stricter management control of work.⁷⁵ Previously, the production process had been highly flexible: if one job could not be done at one point in time, it was relatively easy to transfer labour to do other jobs. From the late 1960s onwards, the timing of various jobs became crucial. Since blocks were assembled in a particular order, a delay in one block could cause stoppages

69 Berggren, “Från arbetarskydd till arbetsmiljö”, 642.

70 Berggren and Olsson, “Arbetsmiljö, hälsa och arbetarskydd”, 79.

71 Ohlström, *Kockumsrapporten*, 14.

72 Ljungberg, *Tillväxt och stagnation i varvsindustrin I*, 37.

73 Ohlström, *Kockumsrapporten*, 15.

74 Yokoyama and Nilsson, “Company-Based Vocational Education and Training”.

75 Ohlström, *Kockumsrapporten*, 21.

in the whole production chain. Such stoppages were frequent; internal company reports suggested that some workers were efficiently employed for only 15-30 per cent of the working day.

In order to improve production flows, management hired more technicians, put more effort in to gather information on time use, and tightened supervision of workers, which included the introduction of piecerates based on the MTM system.

Few strikes but frequent disputes

During the interwar period, the relationships between the union club and management became characterised by co-operation rather than conflict.⁷⁶ This relationship was further developed as Nils Holmström, previously a legal adviser at the SAF and one of the architects of the general agreement of 1938, joined the company's management in 1940. Among other things, Holmström initiated a new order for negotiations in which the union club was represented by a committee. Overall, the union club was considered to have had a fairly strong position and was respected by the management.⁷⁷ In the period 1931 to 1975, there were only three strikes at Kockums.⁷⁸

Even though strikes were unusual at Kockums in the period of investigation, small disputes concerning piecerates were frequent. Until the early 1950s, Kockums applied straight piecerates, with a guaranteed minimum level per hour. Time-and-motion studies had originally been introduced in the 1930s at the shipyard, but were met with protests.⁷⁹ Foremen continued to exert great influence over piecerates well into the 1950s which led to minor conflicts. The workers' earnings were decided not only by the actual piecerate, but also by job allocation and by the other team members. For newcomers, who lacked detailed knowledge of the workplace (where to find materials, tools, and supervisors) it was hard to achieve high earnings. In the late 1950s, the company began to hold courses and conferences in how to apply and interpret wage agreements for its supervisory staff. According

76 Stråth, *Varvsarbetare i två varvsstäder*, 209.

77 This also applied to Götaverken, Öresundsvärvet, and Uddevalla, but less so to Eriksberg. See Svensson, *Från ackord till månadslön*, 318.

78 The most notable conflict occurred in 1945 when the Kockums workers participated in a nationwide strike initiated by the SMWU, which at the time was dominated by communists. Communists controlled the local at Kockums between 1944 and 1947 but lost much of their influence thereafter. In Gothenburg, communists retained influence well into the 1960s, which, according to Stråth, contributed to more conflicts: Stråth, *Varvsarbetare i två varvsstäder*, 240, 291.

79 Svensson, *Från ackord till månadslön*, 253-257.

to union statements, management attempts to increase control over wage setting did not result in fewer disputes; instead the contrary was true, since the arbitrariness of many foremen was replaced by far-reaching formalism.⁸⁰

In the 1960s, the management at Kockums imposed a more elaborate system of piecerates – the PTS system – where each operation was divided into smaller actions that were allotted standard times.⁸¹ The workers received detailed descriptions of how each operation was to be undertaken. The basic intention with the new system was to attain a remuneration system that rested on scientific foundations. Yet, introducing an advanced form of scientific management to shipbuilding, where the production process was characterised by frequent interruptions and an almost constant need to adjust methods and materials, proved difficult. As was shown in the Kockums report, the PTS system became a source of serious discontent.⁸² Whereas some workers appreciated that the room for foremen's discretion had been reduced, most workers emphasised the lack of flexibility, higher work load, and increased income insecurity associated with the new system.

Considering the widespread worker discontent, the union withdrew its previous support for piecerates and instead strived to increase the fixed component of earnings. This was gradually achieved in the 1970s, and in 1976 the union reached an agreement by which monthly wages replaced piecerates.

The introduction of monthly wages was not uncomplicated, as it involved a valuation of each job. One participant in the union's internal negotiations complained: "It was hard as hell. We finally succeeded, but – gosh! – that I would not repeat more times. People were standing on tables, shouting and roaring at each other!"⁸³ As observed by Svensson, the management was positive towards the transition to monthly wages.⁸⁴ As production had become less homogeneous, straight piecerates were difficult to establish, even with sophisticated time-and-motion studies. Initially, the management also regarded monthly wages as positively associated with productivity. However, after a few years the discussion about how to strengthen workers' incentives to improve performance reappeared, even among union members, and bonuses were reintroduced on top of the fixed-wage component.

80 Salomonsson, "*Kockumsknogaren*", 144ff.

81 PTS stands for predetermined time standards and was a variant of the more widely spread MTM system: Ohlström, *Kockumsrapporten*, 23.

82 Salomonsson, "*Kockumsknogaren*", 147-148.

83 Quotation in Salomonsson, "*Kockumsknogaren*", 170.

84 Svensson, *Från ackord till månadslön*.

Managing redundancies

Workers at Kockums in the 1950s and 1960s enjoyed a high degree of employment protection.⁸⁵ The high rates of personnel turnover meant that temporary redundancies could be dealt with by natural attrition.⁸⁶ Even when the crisis of shipbuilding became apparent in the latter part of the 1970s, management was very hesitant to undertake layoffs.

In the early years of the 1970s, Kockums was in a better financial situation than the Gothenburg shipyards.⁸⁷ Kockums' management had avoided risky speculations in foreign currency in the late 1960s and had not agreed to produce ships for prices that fell short of actual costs, which, for example, Götaverken had done. Kockums' decline and final closure were therefore delayed, and can best be described as smooth and gradual.⁸⁸

Facing threats of reductions in the workforce, management and union leaders mobilised support from local and regional politicians, bureaucrats (including the county governor), and the general public. A demonstration involving 10,000 participants was held in Malmö city centre. The joint management-union initiative may be seen as a reflection of a spirit of mutual understanding that had been a characteristic feature of the Swedish labour market in general and of the industrial relations at Kockums in particular.⁸⁹ However, in this phase workers' doubts that the private owners could take the shipyard through the bust increased, and in December 1977 the union took the position that Kockums should be nationalised. This was thought to be the best way to secure the survival of the shipyard, although there were those who feared a loss of influence if Kockums became a part of a bigger business group.⁹⁰

In 1978, 900 employees were given notice, which corresponded to about 17 per cent of the total workforce in the previous year. The management declared that further reductions – affecting 2,000 employees – might become necessary, but that not even such a measure would solve what had

85 This stands in some contrast to accounts of earlier periods, when insecurity seems to have been an essential aspect of the lives of shipbuilding workers. See for example Berggren, *Ångvisslans och brickornas värld*, 70-71, and Svensson, *Från ackord till månadslön*, 41-44.

86 Interview with John-Erik Olsson, 9 September 2013. Transfers of workers between positions also occurred, which was a source of discontent as changing jobs often was associated with income losses: AAS, *Metall avd. 4, Kockums verkstadsklubb, Års- och revisionsberättelser*.

87 Stråth, *The Politics of De-Industrialisation*, 107-108.

88 Yet, redundancy management was in many ways similar in Gothenburg and Malmö. See Gascoigne and Whiteside, "Work and Welfare".

89 Stråth, *The Politics of De-Industrialisation*, 109-110.

90 *Ibid.*, 108.

become an acute liquidity crisis. The union's response was partly accommodating. It recognised the need to reduce the workforce, but rejected the suggested means of doing so. Instead of layoffs, the union demanded that the redundancies should be solved by natural wastage and voluntary action, as had been done previously.⁹¹ It appears that union resistance to downsizing was somewhat half-hearted due to national employment-protection legislation, which had been put in place a few years earlier. According to this legislation, layoffs should be governed by length of service and age, if employers and union representatives did not reach another agreement. The implication was that, as phrased by Bo Stråth, the threat of unemployment was individualised. Union representatives and senior members of the union were not among those who were first in line to be laid off. In spite of this, the protests were successful in the sense that the downsizing process was delayed and layoffs were avoided. The union finally also got support for its demand for nationalisation.

Nationalisation

In the summer of 1979, Kockums Varv became a part of the state-owned business group Svenska Varv. Nationalisation could not, however, end the downward spiral of Kockums. Gradual reductions of the workforce continued, and the interaction between management and union representatives did not change dramatically as a consequence of state ownership.⁹² A central management aim was to continue downsizing and to retain only the most productive workers in that process. Negotiations held in December 1980 are illustrative in this regard. The management argued that if it was allowed to establish the order of selection for layoffs, then the total magnitude of the cuts could be reduced. This move was a dilemma for the union: should it let the employer pick and choose and save jobs in return, or defend the prevailing seniority norm? The solution was the introduction of a new department for retraining within the company, to which less-productive workers could be transferred without any notice. A preliminary selection was established in negotiations between management and union; thereafter the union representatives held talks with affected individuals. Thus, the union collaborated with the employers in order to uphold work discipline and improve productivity at a time when morale was low.

91 *Ibid.*, 109.

92 *Ibid.*, 110-111.

Somewhat later, in the autumn of 1981, the union also agreed to abandon the seniority principle prescribed by the law in favour of an early-retirement scheme.⁹³ This was in accordance with previous practice as well as with the management's efficiency considerations.⁹⁴ Yet, the downward spiral went on. In 1985 only 2,850 employees remained, and the shipyard had not received a single order in two years.

Again, a local campaign rallied under the slogan "Don't touch Kockums" (author's translation). A variety of methods were applied to voice the demands, including demonstrations, petitions, and lobbying. However, the protests could not save the shipyard, and in 1986 Svenska Varv decided to shut down production of ships for civilian use in Malmö. This was, at the time, one of the biggest plant closures ever seen in Sweden. To compensate for the massive job losses, the state instead subsidised car production in parts of the old shipbuilding premises. Many former Kockums workers were also temporarily employed on renovating train carriages for Statens Järnvägar (the state-owned railway company). Indeed, most of the redundant shipyard workers were able to escape unemployment.⁹⁵ Yet, the effects of the closing of the shipyard on the local labour market were long-lasting. The non-production of civilian ships at Kockums left a vacuum and made it difficult for young people to enter the labour market. For many years, Malmö struggled with an outdated industrial structure, with no common vision for the future.

Concluding remarks

The frame story of Kockums in the period 1950 to 1986 is about rise and fall. Kockums successfully participated in the tanker revolution of the 1950s and 1960s but was unsuccessful in adjusting production to new realities in the 1970s and eventually had to abandon the building of ships for civilian use. As a case study, Kockums fits into the popular image of the Swedish model of industrial relations. Management-union co-operation was an established feature of Kockums and developed further in the period of investigation. Co-operation continued even during the decline phase. However, beneath the surface, major changes took place at the shipyard in which the workers actively took part. Changes affected the composition of the workforce as well

93 See Gascoigne and Whiteside, "Work and Welfare", 238.

94 Stråth, *The Politics of De-Industrialisation*, 111.

95 Berggren, "The Effects of the Shipbuilding Crisis in Malmö", 201.

as the basic relations of production. Workers of foreign origin, sometimes hired indirectly, became commonplace at Kockums. The union began to promote the integration of immigrants and restrict the practice of hiring labour from sub-contractors. Beginning in the early 1960s, block building in combination with a more advanced system of piece rates were important aspects in management attempts to move away from craft-based production. Although not resulting in outright strikes, increased vertical division of labour and co-ordination failures were not passively accommodated by the workers. Discontent was widespread, and many took advantage of the situation in the labour market, which made it possible to leave Kockums and find jobs in other shipyards or industries. High levels of personnel turnover induced the management to take action. Like other Swedish shipyards and industries, Kockums eventually replaced performance-based pay with monthly pay. This temporary victory over scientific management took place towards the end of the Swedish shipbuilding industry's era of greatness. For the workers, the struggle for fair pay was replaced by a struggle for the future existence of the industry.

5 The Norwegian shipbuilding industry after 1945

Production systems, rationalisation, and labour relations, with special reference to Bergens Mekaniske Verksteder and Aker Stord

Hans-Jakob Ågotnes and Jan Heiret

Introduction

The aim of this chapter is to give an overview of the development of the Norwegian shipbuilding industry after 1945, and to discuss the changing conditions of the labour force and labour relations in the industry, both nationwide and internally in the workplaces. We posit three main questions: what industrial relations were established in the shipbuilding industry, what social relations in the workplace did they correspond to, and how did they develop during the differing phases of the post-war epoch? Such an overview must inevitably involve a construction at the analytical level of the relations between the different contexts determining the path of development of the industry. Our point of departure is that, to understand the conditions of the labour force and the character of workers' organisations, we must on the one hand understand how the economic potential of shipbuilding firms is dependent on the connections between national and global markets; national and international governmental regulations; national and transnational ownership; and company structures. On the other hand, we must also consider the production system in the industry – technology, division of labour, and work organisation – to understand industrial relations, both at the national level and in shipyards and company groups. The extant system of industrial relations, involving trade unions, employers' federations, and government, in its turn, has a decisive effect on production.

At the base of the union organisation are the workers' collectives at each individual workplace.¹ The character of workers' collectives depended on all the above dimensions, in addition to local circumstances, which varied from place to place. Nonetheless, we consider that the shipbuilding

1 For the concept of the workers' collective, see Lysgaard, *Arbeiderkollektivet*.

workers have important traits in common, and that they have played an important role in the modern economic history of Norway, as well as in the formation of local workers' culture and in the development of the trade union movement generally.

We begin by considering the situation of the Norwegian shipbuilding industry at the end of the Second World War, in order to analyse what proved to be a long cycle of expansion, which lasted until the early 1970s. We argue that a basic precondition for this growth phase was continuous productivity gains, which must be understood as a result not of mechanisation, but of changes in the organisation of work – we consider both investment in heavy mechanical plant and equipment and changes in the wage system as a means of organising work more efficiently. Thereafter, we describe the effects of changing conditions on the industry after the 1973-1974 OPEC oil price hikes. On this basis, we attempt to answer the question: what were the situation and the role of the labour force in the build-up phase prior to the international oil price crisis in 1973-1974, and in the period thereafter? The analysis is based on research concentrating on the Bergen firm Bergens Mekaniske Verksteder (BMV), and Stord Verft.² Both Stord and BMV became part of Aker, the principal group in Norwegian shipbuilding, in the 1950s and 1960s respectively. In addition to studies at workplace level we also build upon studies of industrial relations at group and industry levels. Our procedure, then, is to take the workplace as point of departure, while also analysing developments at industry level, in order to get a grasp of industrial relations.

The state of the Norwegian shipbuilding industry in 1945

When the Second World War ended, most of the large yards in Norway were incapable of building the modern tonnage that shipping companies demanded. Not only had the war years meant a lack of investment generally in plant and equipment, but the low activity in the previous two decades had resulted in outmoded yards that were basically designed to build ship

2 The BMV shipyard was established in 1855 at Solheimsviken, Bergen. In 1929 it merged with the other local yard in nearby Laksevåg, and subsequently extended its control over local production in the sector. The group was taken over by Aker in 1965. See Ågotnes, *100 år i kamp og samarbeid*, 114. Stord Verft, situated south of Leirvik on the island of Stord, started its activities in 1945 with the construction of small ships, and became a major shipyard after it was bought by Aker in 1956. Aker Stord is the largest yard in Norway and has built both supertankers and the largest production platforms in the world. See Grove and Heiret, *I stål og olje*, 42ff.

types of an earlier era.³ In 1941, the manager of Akers Mek Verksted, one of the largest shipyards in Norway, published an analysis of the state of the industry, which we utilise in this section.⁴ At the beginning of the war, there were eighteen yards in Norway that built steel ships on a regular basis, in addition to seven relatively important yards that mostly did ship repair work, but occasionally also built ships. Of these twenty-five yards, only four were technically capable of building large ships, and even those four had a miserable record during the interwar years.⁵

In the interwar years, the industry suffered under the general economic crisis, in part due to the macro-economic policy pursued by the Norwegian state. Consequently, production activity was low and unemployment high in the industry, as they were in the economy as a whole. Twelve yards closed down between 1920 and 1941, and the rest produced only a fraction of their tonnage capacity.⁶ The yards lost a large share of their domestic market, which was considerable for a small country whose merchant fleet was one of the largest in the world.⁷ Of the ships built for Norwegian shipping companies from 1900 to 1904, 57 per cent were built in Norway, while the corresponding percentage for 1935-1939 was 11 per cent. In absolute figures, the tonnage built was less in the last period than in the first.⁸ At the same time, the fleet had grown, especially in the period 1924-1939, when the tonnage almost doubled.⁹ The growth was due to new ship types: motor-driven ships rather than steam ships, and tankers rather than traditional merchant ships. Almost the whole tonnage expansion in this period was in tankers driven by diesel machinery. And the new ships were considerably larger: on average between 6,000 and 7,000 grt. The Norwegian shipping industry had entered into new trades, especially fuel transport, and typically sailed between continents, rather than between European ports as earlier.¹⁰ In

3 Although the Norwegian fleet grew in the interwar period, the Norwegian shipbuilding industry failed to adapt to the market. The main beneficiaries of ship orders were Sweden, Denmark, and Britain, despite Norway's attempt to indirectly protect and subsidise its shipbuilding industry through a State Shipping Fund in 1928. For this period, see Nordvik, "The Norwegian Shipbuilding Industry", 194-197, and Jones, *Shipbuilding in Britain*, 76, 102-104.

4 Aamundsen, *Reisningen av den norske skibsbyggingsindustri*.

5 *Ibid.*, 18.

6 *Ibid.*, 17.

7 As it had been since the nineteenth century; see Pollard, *Peaceful Conquest*, 236.

8 Aamundsen, *Reisningen av den norske skibsbyggingsindustri*, 7f.

9 *Ibid.*, 10. From 2,521,674 grt in 1924 to 4,737,555 grt in 1939.

10 The market for oil transport was one of few growth areas in sea transport between the wars, due to changes in the international oil economy; the Norwegians were able to take advantage of this. See Herlitz, "Svensk varvsindustri och norsk sjöfart", 45.

comparison, the ships built in Norway in this period were just above 1,000 grt on average, essentially the same as they had been thirty years earlier.¹¹ Norwegian yards still built traditional cargo ships with steam engines. And most of them combined building of new ships and repair work, of which the latter was more profitable.¹² The building of ships was a means to retain the workforce and thereby remain in business. The replacement of steam with diesel engines in ships also called for major investment in new production facilities. In BMV, the poor practice in steam-engine production was first felt in connection with repair work on motor-driven ships. In the 1930s, BMV's repair department started to produce replacement parts for diesel engines, but the existing lathes and milling machines in the machine shop could not work accurately enough to meet the required tolerances, and new machine tools had to be installed in order to achieve this production.¹³ After the war, diesel replaced steam in small ships as well, and the production line for manufacturing engines had to be totally renovated.¹⁴

The shipyards consequently had to modernise if they were to compete for contracts on the ship types that accounted for the expansion of Norwegian shipping. With a few exceptions the berths were too small, cranes had inadequate lift capacity, and production machines were old and unproductive. This was no secret for the leaders of the industry; and we can ask why they did not modernise their production facilities in the 1930s. Given the state of most shipyards in this decade, however, this would have required massive investment, and as one prominent manager wrote: "If modernisation had been profitable, they would sooner or later have found the necessary capital".¹⁵ Profitability was obviously crucial: in 1935, the board of the BMV turned down a scheme of modernisation on the grounds that such a large investment would not be profitable.¹⁶ In fact, the largest Norwegian shipyards almost without exception did not pay dividends to their shareholders in the period 1925-1939. In this period, many yards built ships with no profit margins, and were often subsidised by municipal authorities in order to maintain production and local employment. Ship repair work financed the overhead costs in shipbuilding for most firms. Even Aker, the relatively modern Oslo yard with a sub-licence from Burmeister & Wain

11 Aamundsen, *Reisningen av den norske skibsbyggingsindustri*, 11ff.

12 *Ibid.*, 25.

13 Interview, Bergen Jern og Metall, 28 January 1982.

14 There was one exception, a steamship delivered from BMV in 1947: Gilje, *Skip fra vik og våg*, 112f.

15 Aamundsen, *Reisningen av den norske skibsbyggingsindustri*, 21f (our translation).

16 Myran and Fasting, *Herfra går skibe*, 200.

of Copenhagen to build marine diesel engines, had a bad record after the war contracts were completed in 1924.¹⁷

During the Second World War, managers began to plan how to rebuild the shipyards when the war ended, anticipating a post-war situation that would offer new possibilities. They reasoned that the shipbuilding industries in other countries would be busy rebuilding their own countries' fleets to make good their war losses.¹⁸ This was also the case for the Norwegian fleet, which had suffered serious losses. They also correctly assessed that monetary transfers across borders would be restricted in post-war Europe.¹⁹ Consequently shipping companies would have to build their new ships at home. Representatives of the shipbuilding firms had discussions during the war with the Norwegian government in exile in London on future conditions for the yards, and secured support for their plans for modernisation on the basis of extended production capacity. After the war, markets for most commodities were strictly regulated in Norway, especially imported products, such as steel plates and profiles, which were not manufactured in Norway. The government controlled the use of raw materials in order to prioritise what it considered important. It was a necessary precondition for the rebuilding project that the government prioritised shipbuilding, which it did. In the following years, the larger yards were redesigned in order to build larger ships and introduce new production methods. Inspiration came from the US Emergency Shipbuilding Program, which utilised assembly techniques borrowed from other industries, and from Swedish yards, which Norwegian managers had studied during the war.²⁰

Work, workforce, and industrial relations

The typical shipbuilding firm before the war had produced almost all parts of the ships in-house. In addition to the yard department, where the hulls were built, there was a machine shop for the building of steam engines and other mechanical equipment, a boiler shop for production of steam boilers, a foundry for forging of machine parts, and several smithies and departments for woodworking, sheet metalworking etc. The workforce therefore

17 Aamundsen, *Reisningen av den norske skibsbyggingsindustri*, 21f.; Solstad, *Medaljens forside*, 302.

18 Kaarbø, "A/S Bergens Mekaniske Verksteder under den tyske okkupasjon 1940-45".

19 For currency restrictions, see Petersen, *Et kvartsekel i fremgang*, 34ff.

20 Andersen, *Fra det britiske til det amerikanske produksjonsideal*.

had a wide variety of specialised occupations, of which foundry workers, machinists, boilermakers, blacksmiths, platers, and riveters, together with their respective unskilled helpers, were the most numerous among the metalworking trades.²¹

The metalworking industry comprised several types of firms in addition to shipyards, including light and heavy engineering workshops, foundries, etc. Local trade unions were formed on the basis of distinct occupations with members from diverse workplaces. At the outbreak of war in 1939 the nine unions of metalworkers in Bergen together had around 2,500 members.²² All these groups formed unions in the towns and were active in the early trade union movement. In Bergen, the shipyards were by far the largest workplaces for metalworkers, and the shipyard workers often dominated among the workforce and in the unions.²³ The unionisation of the workforce had begun in Bergen in the 1890s. Even if the workers' collectives were divided in many and diverse unions, they tended to unite in action when conflict with owners and management was imminent. From the beginning of the 1900s, the members of the different unions in each workplace formed a club inside the workplace to co-ordinate their interests. By the 1930s this organisational unit had become an important union asset in furthering workers' interests. For example, during the period of high inflation in the mid-1930s, the club at Laksevåg organised a series of then-illegal actions to gain wage rises.²⁴

Unionisation of the workforce at a national level also dates from the 1890s.²⁵ The Union of Iron- and Metalworkers (Norsk Jern- og Metallarbeiderforbund, NJMF) organised workers in engineering, steel construction, and shipbuilding.²⁶ The NJMF was one of the national trade union federation's

21 The woodworkers in the shipbuilding industry belonged to three different trades, which were usually in different departments: carpenters, joiners, and patternmakers. In Bergen they merged with the metalworkers in a joint union in 1971. See Ågotnes, *100 år i kamp og samarbeid*, 204ff.

22 *Norsk Jern- og Metallarbeiderforbund. Beretning om forbundets virksomhet.*

23 The members of the machine workers' union, together with the shipbuilders' union, accounted for about half of the 2,500 organised members of the NJMF in 1940: *Norsk Jern- og Metallarbeiderforbund. Beretning om forbundets virksomhet.*

24 Grove and Grove, *Verkstedklubben på Laksevåg*, 25ff.

25 For a general analysis of the industrial relations system in Norway in the period after 1945, see Heiret, "Three Norwegian Varieties of a Nordic Model".

26 Not all groups belonged to the NJMF. Until the LO adopted the industrial form of organisation in 1923, the woodworkers had their own union at the national level, and there were even more national unions organising shipbuilding workers, including the foundry workers, which did not join the NJMF until 1960. Locally, merging sometimes occurred later; see Myran and Fasting, *Herfra går skibe*, 200.

(LO's) major member organisations and soon took a leading role within the national federation. The NJMF organised not only skilled workers in different trades, such as blacksmiths, lathe turners, engine fitters, boilermakers, platers, and so on, but also the unskilled helpers in the metalworking industry. But the organisation was dominated by the relatively highly skilled, and followed a trade union strategy based on the bargaining strength of the skilled members. In 1907, a nationwide agreement was signed with the employers' organisation on wages and working conditions. The main principle of the agreement was one of minimum wages: no one should be paid less than a minimum wage per hour (which was different for skilled and unskilled work). But the normal practice was to pay wages on an individual basis, and the agreement presupposed that actual wages would be higher than the minimum wage, both then and in the future, as employers would tend to pay more to get people with the qualifications they needed. The union urged members to press for higher wages by individually demanding higher payment. In the years up to 1920 it became a code of honour among the self-conscious skilled ironworkers to demand wage rises and, if their foreman refused, then they were morally obliged to quit and find work elsewhere. In periods of production growth, competing firms would welcome skilled workers and willingly pay them more, and there is plenty of evidence that employers' organisations had trouble avoiding "wage spirals" because internal discipline was too weak to hinder the member firms from bidding up the price of skilled labour in this period.²⁷

The normal wage system also included piecework. In shipbuilding, squad leaders would agree with management on a fixed price for a part of the hull, and the team members would then be able to earn more than the hourly wage, with 50 per cent more being the norm. If an agreement was not reached on the price, the work was to be carried out on the basis of the hourly wage. Lacking the extra financial inducement of piecework usually meant that the squad worked slower; thus both parties had an interest in reaching an agreement. Squads included at least one skilled worker, who acted as leader, and as the team's negotiator. He could command the helpers, and the eventual surplus from the job was divided proportionally to the team members' individual hourly wage.

This whole system of regulating work and remuneration was built on relations that pre-dated unionisation and tariff agreements, and comprised relations not only between management and workers, but also between workers of different skill levels, where differences in respect and authority

27 Ågotnes, "Skipsbygging, jernarbeidarar og fagleg kamp", 124.

played a central part. The agreement of 1907 (*Verkstedoverenskomsten*) – which codified the industrial relations for the industry and which has since been revised on the basis of the same principles – accepted the basic conditions in production, but established rules that should secure a share of the produced values for the workers. The NJMF wanted to use the existing strength of its members both in the workplace and in the labour market generally to achieve this. The scope for its strategy was (in addition to securing its own position in the workplace) restricted to get better living conditions for its members (not only wages, but also working hours, holiday entitlement, and social security). Although the outlook of the entire trade union movement was clearly socialist, there was no plan to overthrow the social order in NJMF policy. The social revolution was a task left to the political wing of the labour movement, the social democratic party. Even so, the building of the agreement on working conditions, which added a level of relations (between organisations at national level) to those arising out of production and the labour market, meant increased worker influence on the development of the industry. At the level of the work process, workers had considerable power through the skills that management depended on in order to achieve the needed level of productivity. Through their union organisation, they partly controlled the supply of labour power²⁸ and, through the organisation's position as a negotiating party at industry level, they could influence the rules that regulated the division between capital and labour of the value produced.

The web of relations among the differentiated workforce and between the different levels of the union organisation, and the practices connected with work and organisations which had crystallised over more than fifty years up to the war, left the workforce of the shipbuilding industry with certain attitudes, skills, and other resources for action that formed one of the conditions for the development of the industry in the post-war period.²⁹

28 The percentage of metalworkers who were organised of course varied. It increased in the period up to 1920, then dropped sharply in the early 1920s, and increased again during the 1930s. In 1938 the metalworkers' union Norsk Jern- og Metallarbeiderforbund calculated that 95 per cent of metalworkers were members of the organisation: Olstad, *Jern og Metall 100 år. Bind I. 1891-1940*, 520. After the war, the percentage was still high – 87 per cent is mentioned for 1968: Halvorsen, *Jern og Metall 100 år. Bind II. 1940-1991*, 413. For membership figures in the metalworkers' union, see Bjørnhaug *et al.* (eds), *I rettferdighetens navn. LO 100 år*, tables, 352-361.

29 For an analysis of the background of the formation of attitudes in the workplace, see Veneslan, *Arbeid og erfaring*.

Reconstruction and expanding production, 1945-1960s

The local shipbuilding company in Bergen may serve as an illustration of a typical development of the production system. The Bergen firm, Bergens Mekaniske Verksteder (BMV), was established in 1929 when the two competing local shipyards, both dating from the nineteenth century, merged to form a new company. Both production sites continued their operations, intending to specialise in shipbuilding in Solheimsviken and in ship repair in Laksevåg. The planning of a new yard in Solheimsviken started in the mid-1930s, but little was accomplished before the German occupation (1940-1945), making its realisation impossible. In the meantime, piecemeal news of production methods in Sweden and the USA meant that the prospect for future production was constantly changing. In Sweden, shipyards in Gothenburg had built large ships by means of new techniques starting before the war. In the period 1935-1940 they replaced riveting of the hull with welding. In the late 1940s and the 1950s, block building profoundly transformed the production process. The yards built ships block by block before assembling them on the building berth.³⁰ Before this period, from the 1920s, the successful Swedish industry had fulfilled a large share of Norwegian shipowners' contracts.³¹ News of the exceptional productivity gains in wartime production in the USA also influenced decisions in Bergen. But final plans for renewal were slow to materialise. The plans were continuously revised, and became ever more ambitious during the war; until it was decided by BMV to refurbish its shipbuilding department (for hull construction) in order to produce large ships by means of the new methods. The preliminary aim was 10,000 tons; thereafter the capacity was to be expanded to 20,000 tons. By 1950 most of these plans were completed. The first ship approximating 8,000 tons was delivered in 1952, the first near 20,000 tons in 1958.³² The yard area initially had three building berths and a dry dock; but these structures were removed to make space for two larger berths. A berth crane capable of lifting 20 tons and two tower cranes of 10 tons' lift capacity served the berths. A new block-fabrication hall was erected, equipped with the latest welding plant and equipment and gantry

30 Svensson, *Från ackord till månadslön*, 245, 250. See also Olsson, "Big Business in Sweden".

31 Kuuse, *Varven och underleverantörerna*, 18, and Svensson, *Från ackord till månadslön*. The Norwegian market was the largest buyer of ships from the British shipbuilding industry in this period; see Johnman and Murphy, "The Norwegian Market for British Shipbuilding", 57.

32 Gilje, *Skip fra vik og våg*, 113. In 1963, the first ship of approximately 30,000 tons was built, followed by one of 37,300 in 1966. The last ship built in Solheimsviken, delivered in 1983, was the biggest, 39,270 dwt: *ibid.*

cranes of 20 tons' capacity. During the reconstruction of the shipyard, four ships were built in 1947-1948, with block building being used extensively. As the ships grew rapidly in size, so did the blocks, with maximum dimensions determined by the capacity of the lifting and transporting equipment. In 1954-1955 one of the two new berths was extended and would later have capacity for 35,000-ton ships, and two new berth cranes of 45 tons' lift capacity and a new 60-ton gantry crane for the block-fabrication hall were ordered.³³ As technicians and workers gained experience with the new production methods, and learnt to build ever larger blocks independently of each other, more and more of the construction work was accomplished inside the block-fabrication hall, where the blocks were assembled.

A similar development towards a new organisation of production took place in engine and auxiliary building. Before the war, steam engines and other machinery were built in the same sequential way as the hull. The parts were made to fit together with the others in each individual engine. The year 1945 represented a shift from steam to diesel in propulsion power in the general cargo fleet. Only three Norwegian yards built diesel engines for the large tankers. Others had to buy from sub-licensees, in the case of BMV, notably the Swiss Sulzer marine diesel. The pre-war situation, when most parts of the ship were produced inside the yard, was eroding. However, BMV began to produce smaller diesel engines mainly for auxiliary machinery but also occasionally for propulsion. BMV's new diesel engines were built in series and based on interchangeable parts – therefore expanding production with a premium on productivity gains, and very different from the pre-war production of steam engines. The motor factory emerged inside the yard area in Solheimsviken.³⁴

The new production processes involved a profound transformation not only of the building process, but also of the relations between construction and other areas of production. A precondition for assembling large parts in the block-fabrication hall before putting them in place at the building berth was the increasing concentration of control over the process in the drawing office. This was a long-term development in Norwegian yards. What was called "pre-marking" (*forhåndsmerking*) of the constituent parts, which had begun around 1900, was intensified and perfected during the 1950s and early 1960s, when technicians at the drawing office became able theoretically to compute the exact form of each steel plate. Then, equipment could be

33 Høstaker, "Føretak i endring", 55f. and appendix 2; Myran and Fasting, *Herfra går skibe*, 222ff.

34 Myran and Fasting, *Herfra går skibe*, 232ff.

developed which could automatically cut the parts in exact form. From 1960, the plates at BMV were cut by a machine instructed by drawings or (later) numerical data developed in the drawing office before any handling of the actual building material started. (The system was marketed internationally as Autokon.)³⁵ That welding supplanted riveting of course facilitated this process: it was no longer necessary to punch holes in exact positions in the hull plates. However, the plates had to conform to smaller tolerances than before.

The development of more accurate marking and profiling of steel plates in conjunction with welding represented a profound transformation of the shipbuilding process. It affected the vertical division of labour inside the firm. When the exact form of each part could be decided and fixed in relatively detailed drawings, the plate-worker's role in production was eroded. Some of "the work of the mind" was separated from "the work of the hand". With more control concentrated in the construction office, it became possible for the technicians to systematically develop production methods: a necessary precondition both for the mechanisation of the plate cutting and the increasing sophistication of block building. On the whole, the engineers' role in the shipbuilding process was expanding.

The division of labour among the different occupations "on the shop floor" also changed. Several groups disappeared altogether, most notably the riveters. The two major occupational groups in the shipyard were now platers and welders. As a new skilled group, welders had to be trained, and training occurred in the workplace. Platers also had to adapt to new conditions, but still had a key role in production. At this stage, their trade qualifications were necessary to solve unexpected problems and to secure the progress of production. The relations among workers produced by everyday interactions in the workplace also produced a workers' collective in which some workers were recognised as the most capable, but which could also integrate newcomers and pass along the necessary skills. The everyday socialisation processes would also mediate established attitudes as to how a worker should behave, in relation to work, to colleagues, to piecework, and to trade union questions. The collective formed in this way represented a source of strength, and it preserved traditions in ways of thinking and acting.

This work organisation made systematic efforts to rationalise work easier than before. From a management point of view, production became

35 The principles of the Autokon system and its application in shipyard lofting, and numerically controlled cutting of steel-plate fabrication, are presented in Mehlum and Sørensen, "Example of an Existing System in the Ship-Building Industry".

more flexible and, therefore, easier to plan in advance, and offered a real possibility for productivity gains. When building series of similar ships, experience could result in more rational solutions (“the sister ship effect”). With the advent of new technology, management gained more control over the construction work, and could plan rational ways to organise the production process. Norwegian tonnage constructed (grt) almost trebled from 1960 to 1975. The workforce also grew in that period, but at a much more modest pace, an increase of approximately 50 per cent. In 1972, official statistics showed that the Norwegian shipbuilding industry employed 30,352 people, just over 8 per cent of total employment in manufacturing industry. In 1960, the share had been just over 6 per cent – 20,010 people.³⁶

Shipbuilding was also a relatively labour-intensive industry. The proportion of the capital needed to build a ship that was variable (wages plus cost of materials) was relatively high compared to the proportion that was fixed, in production facilities and overhead costs. According to official statistics, the value of raw materials in Norwegian shipbuilding was more or less equal to the value of wages in the 1940s.³⁷ Thereafter, the ratio changed in favour of materials, so that in 1969 it was 2.4 times the wages paid. Even if one cannot infer anything about physical changes from value figures, it is clear that more steel passed through the yards. This corresponded to the business strategy of the firms: the principal means to keep up profitability was building more productively and producing more output per working hour. This was also the rationale behind the investments in heavy equipment such as gantry and other heavy-duty cranes to enhance flow-line production and therefore make possible a more effective use of labour power than hitherto. The overarching strategy was all about the organisation of work. The investments in production facilities did not aim primarily at mechanisation over

36 *Perspektivanalyse for skipsbyggingsindustrien fra et utvalg nedsatt av Industridepartementet i oktober 1972 del II-IV* (NOU 1974:51), 361, and *Statistical Yearbook 1962*.

37 The analysis of the statistical material involves some difficult questions. Statistics Norway's figures include more than 100 production units at the end of the 1960s. At the same time, the government report on the state of the shipbuilding industry (1973) enumerates sixty-one units, each with more than fifty people employed (workers plus technicians): *Perspektivanalyse for skipsbyggingsindustrien fra et utvalg nedsatt av Industridepartementet i oktober 1972 del I* (NOU 1973:58). This latter source shows 16 large yards, each with more than 500 employed; taken together they represent 72 per cent of the total. It is these that account for the building of big ships. When using official statistics, which comprise so many small units, we are perhaps unable to measure tendencies in the principal yards accurately. In addition, there is the problem with breaks in time series. But they give figures for wages paid to workers and technicians, for the value of raw materials, and for value added, and may indicate some tendencies for the industry as a whole.

labour power, as parts of the work process remained dependent on the manual skills of the workers. But in the process, a larger part of labour was taken over by technicians in the construction department, and the ratio between technicians and workers gradually rose. While the ratio between the two groups in 1941 was 10 per cent, it had risen to 23 per cent in 1968. Since technicians' salaries were higher, the ratio of wages paid to the two groups was also higher, 15 per cent in 1941 and 34 per cent in 1968.³⁸

Seen from the employers' perspective, wages represent a cost whether they are paid to technicians or to workers; however, technicians were not included in the workers' collective in the yards, but were rather considered as part of management. From the workers' point of view, the trade unions' principal task was to make their members' income as high as possible. After 1945, Norwegian trade unions demanded what they deemed to be a fair share of productivity gains. The economic regulation of industrial production was built upon a "social contract" to share the gains, with the result that the ratio between wages and profits for long periods remained more or less the same. If we look at the ratio of total wage cost to value added in the shipbuilding industry, it is more or less constant between 1945 and 1969 – fluctuating between 60 per cent and 70 per cent for most years.³⁹

Productivity gains remained difficult to achieve in practice, however. Crucial to their realisation was management's relations to the workers' collective, which could influence production both through working practices and through the different levels of their trade union organisation. Two worker groups held key roles in this transformation process. The platers, who formed the steel profiles and plates for hull construction, undertook the marking, burning, bending, and assembly of the plates and sections to blocks. The most highly skilled platers formed a core group inside the workforce; they represented a marked continuity from the pre-war period, and brought the culture of their strong working-class identification from that period into the new situation. Another important group – ship welders – had largely replaced riveters in the immediate post-1945 decades. At first only the surface plates were welded together, but this was soon extended to most of the basic structures of the hull; even if riveting did not disappear completely before the end of the 1960s, it was mostly confined to ship repair. The yards had to train welders themselves, but it was a more limited skill than plating. BMV began systematic education of welders during the Second World War. Members of the existing workforce learnt

38 *Statistisk Årbok*, various years.

39 *Ibid.*

the new skills, and many new workers trained as welders. In the expansion phase recruitment of new workers was considerable. The workforce in shipbuilding almost doubled from the beginning of the 1940s to 1969, according to official statistics.⁴⁰

Reorganisation of shipbuilding capital, 1960s: group formation

Traditionally, Norwegian shipyards were local single-unit companies, often owned by local shipping interests. They were embedded in local economic and political relations: orders and financing often came from local interests, and the municipality could contribute to secure orders for the local yard. In the 1960s, this constellation of interests changed.

As ships grew bigger, especially tankers, many yards met the barrier of too small a production area. As we have seen, during the 1950s, ships built at BMV grew from less than 3,000 dwt to over 24,000 dwt.⁴¹ In the 1960s, a common type on the building list was 29,000 dwt, and the firm was reaching a size limit. Plans from the interwar years to move out of the city centre were never realised. Similar plans had Akers Mekaniske Verksted situated in Oslo's inner harbour.

Aker was prominent among Norwegian shipyards. It had made diesel engines since 1914; it had built some advanced ships before the war, and in the 1950s had modernised its facilities along the same lines as the other important firms. In 1956 Aker had a ship of 15,000 dwt on the building berth, a size comparable to several other firms at the time.⁴² But thereafter its growth took off. In 1956, Aker acquired Tangen Verft, outside Kragerø, as an extension to its hull-building capacity. Hulls built at Tangen were to be fitted out by Aker in Oslo. The same year Aker bought another firm, Stord Verft, a small shipyard which had been an early adopter of the new building methods, but whose production was small.⁴³ The Aker management had something quite different in mind with this purchase: they had planned for

40 From 12,334 in 1941 to 24,484 in 1969. Both workers and technicians are included: *Statistisk Årbok*.

41 Gilje, *Skip fra vik og våg*, 110–113.

42 BMV, Rosenberg Mekaniske Verksted, and Fredrikstad Mekaniske Verksted built ships of this size. See the building lists at <http://www.skipet.no/skipsbygging/stalskipsverft> (accessed 6 May 2014).

43 Mjelva, "Stord Verft 1945–75", 149ff. According to Mjelva, Stord was the first yard in Norway to introduce equipment for optical marking of steel plates in 1952 (p. 151). At Aker in Oslo this happened in 1955 (Solstad, *Medaljens forside*, 302f.).

production of oil tankers on a much larger scale and had signed contracts to build 35,000 tonners. Soon the construction of a building dock started at Stord; when finished in 1958 it was big enough to build supertankers of 200,000 dwt. Stord became an integrated part of the Aker Group that was now created; we will hereafter refer to it as Aker Stord.

From then on, the size of the ships increased rapidly. In 1966, a turbine tanker of 90,000 dwt left Stord; the next year the size surpassed 100,000 dwt. Aker now also controlled BMV. Tangen and occasionally BMV built blocks that were towed to Stord to be fitted into the huge hulls. By the early 1970s, these tankers were typically around 200,000 dwt, but the size was still growing. The last contracts, signed at the end of 1973, were for ships of almost 500,000 tons. They were never built – in 1974 most of the building programme was cancelled in the wake of the OPEC price hike. The last tanker to be built was 280,000 dwt.⁴⁴ The long post-war shipbuilding cycle was over. But now the oil-extraction activity in the North Sea became an important new market (see below).

The Aker Group was a new type of shipbuilding company in Norway. The Oslo yard was itself owned by a shipping company, but with the formation of the group management's industrial strategy became independent of place, and relations to shipping interests were also widened to the nationwide level. The establishment of Aker as a company group represented the start of a process by which group organisation became common in the shipbuilding industry. Aker controlled a significant part of employment and production in shipbuilding – 28 per cent of total employment in the fourteen most important yards in Norway in 1972. Five other yard groups were formed in the 1960s, and together with Aker they controlled 44 per cent of employment.⁴⁵

The second important shipbuilding group was formed by the industrial conglomerate Kvaerner when the company acquired Moss Rosenberg and later Fredrikstads Mekaniske Verksted, both among the largest shipyards in Norway. Moss Rosenberg specialised in tankers for carrying liquid natural gas, and therefore in part operated in a market sector that Aker did not participate in. Other groups had their own specialities. Having more than one production unit gave the group structure more flexibility in production,

44 Aker bought the majority share in BMV in 1965 (Gilje, *Skip fra Vik og Våg*, 67). For the history of Aker's building of supertankers, see Solstad, *Medaljens forside*, 320-376. In addition to Grove and Heiret, *I stål og olje*, the history of the Stord yard is also analysed in Mjelva, "Stord Verft 1945-75", Mjelva, *Tre storverft i norsk industris finaste stund*, and Trond Haga, "Stordabuen går offshore", *AHS Serie A 1993-4*.

45 *Perspektivanalyse for skipsbyggingsindustrien* (NOU 1973:58), 19.

and made it possible to cut building times, which was favourable to shipping companies, and also meant a reduced need for working capital.

Wage system and work organisation: the workers' collective

The traditional way to organise work “on the shop floor” in the 1950s was, as earlier, by allotting specified tasks to squads as collective piecework. Early in the 1950s, the management of Aker took the initiative to abandon the piecework system. Piecework meant that, when work had to be divided in jobs and allotted to squads, the squads were not interested in doing anything not defined as their responsibility. The system did not encourage workers to keep overall production in mind; squads tended to prioritise what was best for the team. In the 1950s, in some shipyards piecework was seen as a barrier to productivity gains. According to the manager at Stord Verft, all of them had problems with the piecework system.⁴⁶ Managements had begun to consider alternative wage systems, as a way to introduce new forms of work organisation. They were aware of American Taylorist and Fordist management theories, but did not find the solution to their problems with the piecework system there: “Instead of solely stressing technological development, leadership, control and scientific measures, the question of productivity was now made dependent on a common understanding of interest between the owners, management, the employees and the local union. In line with this, wage growth became linked to an *expected* increase in productivity.”⁴⁷ Accordingly, a new wage system was negotiated and implemented by Aker by the end of the 1950s, which consisted of fixed wages, and eventually monthly salary combined with a productivity agreement. The latter stated that, if productivity could be shown to have risen, negotiations (once a year) should result in a wage rise to all workers. Special shop stewards were also formally involved in co-operation to stimulate productivity (“productivity shop stewards”).⁴⁸

In the next decade, the system of fixed wages and productivity agreements gradually spread to other companies in the industry. At BMV, the new system was finally implemented in 1968–1969.⁴⁹ Later, work councils were constructed at company and group level, and trade union representatives in the group

46 Statement from 1957: Grove and Heiret, *I stål og olje*, 87.

47 Heiret, “International Management Strategies”, 110.

48 Sørli, *I samme båt?*, and Grove and Heiret, *I stål og olje*, 90f.

49 Sørli, *I samme båt?*, 161.

acquired the right to meet the top management. This representative system also promoted co-ordination of claims among the local unions in the group. In this way, the relations between managements and the union organisations in the company groups emerged as a new form of nationwide co-operative relations, alongside the extant relationship between national union and employers' federations. Over the years, co-operation based on trust between workers' and employers' representatives allowed higher profitability to develop.⁵⁰

During the long expansion phase, the organisation of work and the content of work itself had changed considerably. However, the workers' collective at the BMV yard was still characterised by a high level of qualifications and dexterity, which were still necessary to build ships.⁵¹ The anthropologist Hanne Müller has described the process of being integrated into this collective in Solheimsviken at the beginning of the 1980s. To become a BMV worker, you had to acquire a habitus completely different from your private life. Wearing the work outfit, boiler suit, helmet, gloves, and protective shoes fostered identity. Over time, workers would learn how to carry out the different work operations and how to handle the many different tools in the most effective ways through instructions from more experienced workers. But workers also learned – and adopted – the established normative system at the workplace through everyday communication, which included learning the internal vocabulary, but also coarse joking at the expense of the newcomer. Conversations during coffee breaks were often verbal jousts tending to establish a hierarchy giving each individual his position in relation to his workmates. The rough tone of the collective interaction tended to polish new workers to fit into the collective, to give them self-assurance resulting from a feeling of mastering the physical and social surroundings. This way of learning to know the workplace, of finding your way around and becoming competent for the work by taking advice from – and being subjugated by – the more experienced workers, was meant to internalise the value system of the collective.⁵² The same integrational mechanisms, working through the everyday intercourse at the workplace – where coarse joking challenged people's personalities – existed at Laksevåg.⁵³ Undoubtedly, this contributed to the preservation of traditions of trade union thinking.

50 Heiret, "International Management Strategies", 113f.; Heiret, "Three Norwegian Varieties of a Nordic Model", 52ff.

51 See also García, "Astilleros, trabajo, cultura, e identidad", 14, who makes the same assessment.

52 Alveng and Müller, *Verftet i Solheimsviken*. Of course, not all new workers will have experienced this socialisation as positive; many must have abandoned the workplace without becoming integrated into the collective.

53 Grove, Heiret, and Ågotnes, "Konsernbedriften som transnasjonal møteplass".

These types of relations were not unique to the shipbuilding industry; the point is to illustrate how attitudes were collectivised at the shop-floor level.⁵⁴ The informal daily interaction among workers provided the context for the forging of attitudes to trade union policy that were expressed through the union organisation in the workplace, the club.

The OPEC oil price hikes starting in late 1973 created a crisis for Norwegian tanker shipping companies, and cancellations of building contracts soon followed for the shipyards. This year therefore represents the most important turning point in the business history of Norwegian shipbuilding companies. However, the crisis did not immediately affect union activity in most yards, even if firms such as the Aker Group had their orderbooks emptied. A transition to production for offshore oil extraction in the Norwegian sector of the North Sea was already underway in some companies, and extraordinary government subventions also contributed to keep the firms running (see below). In the minds of shipbuilding workers, the burning question at that time was a different one: union members were preoccupied with the development in real wages during the rapid price rises starting around 1970. Indeed, the 1970s and 1980s saw an upsurge of union activity, in which workers' collectives at the shipyards played a leading role. We will argue that, in order to understand the dynamic of the mobilisation cycle that followed, we must take into account the normative complex known as the "class compromise" regulating the overall relations between the parties of the labour market. It has been depicted as a social contract, established before the war, and institutionally anchored in the Main Agreement (*Hovedavtalen*) between the Employers' Federation and the Trade Union Federation, LO. The tacit basis for the social contract included the presupposition that workers should have their share of the gains of production, but also that the basis for securing that share was co-operative relations with real union influence over bargaining results, and even over internal organisation of the workplace.⁵⁵ The ideal was to further their interests through the bargaining system, if possible without resorting to open industrial action. An industrial relations system built on co-operation with employers and the state was seen as normal and desirable, and as effective in giving workers their fair share of economic growth. In this period, the normative conception was probably well established in the LO membership, and especially in the metal industry. Questions of fair wages were enmeshed

54 Garcia, "Astilleros, trabajo, cultura, e identidad", makes a similar analysis.

55 Heiret, "International Management Strategies".

in a web of expectations, including opinions on bargaining procedures and attitudes towards industrial co-operation.

It can be argued that this normative foundation of co-operative relations, and not a crisis consciousness, determined union behaviour in the decade after 1973. In this period the metalworkers went through a prolonged mobilisation in defence of claims that involved both material and political issues, and which had important effects on industrial relations and on the government's income policy at the national level.

The transition to a wage system with fixed salaries strengthened the unions' general attitude towards employers. What changed with the new wage system was that the struggle over local wages now took place as part of bargaining on behalf of the whole workforce in the yard, instead of multiple instances of setting piecework rates. As a consequence, for the union members, the local arena for wage increases gained in importance relative to central bargaining.

Seen from the point of view of the other co-operating partners, the benefits included the controlled development of the general wage level, of central importance to employers. During the 1960s, central bargaining was tightly co-ordinated from the top, with more or less the same wage regulations for all parts of the LO's membership. The government aimed at securing moderate development in wage levels.

In a situation with rapidly rising prices from 1970, the club at BMV Laksevåg started a series of protests against stagnating real wages, culminating in metalworkers marching to the city centre in 1973 and again in 1974. The demonstrations voiced the opinion that public spending had become too high, and claimed a higher share of the value produced for workers.⁵⁶ Now government intervened in new ways in the central bargaining processes in order to secure agreements with moderate wage rises, for example, by giving tax reductions and other forms of compensation. But locally wages still tended to rise and, for groups such as the metalworkers, the most important source of higher wages was local collective bargaining in accordance with productivity agreements. In 1978, the employers' federation demanded an upper limit for local "wage drift". This new principle would hinder local bargaining, and the claim was met with widespread protests and a breakdown in the central bargaining process. To gain control over costs, the government then declared a one and a half year "income stop", which prevented wages rises and suspended all existing agreements. Then, in the spring of 1980, the trade union federation agreed to a proposition that restricted the

56 Ågotnes, *100 år i kamp og samarbeid*, 212ff.

right to local bargaining in exchange for a guaranteed minimum income, benefiting low-income sections of the membership. A narrow majority of the LO's members accepted the agreement, even if more than 70 per cent of the members of the NJMF voted against. The metalworkers perceived this as a breach of the principles underlying co-operation. Several years of active organising from the collectives in the shipyards followed. They organised demonstrations and regional shop steward conferences where they co-ordinated their claims. Eventually, they managed to abolish the restrictions on local bargaining in the central agreement of 1982. During the following years, the struggle went on, principally over the minimum wage guarantee, which the employers now wanted to abolish. But the dynamic of the struggle now tended to unite the LO members. The central bargaining process in 1986 ended with a lock-out which the employers lost, and the balance of forces was stabilised at the organisational level.⁵⁷

The events of these heated years show, in our opinion, that the conditions in the shipbuilding workplaces, the practices the workers had developed to cope with them, and their understanding of their place in society tended to give them a prominent role in the social struggle when they felt their vital interests were threatened. But it cannot be interpreted as a path away from the strategy of co-operation. On the contrary, their overarching perspective during the conflict period was to restore the rules of the game. The right to local bargaining was defended as a moral right of basic importance. The outcome also shows a certain balance of forces, both between unions and employers and between different parts of the trade union federation. The attempt to change the rules and thereby weaken the position of those parts of the industrial workforce who had local bargaining rights failed. One precondition for this, we will maintain, is the deeply rooted moral complex called the "class compromise".

Crisis, market change, and restructuring

The long-term effects of the crisis in the shipbuilding market after 1973 were to change the structure of the industry.⁵⁸ Aker's previous success in this market did not mean that the group was competitive on price. Japanese shipyards built supertankers at much lower prices. But they were not willing to build for Aker's customers, because that would be highly risky. These

57 Bjørnhaug *et al.*, "Solidaritetsens grenser", 92ff.

58 For this period, see Tenold, *Tankers in Trouble*.

shipping firms operated in an on-the-spot market for oil freights, and made high profits as long as demand was high. But as soon as the market slumped they were immediately out of business. That was what happened with the crisis in 1973-1974.⁵⁹ The Norwegian government at first met the situation with counter-cyclical measures, giving financial support to the shipbuilding industry. The local trade unions played an important role in the negotiations with state authorities to secure the support; a fact that demonstrates the influence that followed from the established co-operative relations.⁶⁰ Towards the end of the decade, however, this Keynesian solution was abandoned, and a new principle established: the state would not in future favour any given branches of production. Rationalisation and market realities should be allowed to do their work in diminishing production capacity.⁶¹

It could be argued that the state interventions gave the industry the necessary time to establish itself in other markets. Contemporaneously, another economic development of momentous importance had taken place. The beginning of oil and gas extraction in the Norwegian sector of the North Sea demanded products and services that represented a new market for shipbuilding firms. The Norwegian government secured a substantial part of the new market for domestic companies, by a policy of "Norwegianisation", demanding that multi-national operators in the Norwegian sector of the North Sea allowed transfers of technological competence to Norwegian firms. Ultimately, the Norwegian state built and grew its own operating company (Statoil). State policy gave domestic producers an advantage in the market for offshore products. By the time the oil companies were no longer obliged to use Norwegian goods and services and Norwegian yards could not be shielded against foreign competition after the establishment of the European Economic Area in 1994, the industry had already established a firm position in the oil sector.⁶²

The volume of activity in this new sector also represented a new problem for the economy as a whole. Demand was booming and, because of much higher profit margins in the oil industry, government feared a "spill-over"

59 Solstad, *Medaljens forside*, 360ff.; Mjelva, *Tre storverft i norsk industris finaste stund*, 220.

60 Heiret, "International Management Strategies".

61 *Strukturproblemer og vekstmuligheter i norsk industri* (NOU1979: 35), 83. There were several support schemes for the shipbuilding industry from the 1950s, notably state guarantees for the financing of building loans, which resulted in state financing of losses to both Aker and other firms. It is reasonable to say that this support ended in 1980. See Mjelva, *Tre storverft i norsk industris finaste stund*, 211.

62 For the changes in Norwegian policy towards the oil sector, see Sejersted, *The Age of Social Democracy*, 344ff.; Ryggvik, "Norsk oljepolitikk mellom det internasjonale og det nasjonale".

effect by which the cost level in the new sector would be transferred to the rest of the economy. There was much discussion over how much oil production should be allowed to grow without destroying the competitive strength of other sectors. In spite of this, the pace of extraction was, in later years, allowed to rocket. The rising costs in the oil and gas sectors probably had an influence on shipbuilding as did high unit costs for labour, materials, and inflation generally, Norwegian shipowners ordering from abroad, and intensified international competition from East Asian producers.

Many Norwegian shipyards ceased production in the 1980s and early 1990s as a result of changing market conditions, and others had to reduce their workforce. There was a marked reduction in the workforce in the important Oslofjord region, until then one of the strongholds of the metalworkers' union.⁶³ What happened to the workers has not been investigated. It is probable that many are accounted for by early retirement schemes; others must have found work in the industry elsewhere. On the other hand, on the west coast, the production capacity was maintained at more or less the same levels from 1975 to 2000, with a 20 per cent reduction during the following five years.⁶⁴ The difference can be explained in part by production for the new North Sea market. Oil platforms in steel and steel decks for concrete platforms represented big orders. The surviving production sites originally constructed for building supertankers (Aker Stord, and Rosenberg in Stavanger) were well suited for the new products. Aker's H3 platforms represented a substantial production volume before the crisis hit tanker production.⁶⁵ The company built a new yard in 1970 specialising in building these platforms in Verdal in Trøndelag, an important new production unit in the group in addition to Stord, which specialised in steel decks. At BMV, modules for oil platforms were built, and a series of H3 platforms were fitted out.⁶⁶ The same construction and manufacturing methods and

63 The most important yard aside from Aker's yard in Oslo (discontinued in 1982) was Fredrikstad Mek. Verksted in Fredrikstad, where the workforce was greatly reduced in 1988 and which closed in 1993, and Kaldnes Mek. Verksted in Tønsberg, where most activity stopped around 1985. The smaller Moss Værft yard closed in 1987, and Tangen Verft stopped hull production in 2003.

64 Bore and Skoglund, *Fra håndkraft til høyteknologi*, 90–91. In the Oslofjord region, employment in shipbuilding was reduced from around 22,000 in 1975 to fewer than 5,000 in 2005. The western region (Vestlandet) had around 25,000 employees in 1975, a figure that was unchanged in 2000, but with a reduction to approximately 20,000 in 2005. Almost all were engaged in building and repair of ships in 1975, but only 7,500 of the 20,000 in the western region in 2005: *ibid.*, 88.

65 Solstad, *Medaljens forside*, 359f.

66 Gilje, *Skip fra Vik og Våg*, 69.

equipment used in shipbuilding functioned well in production for the oil and gas sectors.

Another dimension of developments in shipbuilding after the 1970s is the transition from the building of large ships to that of small ships. In addition to structures for oil and gas extraction, small, technology-intensive ships have been an important product for the yards in the later period. Later, ships for special purposes, such as supply ships serving offshore platforms, seismic research vessels for mapping oil and gas reserves at the sea floor, and advanced fishing vessels have been built at Laksevåg among other yards. In many cases, medium-sized shipyard groups that had previous experience with this kind of production were able to take advantage of this market. They were not directly hit by the tanker crisis of the 1970s and 1980s, and this probably accounted for some of the takeovers of production sites.

However, even if the capacity was preserved in this region, restructuring still took place that significantly affected industrial relations in the workplaces. The dominant shipbuilding group, Aker, sold its older city-based production units. The Oslo unit was closed down in 1982. The last tanker built in Solheimsviken in Bergen, of 39,000 dwt, was delivered in 1983, and the same year BMV was sold to local investors, who thereafter sold to the Ulstein Group, a smaller but successful shipbuilding firm located on the north-west coast. The Solheimsviken department was then taken over by the workers and employees. Solheimsviken AS produced modules for the offshore market until it had to close down in 1990, most of the time managed by a former shop steward. In 1990 the repair department at Laksevåg was sold out of Ulstein and merged with another local yard. Later, a series of owners successively controlled different parts of the Bergen units. The foundry and the diesel engine factory remained in the Ulstein Group until it was acquired by the British-based Rolls Royce conglomerate in 1999.⁶⁷

The changes in group structure did not stop there. In the Aker Group, Aker Stord and Aker Verdal were now the principal sites for the group's production, which concentrated on offshore installations, even if hull building at Tangen Verft continued (until 2003). Then in 2002, after the Kvaerner Group got into serious economic difficulties, these two principal groups merged, and the shipbuilding activities were eventually organised into Aker Yards. This Aker-owned group was formed in 2004 with a merger with the French conglomerate, Alstom, with yards at St Nazaire and Lorient. But in 2007 Aker sold out of Aker Yards, and the South Korean-controlled STX Europe took over. Aker now organised its activities in the offshore installations market

67 Hammerborg *et al.*, *Jernvilje*, 223ff.

into Aker Solutions. Aker Solutions as a whole is a multi-national group with several market areas and with production units in many countries. Its principal production facilities in Norway – Stord and Verdal – in addition to Aker Egersund, produced platforms and modules for North Sea installations. From 2011 these units were reorganised in a new subsidiary, now under the old name Kvaerner ASA. The news of September 2014 that management were contemplating selling the company, possibly to Chinese interests, underlines the short horizon for ownership in the industry.⁶⁸

The situation after 2000 has also given room for new group formations and new ownership constellations. Eventually, after several bankruptcies, the rump of BMV was in 2002 restructured under a new company, Bergen Yards Holding, which concentrated activities on ship repair and small, technology-intensive vessels at Laksevåg. By 2007, the firm had expanded enormously by acquiring nineteen yards and other firms, among them Rosenberg Verft, Fosen Mekaniske Verksteder, and Landskronavarvet of Sweden, and in May 2007 changed its name to the Bergen Group; its strategy was to supply high-tech products in shipbuilding and in offshore work. In 2010 the group employed more than 2,000 people.⁶⁹ This spectacular build-up was reversed after a few years, however, and economic losses in 2012 forced the group to sell the successful Rosenberg yard. The Australian company Worley Parsons took over the yard, which continues its ordinary activities in the offshore market. Then in 2014 Bergen Group's shipbuilding division, with its remaining two yards at Fosen and Laksevåg, was reorganised as a new company, NorYards AS, and sold to the Luxembourg-based company Calexco Sarl. As a part of this process, the Bergen Group entered into an agreement to sell two of the remaining shipbuilding projects to the shipyard group, Kleven, located in Sunnmøre, Norway.⁷⁰ The Bergen Group's CEO, Asle Solheim, indicated that this sale was a result of the strategic choices made in the summer of 2013 when the board took the decision to reduce its exposure in the shipbuilding industry and to eventually exit from newbuilding activity. The sales have released capital to establish a

68 Kvaerner had already established business connections in China, through a joint venture company with the state-controlled China Offshore Oil Engineering: *Klassekampen*, 12 September 2014.

69 Grove, Heiret, and Ågotnes, "Konsernbedriften som transnasjonal møteplass", 55.

70 See <http://www.bergen-group.no> (accessed 22 March 2014). The Bergen Group's sale to Kleven comprises contracts on construction of two offshore construction vessels. The contracts were signed between Bergen Group Fosen and Volstad Maritime AS in the first half of 2012. Both hulls were under construction at Daewoo shipyard in Romania, to arrive in Norway in the second and fourth quarters of 2014 respectively for outfitting and completion.

specialised site for offshore products at Hanøytangen, north of Bergen. Calexco, which is owned by Kostantijn Zjevago of Ukraine, will continue shipbuilding in NorYards AS consisting of NorYards BMV and NorYards Fosen. These two Norwegian shipyards will – together with NorYards Design & Engineering and NorYards Zaliv (Zaliv Shipyard, Ukraine) – as a strategic partner, form the NorYards Group.⁷¹

In only a few years, the workforce in the Norwegian production units in the Bergen Group was reduced from almost 1,700 to fewer than 300.⁷² This may be seen as a symptom of the shifting fortunes of the firms managing the production in the sector. The activities in the units that are bought and sold are often more or less continued, however, possibly with a repositioning in the markets. A major source of the difficulties for the Bergen Group was losses in shipbuilding projects. Norwegian yards building ships have during the past decades had the hulls built abroad, the Bergen Group yards in Poland and Romania, but without long-term links with the foreign yards they found it difficult to control costs. The restructuring in NorYards is based on the idea of building new stable relations with a Ukrainian yard.

Clearly, this strategy has implications for the existing workforce. The move out of shipbuilding is recognition of the higher value-added content of offshore work, and likely future market, and in part recognition of better-capitalised shipbuilding companies elsewhere.⁷³ All this points to the age-old adage in shipbuilding: liquidity is everything.

Transnationalisation of shipbuilding work

The frequent changes in ownership of production units since the 1980s have meant that the focus of the club activity has shifted. The question of wage level has become less relevant in many workplaces as the more urgent question of staying in business has been on the agenda. Market contraction is not the only explanation; capital structure is also important. There is a striking difference between the way shipbuilding capital is organised today and the situation fifty years ago. While ownership was earlier strongly tied to the production sites, now the company groups buy and sell the facilities, and with a short time horizon. This has been a gradual process, starting with the establishment of the groups in the 1950s and 1960s and their buying up

71 *Ibid.*; *Dagens Næringsliv*, 30 September 2014.

72 *Dagens Næringsliv*, 21 August 2014.

73 See Bergen Group ASA Interim Report, quarter 3, 2013.

of smaller firms, intensified during the contraction years in the 1980s and 1990s, and especially with the striking globalisation of the firms since the 1990s, where free-floating capital operates in almost full independence of the material production structures.

It is also an open question whether we may speak of the same kind of workplaces and the same kind of work as earlier. The production of oil and gas structures and installations has introduced new ways of working and new ways of organisation. Steel work, formerly so extensive, is less important, while e.g. pipefitting and electrical and electronic installations are all more central to the production process. This means that new occupations and other qualifications have become critical. The big orders are often divided in modules built in different production units. The engineering work is normally done in separate firms, while production is organised by means of quality-control systems, which prescribe procedures of working and registering operations. Accuracy is critical: pipes and other parts must fit together, often with only small tolerances. There are also specific certificates that workers must qualify for in order to do specific operations, for example, different welding operations.⁷⁴ Welders now have less room for structuring their working day. Another question is to what extent workers move between production units and work elsewhere, e.g., in platforms offshore. All in all, this form of organisation has undoubtedly altered the relations between workers and between individual workers and the workers' collective.

The mechanism of integration of individual workers into the collective at the workplace has probably changed considerably in most production units. The socialisation of young welders in Solheimsviken changed with the transition to offshore production, with its meticulous prescriptions of methods. Training was now wholly separated from the production process, and skills and norms were not transferred from the older to the younger in the same manner. Because skilled welders (that is, welders with the top certificates, especially in pipe welding) were highly in demand, many were sent on travelling jobs, sometimes for weeks. Their social world was not confined to the home yard, and their identity as skilled workers were no longer tied to the workers' collective.⁷⁵ Individual careers now depended on circumstances other than the respect one could win from mates at the workplace. The conditions for passing on norms and attitudes forged by the experiences of the local workforce had changed.

74 Sirnes, *Fra skipsbygging til fabrikkering av oljeinstallasjonar*, 54ff.

75 Alveng and Müller, *Verftet i Solheimsviken*, 54ff.

But there is also continuity. The institutional framework for co-operation is intact, both at production unit and group level, and workers still have influence on management, especially in groups such as Aker, principally producing for the offshore sector. In the part of the industry still building ships the position of the union interests is more questionable. For example, the Laksevåg yard, now NorYards BMV, had up to 650 workers employed in spring 2014, but in autumn had no new orders; part of the workforce was laid off (retaining employment but unpaid for a period of time), and some were even fired.⁷⁶

Up to 2014, the Bergen Group built small technology-intensive ships, in combination with repair work. The company brings together people with skills on many levels. In ship repair work, which services the coastal fleet, traditional know-how and acquaintance with plant and machinery of many types are important. Some of the old production equipment also made this firm the only one in the region able to perform certain tasks. Simultaneously, they have mastered the cutting-edge technology of advanced products.⁷⁷

The local workforce also represents traditions for industrial relations. Engineering or steel-plate workers approaching the age of retirement represent experience, which also includes norms on how relations in the workplace should be. There is a culture for tackling conflicts, and the union institutions are still there. However, the burning issues are now different, and the conditions of unionised work have changed profoundly. The union, at production-unit level, is far removed from its old position of power. It is an open question whether the yard workplaces are still the basis for the self-assured and influential workers' collectives of previous decades.

The instability of production and ownership since the 1980s has meant that the task of avoiding shutdown has taken top priority for trade unions. In Bergen, especially during the 1990s, much club activity was concentrated on keeping the firms in business.⁷⁸ The local union worked to secure owners with the will to keep up production. This seems to follow from the way capital was functioning: it was more flexible than hitherto, moving more easily from industrial production to (in the Bergen example) property development. In this process, local unions used their strategic position that followed from the three-part co-operative model to influence management decisions. In the case of Laksevåg, the club acted as strategic partner and was involved in negotiations with government,

⁷⁶ *Bergens Tidende*, 19 November 2014.

⁷⁷ Venneslan, Farsethås, and Mortensen Vik, *Geo Celtic*.

⁷⁸ Grove and Grove, *Verkstedklubben på Laksevåg*.

with customers, and with different investor interests to secure viable solutions for the firm.⁷⁹

The most important issue in the earlier phases, wage rises, has become difficult to tackle because of the more precarious position of production units, but also because of the way workers are now recruited. Today we can speak of a true transnationalisation of both production relations and industrial relations. Products may be built partly in other countries, such as hulls built for the Bergen Group, and the workforce is composed of a core of skilled workers with long experience in the local workplaces, younger recruits with local training, and hired groups from outside, either specialists (e.g., in electrical and/or data equipment) or groups from other countries (e.g., welders or painters from Poland and Ukraine). The different groups have their own specific experiences and therefore their own ways of thinking and doing things. They have different employment contracts and may or may not have a relationship with the local union.⁸⁰ To lead a workforce like this in a unifying direction is indeed a challenge.

79 *Ibid.*

80 Venneslan, Farsethås, and Vik, *Geo Celtic*; Grove, Heiret, and Ågotnes, "Konsernbedriften som transnasjonal møteplass".

6 From war reparations to luxury cruise liners

Production changes and labour relations at the Turku shipyard (Finland) between 1950 and 2010

Kari Teräs

Introduction

This chapter analyses how production reforms and labour relations of the shipbuilding industry in Turku were interrelated in the shipyard of Crichton-Vulcan in the post-1945 period. In addition, shipyard work and its wider local and national effects, as well as their connections to the global development of shipbuilding, are examined. One of the objectives of this chapter is to reflect on the factors that have affected the nature and speed of production reforms that have taken place in the shipbuilding industry in Turku. To accomplish this, it is necessary to consider the actions of company management, trade unions, and shipyard employees in a wider social context. The extended operational environment of the shipyard was affected by both domestic and international markets, as well as by national industrial relations.

Strong traditions

In order to understand the period after the Second World War, it is necessary to briefly consider the traditions of shipbuilding in Turku. Shipbuilding as a supply-side industry is particularly sensitive to economic fluctuation, and thus prone to slumps in demand; however, continuity of work has had a significant influence on the industry and employment in the field during the period under study. This is due in part to the conscious preservation of traditions, and in part to the phenomenon known as path dependence: shipbuilding is, in many ways, a sluggish field, and earlier technological decisions have influenced its development in numerous ways.

The first notable factor is the significant role that foreign know-how played in the development of Turku's shipyards since the eighteenth century. From 1737 onwards, an Scotsman, Robert Fithie, created a basis for industrial

shipbuilding in Turku;¹ and in 1842 the first foundry and metal workshop was established. After the Crimean War (October 1853–February 1856) it was acquired by another Scot, William Crichton, who built a new shipyard for his foundry near the mouth of the River Aura. He formed a joint stock company, Wm. Crichton & Co., Ab, and merged with some smaller shipyards. Orders from the Russian navy filled the majority of the yard's orderbook. The warships built for the Russian navy in Turku were usually part of a larger order that would be prepared simultaneously at multiple shipyards, normally according to drawings that the Russian admiralty had acquired from leading British shipyards. Consequently, very little of the actual design work was conducted in Turku. In 1874, another shipyard, Åbo mekaniska verkstads Ab, was founded in Turku, later merged with another firm, and changed its name to Oy Vulcan Ab in 1899. In 1913, Wm. Crichton & Co. Ab was declared bankrupt, and a new company Ab Crichton was established in its place.²

At the beginning of the First World War Finland remained an autonomous grand duchy within the Russian Empire, but this status was placed under great strain during the February and October 1917 Russian Revolutions.³ These events prompted the Finnish Declaration of Independence adopted by the Finnish Parliament on 6 December 1917, which was followed by a short civil war from January to May 1918 when the revolutionary “Reds” were defeated by the conservative “Whites” with support from Germany. After a failed attempt to establish a monarchy, Finland became a republic.⁴

In the early years of Finnish independence in the 1920s and the 1930s, the submarine and warship projects carried out were mainly based on German expertise.⁵ Another important feature concerned the labour relations of shipbuilding. The shipyard was the largest and most significant employer in Turku, and the large munitions and warship orders during the First World War only increased its importance, raising the shipyard

1 Robert Fithie (1705–1772) served an apprenticeship at Djurgården shipyard in Stockholm from 1722 to 1726. He was granted citizenship in Turku in November 1741, and was officially granted a permit to begin to construct his own shipyard and rope-making works on the west side of the River Aura in Turku on 13 July 1747. However, he had begun to build ships earlier, and from 1746 he built ships on a regular basis.

2 Von Knorring, *Aurajoen veistämöt ja telakat*, 75–80.

3 From the twelfth until the early nineteenth century, Finland was part of Sweden, a legacy reflected in the prevalence of the Swedish language and its official status.

4 See Lavery, *The History of Finland*.

5 Teräs, “Turkulaiset telakat”.

workers to a special status, both nationally and locally. After the March 1917 revolution in Russia, shipyard workers grew more radical as their means of livelihood weakened with the decrease and eventual end of shipbuilding orders. For the first time, the metalworkers in Turku occupied the front line of the local labour movement, and simultaneously joined the wider international movement of metalworkers in numerous countries acting against the rationalisation of production, and tightened governmental regulation on labour relations. During the First World War, the joint influence of cataclysmic political and production-related changes consolidated a “militant mentality” among the shipyard workers in Turku. This reflected their local and national significance, and their crucial role in production. This mentality led them to the head the struggle for notable reforms in labour relations, including the implementation of the 8-hour working day in 1917, paving the way for similar reforms in other fields of employment in Turku and nationally.⁶

In 1924, shipbuilding in Turku was concentrated in one large firm, when Oy Vulcan Ab merged with Ab Crichton to form Crichton-Vulcan Oy.⁷

Labour relations and conditions of employment

In Finland, terms of employment were mainly decided locally within each place of employment until the end of the Second World War, as, in contrast to other Nordic countries, industrial employers refused to sign collective agreements with the trade unions. The shipyard in Turku was a substantial local and nationally important employer, and thus, under the circumstances, the changes to its labour relations were reflected in the entire nation. Moreover, the shipyard workers in Turku were highly organised and also had the will to affect industrial relations nationally. Even relatively small disagreements within the shipyard’s labour relations had the tendency to become political, and turn into issues that concerned the industrial relations of the entire country, requiring national politicians to take a stand. In 1927, a strike for collective pay increases lasting more than six months took place at the Turku shipyard, eventually leading to a nationwide lock-out. The workers’ stand attracted national and international solidarity, and the strike’s eventual settlement meant an end to the

6 Teräs, *Paikallisten työmarkkinasuhteiden kausi*, 232-243; Teräs, “Turkulaisten metalityöläisten henki”.

7 Von Knorring, *Aurajoen veistämöt ja telakat*, 88-89, 97.

lock-out policy imposed by the metal industry employers' union. In the end, the strike begun at the Turku shipyard and its settlement resulted in collective pay rises for all the employees who were locked out by employers. The questions of principle that were the main trigger for the industrial activities of 1927 resurfaced in the late 1930s, causing two more large-scale displays of industrial action. Before the mid-1940s, a strike, or the threat of one, was almost the sole means of influencing large-scale questions concerning pay and the terms of employment.⁸

The national significance of labour relations at the shipyard also played a substantial part in strengthening the environment of distrust prevailing within the company. A void existed between the mainly Swedish-speaking management and the Finnish-speaking workers, and, contrary to what was accomplished in numerous Swedish shipyards, the management's various labour policy strategies were not enough to close it. For a long time, the management of the Turku shipyard neglected the development of welfare programmes, and the position of Chief of Welfare was established at the Turku shipyard only after the Second World War. However, the leftist mindset of the workers caused them to take a distrustful attitude towards recreational activities, such as factory sports, that the company organised.⁹

The employer policies did not concern only the Turku shipyard, but also the large Wärtsilä Group, with which the Crichton-Vulcan shipyard in Turku had been merged in 1938. Wärtsilä's managing director, Wilhelm Wahlfors, was the most influential person in the Finnish metal industry. The Wärtsilä Group aimed at observing a uniform employer policy within its companies, which operated in numerous locations in the country; however, it was in the Turku shipyard that the boundaries of the policy were often stretched. It had been established by experience that any reforms and wage drift accomplished at the Turku shipyard were likely to spread over the entire field. In the shipyard's industrial relations, the local, the multi-local, and the national were connected in a complex, if somewhat strained manner.¹⁰ Wärtsilä's expansion continued in 1939 when it purchased a neighbouring boat and engine builder, Andros, and merged it with Crichton-Vulcan.

8 Teräs, *Verstasliikkeistä suurtaisteluihin*, 132-153; Teräs, *Paikallisten työmarkkinasuhteiden kausi*, 325-344, 444-445.

9 Group interview with shipyard workers, 8 February 1989 (Museum Centre of Turku), 21-22.

10 Teräs, "Turkulaisten metallityöläisten henki", 68-76.

War reparations provide work for Turku's shipyards

After the Finnish declaration of independence in December 1917, Turku's shipyards, previously operating mostly on exports to Russia, were faced with a thorough structural change. Thereafter, the Finnish metal industry came to mainly comprise domestic manufacturing, with the state as the most significant source of ship orders. The Turku shipyard company also operated a foundry where production could be switched to fill gaps in ship orderbooks: its products included, for example, quay cranes. In order to be able to construct submarines and warships commissioned by the state, the company invested heavily in the modernisation of the shipyard in the late 1920s and early 1930s. New plant and machinery were acquired; a new shipbuilding berth, two plate halls, and a 100-tonne crane were built. Meanwhile, a new German shipbuilding technique was applied during submarine construction in co-operation with German experts.¹¹

Another large-scale wave of modernisation at the Turku shipyard and foundry took place in the late 1930s after the shipyard had been subsumed into the large Wärtsilä Group. From the year 1932 onwards, the shipyard received orders, mostly involving tugboats, from the Soviet Union. However, an expansion in production occurred in 1936, when the shipyard's orderbook was filled with orders for larger, more modern, and more technically demanding vessels required by both domestic and foreign shipping companies. A vast investment programme was initiated to execute these construction projects; including the construction of a number of notable newbuildings to fulfil the needs of both the shipyard and the foundry. The assembly berths and plate halls in the shipyard were renewed, expanded, and equipped with sturdier cranes manufactured by the company. Large quantities of new machinery, commissioned from leading European manufacturers, were installed just before the start of the Winter War in 1939. Simultaneously with these extensive construction investments, the company decided to begin production of diesel engines in co-operation with the German company Krupp Germaniawerft AG in 1938.¹²

Another significant improvement to the shipyard operation was a dry dock, built close to the mouth of the River Aura with the assistance of the city of Turku, and finished in 1937. By the decision of the government of Finland, the dry dock was appointed for the use of Crichton-Vulcan, which

11 Von Knorring, *Aurajoen veistämöt ja telakat*, 97-104.

12 Von Knorring, *Aurajoen veistämöt ja telakat*, 107-113; Laakso, "Turun teollisuus manufaktuureista bioteknologiaan", 24-26.

significantly increased the company's repair capacity and, in particular, enabled the docking of larger vessels. During the war, the dry dock served as a base for large amounts of ship conversion and repair work. Post-war, the shipyard's repair department worked day and night on vessels that had been damaged in the war.¹³

The series of ships manufactured for the USSR and the technological reshaping of the shipyard in the late 1930s had played a central role in the Turku shipyard gaining orders for the largest vessels that were included in the war reparations for the Soviet Union. The reparations were so vast that two new shipyards had to be established in Turku to meet demand, even with Crichton-Vulcan operating at full capacity. At the peak of demand, fifteen Finnish shipyards were producing war reparations vessels. A separate body, SOTEVA (the Board of War Reparations Industry), was established in Finland to manage and organise the reparations industry in different fields. Most of the reparation orders issued to the Turku shipyard did not involve technologically challenging vessels. This acknowledged that the shipyard had produced the same type of vessels previously, and thus did not require significant additions to its design capacity in order to accomplish the construction tasks. However, a central difference existed in that the series of vessels constructed for reparations were much longer in length than any previously produced series. The shipyard's orders included thirty 800-horsepower tugboats, twenty-four barges of 3,000 tonnes, nine 3,200-dwt freighters, and three 3,000-tonne motor barges.¹⁴

The shipyard required a substantial increase in its labour force, but post-war reconstruction and reparations offered numerous work opportunities in different fields and resulted in a labour shortage. In order to ease the shortage, SOTEVA offered professional courses to train new plateworkers, welders, and outfitting craftsmen. During the war, the number of employees at the shipyard was between 1,000 and 1,500, rising to 2,000 in 1945; by the time the reparations work ended in 1951, the numbers employed exceeded 3,000.¹⁵ At this time, Turku's 3 shipyards had more than 4,500 employees, which highlighted its status as Finland's leading shipbuilding town, and the important role the shipyards had in the town's economy.

13 Laakso, *Turun kaupungin historia 1918-1970*, 420-423; von Knorring, *Aurajoen veistämöt ja telakat*, 106-114, 120, 158-161; Teräs, "Turkulaiset telakat", 324.

14 Harki, *Sotakorvausten aika*, 128-132; Haavikko, *Wärtsilä 1934-1984*, 76; Grönros, *Laivanrakentaja 1938-1988*, 58; von Knorring, *Aurajoen veistämöt ja telakat*, 119; Rinne, "Globaalin kilpailun haasteet ja suomalaisen laivanrakennuksen perinne", 12-13.

15 Von Knorring, *Aurajoen veistämöt ja telakat*, 117, 123; Teknisk årsberättelse 1951, at Suomen Elinkeinoelämän Keskusarkisto (ELKA).

The serial production of reparation vessels offered the means for the rationalisation of production in the shipyard; however, the nature of the production process remained mostly unchanged. Nevertheless, each vessel built for the reparations served as an education and resulted in more streamlined production, although at this stage a uniform system of flow-line assembly production still remained a distant idea. In the early post-war period, Finnish shipbuilding was still largely based on craftsmanship, experience-based knowledge, and the co-operation of numerous trades. The boundaries between the various crafts were, however, clearly demarcated, and each trade group advanced their respective pay issues separately: all of the central crafts had their own shop stewards. Under these conditions, the employees had relatively extensive means of controlling the production process. Original ship drawings were constantly updated during serial production as the workers kept adding incremental improvements to their ways of working. After 1945, shipyard workers were hierarchically organised, and decisions on production were made by squad leaders directly, with the foreman responsible for particular tasks. In tandem with the plateworkers, riveters maintained their status as one of the primary occupational groups of shipbuilding, as the ships built for reparations were largely riveted. Smooth co-operation among plateworkers and riveters was essential to the flow of shipbuilding.¹⁶

The shipyard was able to meet the heavy demands of the war reparations schedule by distributing the work into two or three shifts; the last vessels were delivered to the national commissioner in late November 1951.¹⁷ Crichton-Vulcan had to prepare for the more normal post-reparations climate and increasing competition, but its return to normal market conditions was relatively soft, aided by the Soviet Union placing its first orders based on commercial treaties agreed in 1948; accordingly, substantial new orders were received in the early 1950s. Trade with the Soviet Union was conducted on a bilateral basis, within the framework of general agreements covering five-year periods. In the beginning, the commercial treaties signed with the Soviet Union mainly concerned a type of ship similar to those produced for reparations, but the orders gradually became more varied. Orders still comprised extremely long series production, filling shipyard capacity and providing fuller utilisation of overheads within the shipyard.¹⁸

16 Grönros, *Laivanrakentaja 1938-1988*; Grönros, "Aurajoen rautakourat"; Niemelä, *Ammattirajoista tiimityöskentelyyn*, 43-46.

17 Crichton-Vulcan Teknisk årsberättelse 1951 (ELKA).

18 Von Knorring, *Aurajoen veistämöitä telakat*, 124; Laakso, "Turun teollisuus manufaktuureista bioteknologiaan", 24-25.

Simultaneously, the shipyard was involved in competition for substantial ship orders with both domestic and Western shipbuilders. Being active in two different markets had a positive effect on the shipyard's development: Soviet trade stabilised the shipyard's employment situation and allowed production reforms to enable the company to succeed in Western markets.¹⁹ In the 1960s, the USSR placed orders for a relatively long series of large, well-equipped ocean-going freighters, but from the 1970s onwards the deliveries primarily consisted of technically challenging special-purpose vessels, such as passenger ferries, icebreakers, and cable ships. During the 1970s, between 35 and 40 per cent of the output went to the Soviet Union. However, due to the longevity of Finnish-Soviet general agreements, a significant proportion of the shipyard's capacity would continue to be directed eastwards, even though the importance of Western orders was constantly growing from the 1960s, and these orders were for more technologically demanding ships.²⁰

The late breakthrough of welding

The focus on reparations work had delayed numerous new technical innovations and rationalisation, but in the early 1950s such delays could no longer be afforded. According to the workers' recollections, the end of reparations work resulted in a tense environment at the shipyard as the onset of increasing competition was reflected in labour relations and working processes.²¹ The shipyard lagged significantly behind, for example, its Swedish competitors in terms of welding techniques, but it still had to compete partially in the same markets.²² The first vessel to be constructed almost exclusively by welding at the Turku shipyard was an oil tanker, *Esso Finlandia*, launched in 1949, but welding slowly became more common during the 1950s. It was acknowledged by management that many foreign shipyards had been building completely welded vessels since the 1940s, and that it was a gap that they would have to close. However, many naval architects and ship designers were somewhat distrustful of the endurance of welded structures.²³

19 From the 1950s onwards, ships exported to the USSR amounted to half of the production capacity of Wärtsilä's shipyards.

20 Wärtsilä Group annual reports, 1974-1976.

21 Group interview with shipyard workers, 10 February 1988, 3-5.

22 Svensson, *Från ackord till månadslön*, 235-251. For the British case, see Murphy, "The Health of Arc Welders".

23 Heino, "Muutamia huomionarvoisia seikkoja", 74-78.

Moreover, shipowners' conservatism, insurance companies' reluctance to take a chance on a new method of metal joining applicable to ships, and classification societies' collective wariness all contributed to the delayed introduction of welding. However, all-welded ships were generally introduced in the 1950s as the technique and its application to shipbuilding progressed.²⁴ Welding was initially applied more often in limited areas. However, by the mid-1950s it was generally accepted that constructing an entire vessel by welding was appropriate, not least by savings in weight and hydrodynamic efficiency, and thus riveting could be abandoned. This did not occur overnight and the shipyard underwent a relatively long transition period in the 1950s, with old and new technology working side by side. There were numerous obstacles hindering the wide application of welding; one of the most central was removed when cold bending replaced heating in frame construction in the 1960s, after which "welding was suddenly smoother", as a former welders' shop steward stated.²⁵

The introduction of welding was affected by numerous factors, particularly in the Finnish climate, which is characterised by great temperature variations. When welding was performed outdoors, winter cold and summer humidity caused significant problems for the quality of the welding seams. Furthermore, even when welding indoors in the fabrication halls, the problems could not be entirely avoided as initially the halls were not heated, and were thus prone to humidity in summer and cold in winter. Bad weather conditions delayed the work significantly: in freezing weather it was necessary to separately dry and heat the parts to be welded. A Soviet classification society set severe conditions and limitations for outdoor welding, recommending that it be ceased immediately if cessation was technically possible. Sweden, already ahead of Finland in welding advancements, allowed outdoor welding only with an exceptional permit in the early 1960s.²⁶ Riveting was not similarly susceptible to changes in weather, which was one of the reasons its use was prolonged, and some classification societies demanded, as late as in the mid-1950s, that ships be partially riveted.²⁷

24 Group interview with shipyard workers, 8 March 1988, 1. In the late 1980s, Usko Nurmi, a long-term foreman at the Turku shipyard, recalled that a problem with welding was the warping of steel plates, which was especially bad in the deck structures of the vessels.

25 *Ibid.*, 12.

26 Sorje, "Kylmissä lämpötiloissa suoritettavia hitsauksia koskevia määräyksiä", 142-144.

27 In the UK, the passenger liner *Canberra* was launched by the Belfast shipbuilders and engineers, Harland and Wolff, in 1960. Her hull had riveted frames and three riveted seams, and she was the last significant large vessel built to incorporate significant amounts of riveting in

At first, the possibilities offered by welding were not sufficiently exploited in ship design, and its use became more common mainly by following foreign examples and through experience of practical work. Low-quality welding electrodes delayed progress, and no crucial steps were taken until 1963, when high-efficiency electrodes gradually started replacing traditional ones.²⁸ The shipyard was constantly on the lookout for new welding equipment: earlier, in 1958, it already possessed 441 hand welding units and seven fully automatic and five semi-automatic welding machines. In 1959, shipyard engineer Jouko Sorje had reason to state, in a magazine concerning the welding field, that the automatic machines allowed an increased welding speed compared to hand welding, but he also noted that cutting-edge welding machinery was a very expensive investment.²⁹ This was one of the areas where Finnish shipbuilding lagged behind the more developed shipbuilding countries. Automatic welding had seen its breakthrough in the USA on Liberty-type vessels built during the Second World War, and the technique was widely adopted in Sweden immediately after the war. In the beginning, automatic welding machines were only in restricted use, but they were applied more widely once the work could be moved into fabrication halls and the construction of ships from blocks started.³⁰

It was not until welding became more commonplace that its use enabled the substantial reform of working processes: production-line work increased, work was more frequently divided into different stages, and the wages of different occupational groups were reassessed.³¹ With the drive to more construction in fabrication halls, time-and-motion studies became more common and systematic in numerous departments of the Turku shipyard, particularly in the mid-1950s. The work on new, large-scale prototypes for series of ships was planned, studied, and priced in more detail than hitherto, taking into consideration the increased work efficiency brought about by serialised production.³² Unsurprisingly, the size and targets of series-based efficiencies prompted a constant stream of discord in the labour relations of the shipyard.

the UK shipbuilding industry. See Moss and Hume, *Shipbuilders to the World*, 378–381. See also Johnman and Murphy, “Welding and the British Shipbuilding Industry”.

28 Heino, “Muutamia huomionarvoisia seikkoja”, 74–78; Mäkelä, *Ossin aika*, 32–34; Grönros, *Laivanrakentaja 1938–1988*, 69–71.

29 Sorje, “Nykyisistä hitsausmenetelmistä”, 22–26, 36.

30 Ekman, “Turun hitsaava teollisuus”, 51–55; Mäkelä, *Ossin aika*, 15–19, 31–34.

31 Mäkelä, *Ossin aika*, 43–50.

32 Wärtsilä Group annual reports 1951–1954; von Knorring, *Aurajoen veistämöt ja telakat*, 164.

The fact that welding had become more commonplace affected the organisation of work in many ways: the traditional job description of plateworkers in particular was changed once they assumed some of the welding tasks, and the professional requirements for welders started to develop in a different direction from those of other occupational groups. The welders' professional skills, as well as pay, were at first divided into four and eventually into five classes. It was not possible to learn welding simply through practical training in the same way as, for example, plateworkers could learn their craft, and this enabled welders' professional qualifications to be better controlled than those of other trades. The previously mentioned SOTEVA training courses for welders and plateworkers were short: welders were trained for two months, and plateworkers for only 40 hours. Sheet-iron workers in particular received the majority of their professional training through practical work, normally starting their careers as apprentices working in squads, or in pairs with skilled workers.³³ Once these courses were no longer arranged, the shipyards in Turku started organising six-month welding courses, and the participants had work at the shipyards for a certain period of time. The workers at Crichton-Vulcan were also offered the chance to study in the Gothenburg vocational institute in Sweden, where local shipyards had run vocational schools since the 1950s, but this never became a popular course of education.

The Turku shipyard began organising its own courses in welding and platework in 1957. They included basic and advanced courses in welding for welders, and courses in plating, flame cutting, and tack welding for plateworkers. According to information from the company's technical management, by the end of the 1950s the shipyard had already provided training for approximately 1,200 welders.³⁴ In 1961, the first course for automatic welding was arranged at the Turku shipyard; indeed, emergent information technology stimulated a constant need for new training in the shipyard. There was also a lack of a skilled workforce to operate new, digitally controlled machine tools, computers, automatic flame-cutting and welding machines, and other rapidly improving automatic tools acquired during the 1960s.³⁵

Women were also accepted into the shipyard's welding classes: the first females started work as trainee welders in the early 1970s. Beforehand,

33 Group interview with shipyard workers, 8 February 1989; Teräs, "Työssäoppiminen ja työelämän murros".

34 Ekman, "Turun hitsaava teollisuus", 51-52.

35 Von Knorring, *Aurajoen veistämöt ja telakat*, 131-132.

women had been working at the shipyard as cleaners, but in a step-change at the beginning of the 1960s they were also employed as crane operators.³⁶ In 1958, a head of training was employed at the Turku shipyard, and in 1965 a two-year vocational school was established, settling into a building of its own in 1968. Due to labour shortages, the vocational school had to be extended in the mid-1970s, after which the annual graduate count of the school was approximately 250 students.³⁷

The downside of the training provided for the welders was that riveters were no longer considered to be skilled professionals, and were demoted to common labourers. The number of riveters had begun to drop in the 1950s as welding gained popularity, and during the following decade the entire trade practically disappeared from shipbuilding. This signified a notable cultural turning point in shipyard work: along with the occupational group, a rich professional vocabulary and a significant part of the shipyard's group work culture disappeared.³⁸ Nonetheless, a cohort of riveters retrained as welders, some as sheet-iron workers, and others were moved to less important tasks; some changed profession altogether. As the transition period was relatively long, in the end relatively few workers had to be paid off. Furthermore, the professional skills of riveters were still needed at the shipyard foundry for crane construction and ship repairs.³⁹

Ship repair activities were frequent at the Turku shipyard, and its operational preconditions were much improved when the dry dock was enlarged in 1960, allowing all contemporary Finnish vessels to be docked at Turku. Between 100 and 200 repairs were performed at the shipyard annually in the 1970s, a portion of which consisted of annual overhauls, and another portion of large-scale vessel conversions. In 1979, the Wärtsilä Group's Kotka repair shipyard, specialising in smaller-scale repair work, was merged with the Turku shipyard; during that year, 185 repairs were performed at the shipyards. In 1980, ship repairs at the Wärtsilä Turku shipyard employed 576 workers, comprising nearly one-tenth of the shipyard's employees; simultaneously, 13 per cent of the shipyard's invoicing concerned repair operations. A notable portion of the repair orders came from the USSR and the company increased its capacity for ship repairs through corporate acquisitions; in addition, an 8,500-tonne floating dock commissioned from

36 Ukkonen, *Metallinaiset työssä ja kotona*, 22-36.

37 Wärtsilä Group annual reports 1968, 1976-1979; Grönros, *Laivanrakentaja 1938-1988*, 96-97.

38 Teräs, *Verstasliikkeistä suurtaisteluihin*, 29-33, 93-100; Teräs, *Paikallisten työmarkkinasuhteiden kausi*, 81-88.

39 Group interview with shipyard workers, 8 February 1989, 21; Grönros, *Laivanrakentaja 1938-1988*, 83-84.

the USSR was in operation in 1984.⁴⁰ The ship repair operations, along with the manufacture of diesel engines, had an important role in stabilising the trade cycle that would have otherwise fluctuated due to the changes in vessel order numbers.

Taylorism and piecerate conflicts

Taylorist ideas, which were difficult to apply to shipbuilding owing to the multiplicity of tasks involved, emerged at the Turku shipyard during the war reparations period. The first time-and-motion analysts arrived at the shipyard only in the late 1940s, whereas in many other fields time-and-motion studies had had their breakthrough during the war years. Contemporaneously, numerous recently graduated technicians were hired at the Turku shipyard to work in tasks related to piecework pricing and planning. The pricing of the tasks studied began to move more and more often from the work supervisors to the piecerate settlers in the mid-1950s. However, the workers had little faith in the price settlers' ability to set the correct prices for tasks in the challenging conditions of shipbuilding, and problems concerning piecework rates were a source of continuous tension in the shipyard's labour relations.⁴¹

As tasks were moved indoors and their descriptions were reformulated, the employer would unilaterally adopt new, discounted piecework rates, which they justified with the improvements in working conditions, and the effects that serial work had on contract rates. The workers would not agree to the new terms of contract, which, they maintained, would lead to a consistent decrease in wages. They felt that, as rates had been set unilaterally from the shipyard office, there had been no real chances of negotiation. The conflict surrounding the matter demonstrated the special nature of shipbuilding: the time used for a piece of work could be prolonged due to unexpected causes, normally a lag in the chain of production, accidents, lack of sufficient materials, etc. Another trigger for disputes was the removal of bonus payments for dirty and heavy work from numerous tasks after the work processes had been reformulated, and conditions of work improved. Even when work was partially moved indoors, the working processes, and consequently the rates, would be altered. From the late 1950s onwards,

40 Wärtsilä Group annual reports 1970-1980, 1984.

41 Group interview with shipyard workers, 8 February 1989, 11, 21; Haavikko, *Wärtsilä 1934-1984*, 72; Mäkelä, *Ossin aika*, 37-38.

technical innovations caused wages to become a cause of serious conflicts at the shipyard. The disagreements mostly concerned the benefits of work rationalisation and serial work, and their distribution between the employer and the employees. The employees consistently felt that all of the benefits of rationalisation were flowing to the employer.⁴²

The different occupational groups took part in negotiations on discounted piecework rates led by their respective shop stewards, and frequently the employees would switch to working for time-based rates, allowed by the collective agreement, if the rates could not be settled locally. This was fairly common in the 1950s. Occasionally the disagreements would be taken to trade unions for negotiations. The employers did not always agree to local negotiations, nor would they acknowledge the status of the department shop stewards, some of whom were discharged during the labour conflicts of the late 1950s. On the shop floor, negotiating machinery remained relatively underdeveloped, and the atmosphere grew more hostile during the second half of the decade when piecerates were systematically redefined.⁴³

During the interwar period, work-related issues resulted in strikes due to the weak negotiation machinery, and later strikes became an extra step in negotiations. If the disputes could not be settled quickly enough, the negotiations would normally be "hastened" with a short strike, and it was only after this that the serious negotiations would begin. This reflected, and simultaneously strengthened, the adversarial and distrustful atmosphere at the Turku shipyard, where the power relations of the working life surfaced easily. According to the workers, the three-step negotiation system was too slow, too rigid, and too centralised, with the management of the Wärtsilä Group wishing, not unusually, to keep a tight rein on the company's pay policies.⁴⁴ The employees used strikes to highlight the importance of their demands, and to show the employers that, as a group, they were serious about the issues. The relationship that shipyard workers had with strikes can be characterised by stating that strikes were no longer considered a break in everyday life, but rather a part of it.⁴⁵

In their own estimation, many shipyard workers gave strikes emphatically social meanings and did not wish to regard them as merely a means to an end towards increased financial benefits. In the early 1980s, one of

42 Mäkelä, *Ossin aika*, 37-50.

43 *Ibid.*, 21-24.

44 Kauppinen and Alasoini, *Työtaistelut telakoilla*, 156-168; Niemelä, "Miksi telakoilla ei enää lakkoilla vanhaan malliin?", 146-147; Niemelä, *Ammattirajoista tiimityöskentelyyn*, 90-92.

45 Cf. Kettunen, "Strike: An Outdated Topic?"

the shipyard's shop stewards answered a question presented by researchers concerning the financial losses caused by strikes, by stating that too much attention was being paid to counting the losses; he emphasised that strikes gave "additional value in the eyes of the workers themselves, and even the opposite side would show some respect".⁴⁶ The shipyard's communist-led trade union made conscious efforts to maintain a fighting tradition, which it regarded as an asset among the workers when handling issues relating to wages and other terms of employment.

Concerning labour relations, the shift from serially produced ships to one-off production, and the increasing complexity of the ships built, made piecework pricing technically more difficult and thus more liable to cause conflict. It became more difficult to take disturbances or changes to production chains into account when setting contract rates; thus prices would often be decided afterwards, based on arbitrary interpretations and prone to causing disagreements. In one-off production, the drawings could no longer be fixed as in serial production, where small alterations were common and it was possible to constantly take advantage of knowledge gained from previous experience.⁴⁷

Strikes

According to a study conducted on the industrial action that took place in Finnish shipyards between 1972 and 1982, two-thirds of the strikes were related to pay disputes, of which a majority concerned piece rates. There was a clear increase in the number of strikes at the beginning of the 1970s, when twelve strikes took place at the Turku shipyard, but at their highest the numbers reached eighty-seven strikes in 1974 and ninety-one strikes in 1980. At the Perno shipyard, the number of strikes altered between seventeen and eighty-nine between the years 1976 and 1982. The economic depression had a clear effect on the numbers of strikes: when the economy eventually improved during the second half of the 1970s, the number of strikes increased. Work stoppages at the shipyards tended to occur as a result of wildcat strikes and concerned only certain trades in wage competition with each other. At the Turku shipyard, welders, plateworkers, pipefitters, carpenters, and engineer fitters were at the head of the strike statistics. The proportion of strikes concerning the entire shipyard (all

46 Kauppinen and Alasoini, *Työtaistelut telakoilla*, 52-56.

47 Niemelä, *Ammattirajoista tiimityöskentelyyn*, 53-54.

occupational groups) of all strikes at the workplace was 10 per cent at the Wärtsilä shipyard in Turku, and 14 per cent at the Perno shipyard (from 1976 to 1982). Measured in strike hours, their share in Turku was 53 per cent and 58 per cent in Perno respectively. Strikes concerning the entire shipyard were primarily used to influence matters outside the workplace, normally the collective-agreement negotiations held between the labour market organisations nationally. In the 1970s and at the beginning of the 1980s, shipbuilding was the most strike-prone branch in the engineering sector and in the Finnish economy as a whole.⁴⁸ One of the outcomes of the Wärtsilä Group's special role in determining Finnish labour relations took place in 1985, when the legal maximum amount of strike fines was increased ninefold, and the law became known as "Lex Wärtsilä" among the public. The objective of the law was to make the threshold for strikes much higher, as it was viewed as considerably too low and regarded as a major problem especially for Wärtsilä Group's shipyards.⁴⁹

Sub-contracting

Another source of internal tension at the Turku shipyard was sub-contracting: a form of employment that management relied on to alleviate skill shortages, which became critical in the early 1970s when the shipyard started placing larger orders to suppliers outside the shipyard and increased the use of external labour.⁵⁰ Through sub-contracting, the shipyard management also aimed at cost savings, bringing more flexibility to the production process, and enabling shorter production times for the ships. One of the factors affecting management decisions may have been that sub-contracted workers would dilute the shipyard's own departments that were liable to strikes. In the midst of the shipyard crisis at the end of the 1980s, sub-contracting became increasingly common, while the number of the shipyard's own employees was cut. Sub-contractors were hired from Germany, as well as from other Nordic countries. It was soon discovered that promoting the use of sub-contracting over the shipyard's own permanent workforce to this extent was, in fact, a great financial error, as costs of sub-contractors rose steadily. Moreover, it caused friction between the sub-contractors and the permanent employees, disturbing production. Even if the sub-contractors

48 Kauppinen and Alasoini, *Työtaistelut telakoilla*, 40, 47-62.

49 Teräs, "Turkulaisten metallityöläisten henki", 75-76.

50 Wärtsilä Group annual reports, 1973-1974.

were able to produce ship parts more affordably than the shipyard itself, this was not the case for installation work. Already in the early 1970s, the shipyard's trade union opposed the use of sub-contractors, in particular in outfitting: it was a question both of pay and of defending the traditions of occupational groups.⁵¹

In many West European shipyards, fixed hourly wages had been a reality ever since the 1970s, as piecework had caused conflicts in labour relations and complicated the solving of the organisational problems in shipbuilding.⁵² At the Turku shipyard, the aim had been to increase task flexibility and co-operation between separate working groups through group tasks and large-scale projects; however, they, too, only led to more conflicts and strikes. In spite of the failure of these new types of tasks and other reforms to lower the thresholds between different occupations, they did, for their part, pave the way towards hourly wages and merit pay. It became very difficult to maintain a piecework system in respect of the one-off production of ships, because the production conditions were so variable. After the transition period, it was easier for both the shipyard management and the employees to accept the idea of abandoning piecework. At the Turku shipyard, this step was taken only at the end of the 1980s, when Wärtsilä exited the shipbuilding industry in 1989 after its bankruptcy.⁵³

The new shipbuilding company, Masa-Yards, formed with the aid of shipping companies that had ships in various phases of construction at Wärtsilä's shipyards in Helsinki and Turku and aid from the Finnish state, was consciously oriented towards management-union co-operation instead of antagonism. Negotiations were improved once the decision-making was taken directly to the shipyard level, and because the new, co-operative climate brought about by the international shipbuilding crisis allowed a fresh start. This was accomplished on the grounds of a common understanding of the reasons that had led to the crisis. Co-operation and mutual trust were maintained for some time, but, little by little, friction emerged between the shipbuilding company's management and the shipyard's trade unions. In the mid-1990s, the good negotiating spirit that had prevailed during the first years of the decade was somewhat diminished; however, the previous antagonistic situation was avoided. Nevertheless, the increase in large-scale turn-key sub-contracts would occasionally cause discontent

51 Grönros, *Laivanrakentaja 1938-1988*, 89-90; cf. Mantere, *Lippulaivan haaksirikko*, 12-13, 22-24; von Knorring, *Aurajoen veistämöt ja telakat*, 142.

52 Svensson, *Från ackord till månadslön*, 346-368.

53 Niemelä and Leimu, "Job Redesign in Finnish Shipyards", 499-500.

in the shipyard's labour relations. The yard's trade union criticised the management for neglecting the shipyard's own employees, as there were sub-contractors in turn-key projects, working on tasks that had been assigned to permanent workers who had either been laid off or were under the threat of being laid off.⁵⁴

In the shipyard's labour relations, strong, craft traditions and rigid boundaries between occupational groups complicated production-related reforms. According to Jukka Niemelä, over the course of a long period of time, work organisation at the shipyard developed into an mixture of Taylorism and traditional craft production, the latter remaining vibrant, especially in the outfitting department.⁵⁵ The craft tradition was still alive at the beginning of the 1980s, and Taylorist methods never became as strongly implanted in the Finnish shipbuilding industry as they did, for instance, in the Swedish yards in their golden period during the 1950s and 1960s.⁵⁶ In the 1990s, Masa-Yards tried to modernise and to develop the squad tradition of shipbuilding. Group work was discussed and implemented under the heading "team work". Through team work, management tried to enlarge tasks, to remove skill demarcations, and to improve communication and co-operation between the production departments and other departments. Since the change to co-operation in industrial relations took place in 1989, job redesign has not aroused stiff resistance at the yard where the local union accepted functional flexibility. In Turku shipyard (Masa-Yards) the union was active in reorganisation issues which ran against long-established traditions of shipyard trade unionism.⁵⁷

Block fabrication and ship design

At the Turku shipyard, block fabrication was introduced in the 1960s and adopted gradually. The first blocks to be fabricated were deck blocks. Blocks could be assembled from mostly standardised parts, which were more and more commonly prefabricated in factory-like conditions. The shift to block fabrication required large investments in cranes with a significantly higher lifting capacity. In the 1950s, the lifting capacity of the shipyard's cranes was

54 Niemelä, *Ammattirajoista tiimityöskentelyyn*, 55-60, 114-117.

55 *Ibid.*, 49; Niemelä, "Kriisin kautta joustavaan tuotantoon", 104-105.

56 Cf. Svensson, *Från ackord till månadslön*, 302-305.

57 Niemelä, *Ammattirajoista tiimityöskentelyyn*, 45, 48-53; Leimu, Niemelä, and Pusila, "Johdanto", 18-19; Niemelä and Leimu, "Job Redesign in Finnish Shipyards", 498-500.

10 tonnes, but it reached 60 tonnes in the late 1960s; it was not until the early 1970s that the old machinery was finally replaced with 100-tonne cranes, manufactured at the shipyard. The size of the blocks grew proportionally with the increase in crane capacity.⁵⁸ According to ex-employees of the shipyard, it was the capacity of the lifting equipment that played a crucial role in the development of block assembly; particularly after all of the technical problems previously posed by welding had been solved.⁵⁹

The increase in lifting capacity meant that, from 1970 onwards, it was possible to systematically develop larger block assemblies and modular production at the Turku shipyard. It was essential that the time needed for outfitting, previously performed separately and only after the ship's hull had been finished, could be significantly cut through block outfitting and prefabrication. As late as the 1960s, outfitting would be started only after the hull had been finished; in the 1970s, it could be performed after laying down the keel, when the hull of the ship was assembled of blocks on an assembly base. In the next phase, in the 1980s, it was already possible to perform a notable proportion of the outfitting directly on the blocks, significantly shortening the time needed for finishing a ship. The ships, previously built in consecutive phases, could now be built more and more often in overlapping and simultaneous stages.⁶⁰

Welding and block-fabrication techniques required not only improved lifting equipment, but also the renewal of the shipyard's building stock. The construction work for an assembly base, targeted at large ships, had begun in 1949, but it was not until the mid-1950s that a conscious effort was made to expand and modernise the building stock of the shipyard to make it more adaptable to new production technology. Finally, in early 1960s, halls suitable for block fabrication and outfitting were finished on both the east and the west sides of the shipyard.⁶¹ Cutting-edge optical flame cutters, hydraulic presses, and additional tools for automatic welding were acquired for indoor use. These renewal projects also increased the competitiveness of the Turku shipyard in Western markets, even though the technical level of the shipyard's equipment was lagging behind its competitors, including Sweden, where block fabrication had been adopted much earlier. The employment-increasing effect of the deliveries to the

58 Grönros, *Laivanrakentaja 1938-1988*, 80.

59 Group interview with shipyard workers, 8 March 1989, 12-14.

60 Grönros, *Laivanrakentaja 1938-1988*, 79-81; Niemelä, *Ammattirajoista tiimityöskentelyyn*, 45-46.

61 Wärtsilä Group annual report, 1960.

USSR began to diminish in the 1960s, when the number of special-use vessels included in the commercial treaties signed between the countries began to drop. Thus, in the 1960s, the shipyard had to compete for ship orders from domestic shipping companies, whose orders increased in number due to state support, as well as for orders from the Nordic countries. In the beginning of the following decade, the proportion of the orders received from Scandinavian countries varied between 30 and 47 per cent by invoice value, while the share of domestic orders was between 10 and 20 per cent.⁶²

In the 1960s, block fabrication and the construction of special vessels demanded significant additions to the shipyard's design capacity. The objective was to accomplish an all-inclusive design system based on information technology and allowing the execution and management of increasingly challenging projects. A separate IT department was established at the shipyard in 1966 when the significance of information technology in production and ship design grew notably. In same year, the Crichton-Vulcan yard's name was changed to Oy Wärtsilä Ab Turun telakka. In 1967, the shipyard saw the birth of a separate department for product design and projects involving special vessels,⁶³ and Wärtsilä shipyards signed a technical co-operation agreement with the Kockums shipyard at Malmö, and in this context a Saab computer was ordered from Sweden for use at the Turku shipyard. Information technology-related co-operation with Kockums resulted in an administrative computer information system named "Project Q", whose objective was to considerably rationalise and integrate the planning and monitoring of material flows, labour, and costs. The system required considerable training and education of employees and was thought to be fully implemented at Wärtsilä shipyards in 1971-1972.⁶⁴

In 1969, the Swedish consultancy MEC launched the first production engineering-related development project in the shipyard's eastern assembly hall, and in the following year it offered its expertise for the launch of a new block-fabrication project. MEC launched time-and-motion studies in the different departments of the shipyard to change more than 80 per

62 Wärtsilä Group annual reports 1970-1975; Grönros, *Laivanrakentaja 1938-1988*, 79-80; Laakso, "Turun teollisuus manufaktuureista bioteknologiaan", 25.

63 Grönros, *Laivanrakentaja 1938-1988*, 59; von Knorring, *Aurajoen veistämöt ja telakat*, 133.

64 Wärtsilä Group annual report, 1967; Haavikko, *Wärtsilä 1934-1984*, 120-121. Kockums sold the same system to other competitors as well. In the 1990s, the Kockums system was said to have been used by about 300 shipyards worldwide: Nilsson (ed.), *Kockums marina fartyg*, 232-233. I am very grateful to Tobias Karlsson for this information.

cent of operations to piecerates based on the MTM system; the consultancy promised a productivity rise of 20-30 per cent. The implementation of the MTM system triggered numerous disputes at the shipyard from the end of 1960s.⁶⁵ According to the Wärtsilä annual report, there were over 600 employees working in the “large, first-class” design departments of its shipyards in the mid-1970s. In order to succeed in the context of a global overcapacity for shipbuilding, the company’s shipyards channelled their design work towards new and more challenging types of special-purpose vessels. The proportion of white-collar workers at the Turku shipyard was around one-quarter in the mid-1970s.⁶⁶

The old shipyard area, located by the mouth of the River Aura in Turku, grew too crowded for large, specialised vessels and provided no possibility for flexible, factory-like production. With the shipyard’s production capacity reaching its boundaries, in the late 1960s management began to develop the idea of founding a new “ship factory”, following the example of Götaverken in Gothenburg. The project was already well underway when, in 1973, its progress was further hastened by the oil crisis, which increased the global demand for LPG vessels used for carrying liquefied petroleum gas. For their design, too, the shipyard resorted to international co-operation: in 1972, the Turku shipyard had signed a licensing agreement with the Norwegian Moss Rosenberg Verft AS. After the positive outcome of the negotiations held with the Norwegian shipowners’ group concerning an enormous order for seven LPG carriers, a final decision was made to build a new shipyard in Perno. The building dock commissioned in 1976 at the Perno shipyard was 250 m long, 80 m wide, and 10 m deep, and it was equipped with 600-tonne gantry crane and two 50-tonne outfitting cranes; the building dock was later extended to 365 m in length and 15 m in depth to suit even larger LPG carriers and cruise liners. Notable investments were made to acquire efficient controlling systems, CAD/CAM technology and more automatic production tools were allocated to Perno in the 1980s.⁶⁷ The Turku shipyard’s operations were gradually moved from the River Aura shipyard to Perno, which mainly served as a shipyard for outfitting and repairs until the beginning of the 1990s.

65 Grönros, *Laivanrakentaja 1938-1988*, 60; Mäkelä, *Ossin aika*, 130-138. The MTM (Methods Time Measurement) system is an industry time-and-motion analysis system developed in the 1940s.

66 Wärtsilä Group annual reports, 1974-1976.

67 Wärtsilä Group annual reports, 1974-1976, 1984.

The economy

The drop in the global tanker market took place during the construction period of the Perno shipyard; however, the Wärtsilä management had not invested in the construction of tankers, which had been the basis of operation for Swedish and many other West European shipyards. Once the Perno shipyard was set for use, the Turku shipyard could concentrate on building large special-purpose vessels. The rise in oil prices caused by the oil crisis in the 1970s was an advantage to Finnish shipyards, as Finland was able to increase the number of ship deliveries to the Soviet Union and thus pay for the importation of Soviet oil. Compared to other West European countries, the entire Finnish shipyard industry was able to keep its order numbers and employment rate exceptionally steady until the mid-1980s. The markets and employment levels of Finnish shipyards fell nearly a decade later than those of their Western competitors, as the Finnish shipyard crisis did not start until the late 1980s. Then, the number of exports to the USSR began to decrease, and the shipyards were unable to find a substitute market for Soviet orders. Furthermore, the implosion of the Soviet Union in 1991 brought to an end most of the bilateral trade between the countries. The radical decrease in global market prices and the artificially high strength of the fixed exchange-rate Finnish mark during the boom years of the 1980s, when financial deregulation included the removal of bank borrowing controls and liberalisation of overseas borrowing and consumer debt controls, further accelerated the crisis in Finland and fuelled a debt mountain. Competitive devaluations had been a feature of the Finnish economy, and were particularly valuable to its large paper industry, which mainly traded in US dollars. The early 1990s recession in Finland was particularly damaging and by 1992 – after the artificially fixed exchange rate had been abandoned and the mark had floated on foreign exchanges – it had lost 12 per cent of its value, and artificially high nominal prices dropped accordingly. Many entrepreneurs who had borrowed money denominated in foreign currency were ruined as the value of the mark during the recession depreciated by almost 40 per cent. In all of this, the price competitiveness of Finnish shipyards was weakened by the fact that the state refused to pay direct production subsidies to the shipyards.⁶⁸

68 Niemelä, *Ammattirajoista tiimityöskentelyyn*, 31-32, 40; Mikko Uola, *Meidän isä on töissä telakalla*, 482-484; Niemelä, “Kriisin kautta joustavaan tuotantoon”, 104.

Wärtsilä

Earlier, in 1986, Ab Wärtsilä Oy and the state-owned Valmet Oy decided to merge their shipyards to reduce overcapacity and bring detrimental competition between the companies to an end. The rationale of the merger was to close down the Valmet shipyards and to centralise shipbuilding in the stronger of the companies. The new shipbuilding company, known as Wärtsilä Marine, began operations in early 1987. Due to problems relating to the underpricing of contracts, its organisation of production, liquidity problems, labour shortages, and the combined effect of oversupply and a lack of demand, Wärtsilä Marine ran into financial trouble and eventually went bankrupt in 1989, leaving the future of Turku-based shipbuilding hanging by a thread. In the end, the industry's centuries-old traditions were allowed to remain uninterrupted, as shipbuilding in Turku was continued under the company Masa-Yards, founded largely on financial support from the Finnish state. The new company continued the interrupted construction of passenger ferries, and the numerous new ship orders, which filled its orderbook during its first year of operation, were enough to secure employment at the shipyard. However, the ownership of the hastily formed company was not stabilised. The company's future and orderbook were strengthened in 1991 when the Norwegian conglomerate, Kvaerner, became its largest shareholder. That year, the shipbuilding businesses of Holming Oy of Rauma and Rauma-Repola were merged to form Finnyards, and in the mid-1990s Kvaerner purchased Masa-Yards. In 1999, Kvaerner announced it would give up shipbuilding operations, but the reorganisation of the Norwegian company resulted in the founding of the Aker Kvaerner Group, under which the Turku shipyard could continue its operations using its old name.⁶⁹

The new century

The Turku shipyard at Perno concentrated increasingly on car and passenger ferries and luxury cruise liners, and at the beginning of the 2000s the share of shipyards at Turku and Helsinki of these markets worldwide was around an impressive 25 per cent.⁷⁰ The Turku shipyard built ten large-scale cruise

69 Laakso, "Turun teollisuus manufaktuureista bioteknologiaan", 26-29; Grönros, "Lustjakter, passagerfartyg och lyxkryssare byggda i Åbo", 336-341.

70 Arctech Helsinki Shipyard Oy specialises in building icebreakers and other Arctic offshore and special vessels. It was formed in a joint venture agreement signed in December 2010 by STX

liners for the American-owned Miami-based Royal Caribbean International between 1999 and 2010.⁷¹

In September 2004, the Aker Kvaerner Yards Group announced that it would merge its two shipyards in Finland, Kvaerner Masa-Yards Inc. and Aker Finnyards Inc., to form Aker Finnyards Oy to take effect on 1 January 2005.⁷² The name of the company was changed to Aker Yards Oy on 7 June 2006. In October 2007 the South Korean shipbuilding and shipping conglomerate STX secured an almost 40 per cent stake in Aker Yards, and in October of the following year it gained control as STX Europe. From September 2009 the company was renamed STX Finland Oy, a division of STX Europe, with three shipyards at Helsinki (Arctech), Rauma, and Turku. However, the lag effects of the 2008 world financial crisis continued to have an impact on both shipping and shipbuilding and, by 2012, STX's shipping arm, Pan Ocean, had filed for bankruptcy protection in South Korea in June 2013. STX had sold ten of its STX Europe subsidiary shipyards, many of which specialised in offshore supply vessels, to Fincantieri of Trieste, which renamed the group Vard and listed it on the Singapore Stock Exchange. By December 2012, Fincantieri held the controlling stake in Vard.⁷³ However, STX Europe retained its three Finnish operations and its French yard at St Nazaire, in which the French state held a one-third share, for cruise-ship building

The Turku shipyard – still under the operation of STX-Finland Oy as one of the company's three shipyards – continued building large specialised vessels, particularly luxury cruise liners. However, the continuity of shipyard operations in Turku came under threat in late 2012 as the shipyard lost a large cruise-liner order from Royal Caribbean International to the St Nazaire shipyard of the STX Group.⁷⁴ This did not augur well for the future of the yard and, on 16 September 2013, STX Finland announced

Europe and the Russian United Shipbuilding Corporation. Arctech has a century of experience in building icebreakers; indeed, about 60 per cent of all icebreakers in operation today were built at the Helsinki shipyard, which has approximately 400 employees. See www.arctech.fi (accessed 6 February 2014).

71 Grönros, "Suurten merten seikkailijat", 114-115; Rinne, "Globaalil kilpailun haasteet", 23-25.

72 The new Aker Finnyards formed a part of the Norwegian-based Aker Yards shipbuilding group, which in addition to Aker Finnyards included yards in Norway, Germany, Romania, and Brazil. The new company employed some 4,500 personnel, of whom 1,000 were located at the Rauma Repola shipyard, 2,000 at the Turku shipyard, 1,250 at the Helsinki shipyard, and some 250 at the cabin manufacturer in Piikkiö and Paimio. The combined revenues of Kvaerner Masa-Yards and Aker Finnyards for 2003 was roughly €1 bn.

73 Vard comprised five shipyards in Norway, two in Romania, two in Brazil, and one in Vietnam.

74 *Cruise Industry News*, 27 December 2012.

that the shipyard in Rauma, which had not won newbuilding orders for several years, would close its gates at the end of June 2014. According to the company, which had not made a profit for six consecutive years, this was the only way to guarantee the continuation of the shipbuilding industry elsewhere in Finland. The closure of the shipyard would lead to around 600 people losing their jobs in Rauma.⁷⁵ It was envisaged that, after the completion of the last two ships at Rauma in June 2014, the yard's ownership would shift to the town of Rauma, which paid STX Europe €18.1 mn on 22 January 2014 to create a new marine business park on the site, subsequently named the Rauma Seaside Industry Park. Given this scenario, a return to major shipbuilding at Rauma was unlikely; however, Rauma Marine Constructions was formed on the site to utilise some of the skills of ex-Rauma employees.

Beforehand, the position of STX Corporation in South Korea remained uncertain. At October 2013 it was reported that the state-run Korea Development Bank, the major creditor of STX, was looking to sell STX's remaining European shipyards. STX has a huge debt mountain and faces continuing financial and debt restructuring. As is so often the case in instances of foreign direct investment, the South Korean shipyards and manufacturing plants of the STX Corporation undoubtedly took precedence over their European counterparts in any future restructuring. In the present world of multi-national capital inflows and outflows, workers are increasingly becoming irrelevant and usually nationally impotent in terms of closures of shipyards.

With the Turku shipyard's future guaranteed only to 2015, there had obviously been considerable behind-the-scenes attempts by the Finnish state to interest a buyer in the shipyard. Negotiations with the German shipbuilder, Meyer Werft, with yards in Papenburg and Rostock, were already underway by June 2014, and by August a deal was announced that Meyer Werft, in conjunction with the Finnish state (which would take a 30 per cent stake), would purchase the Turku shipyard.⁷⁶ Accordingly, the deal was confirmed by the German competition authorities in September. In the interim the yard, renamed Meyer Turku Shipyard Oy, received an order for two German TUI cruise ships worth €1 bn, giving continuity of employment. The deal was aided by Finnvera, a government-owned export credit organisation, which pledged to underwrite 50 to 80 per cent of the cost of building. Clearly the hope is that Meyer Turku will become a long-term

⁷⁵ *Finland Times*, 16 September 2013.

⁷⁶ *Helsinki Times*, 4 August 2014.

player in Finnish shipbuilding, although the Finnish state announced soon after the purchase that it would relinquish its shares as soon as possible.⁷⁷

Conclusion

The Turku shipyard has long been the flagship of the Finnish shipbuilding industry. As the largest shipyard in the country, it has had a significant effect on both local and national employment rates. After the Second World War, war reparation deliveries and, later on, bilateral trade relations with the Soviet Union provided the shipyard with large orders consisting of series of vessels. Consequently, the operation of the shipyard was rather predictable and stable. In fact, it was largely due to the Finnish-Soviet trade and to the Finnish shipyard industry's focus on building large specialised vessels that the international shipbuilding industry crisis hit the Finnish shipyards approximately ten years later than in many other Western countries.

Labour relations at the Turku shipyard were characterised by confrontations and distrust up until the beginning of the 1990s, when the Wärtsilä Group gave up shipbuilding. The shipyard had a long history of industrial conflicts, and this tradition was consciously maintained by the communist-led local trade union. The relatively stable flow of orders also strengthened the employees' position with regard to labour relations. Industrial action was frequently taken at the shipyard, especially after the management started a systematic reform of production; thereafter the numbers of strikes increased significantly, especially after the mid-1970s, when the economic situation began to improve. As a result of technical reforms, piecerates became a source of serious conflict, as the time needed to complete piecework often varied due to unexpected circumstances. The conflicts often boiled down to how the benefits gained from work rationalisation and serial working were distributed between the employer and employees. Strikes became almost like an additional negotiation phase at the Turku shipyard: serious negotiations to solve any contract disputes were started only after the negotiations had been given "a boost" with a short strike.

Production reforms were slowed down by strong craft traditions, which characterised the operation of the shipyard until the 1980s. The post-war shipbuilding industry relied heavily on workers' craft expertise and experience, and on the co-operation of different occupational groups. There were rigid boundaries between different occupational groups, and each group

77 *Helsinki Times*, 19 September 2014.

promoted its own interests with regard to separate payment; all essential occupational groups had their own shop stewards. Under these conditions, the employees had relatively extensive control over the production process, as part of the design work was still carried out at the factory-floor level. Many shipyards in Western Europe adopted fixed salary rates in the 1970s as contract deals were causing conflict in labour relations and hindering the solving of organisational issues in the shipbuilding industry. However, this step was taken at the Turku shipyard only at the end of the 1980s, when the Wärtsilä Group abandoned the shipyard industry as a result of bankruptcy, and the new shipbuilding company Masa-Yards consciously promoted co-operative labour relations. Consequently, the situation began to improve, which was evidenced by, for example, a decreasing number of strikes. However, conflicts did still occur, especially with regard to the use of sub-contractors at the shipyard. The continuous uncertainty with regard to the future of the Turku shipyard has been an important incentive for the employer as well as the employees to work together in order to keep the shipyard in operation.

Although there were many changes in the ownership of the yard, it is clear that the Finnish state wishes to retain a semblance of large shipbuilding capacity in the country: witness its involvement with Meyer Werft in the Turku yard. Contemporaneously, in the medium term, it seems that West European ownership will be more successful than South Korean in keeping the Turku yard in employment.

7 The Dutch shipbuilding industry, 1950-2012

Sjaak van der Velden

Introduction

In 2012, shipbuilding production and repair represented only 1.3 per cent of the total industrial volume of the Netherlands.¹ Sixty years ago, Dutch shipbuilding and repair's share of total industrial volume was approximately 12 per cent; thus its percentage has diminished to about one-tenth of the 1952 share. In 2012, there were 75 shipbuilding companies employing 11,850 workers active in the Netherlands, as against 136 in 1952, employing 48,333 workers.² Hence, over the period, the number of companies has diminished markedly, and total employment in Dutch shipbuilding and repair has decreased by 75 per cent.

It is not only the numbers that have changed; the product has too. While the industry produced mainly passenger and general cargo ships in the 1950s, nowadays it focuses on specialist offshore vessels and super-yachts.

Short history of Dutch shipbuilding during the Second World War and aftermath³

During the period before the Second World War metalworkers generally, and workers in the shipbuilding industry in particular, were among the most strike-prone of the Dutch working class. According to the data collected by Clarke Kerr and Abraham Siegel, metalworkers in the Netherlands showed an average propensity to strike; however, my own database of strikes makes it clear that in the metal industry workers were more than averagely prone to take strike action.⁴

The years of Nazi occupation of the Netherlands were characterised by passive resistance on the part of the workforce, which caused production to

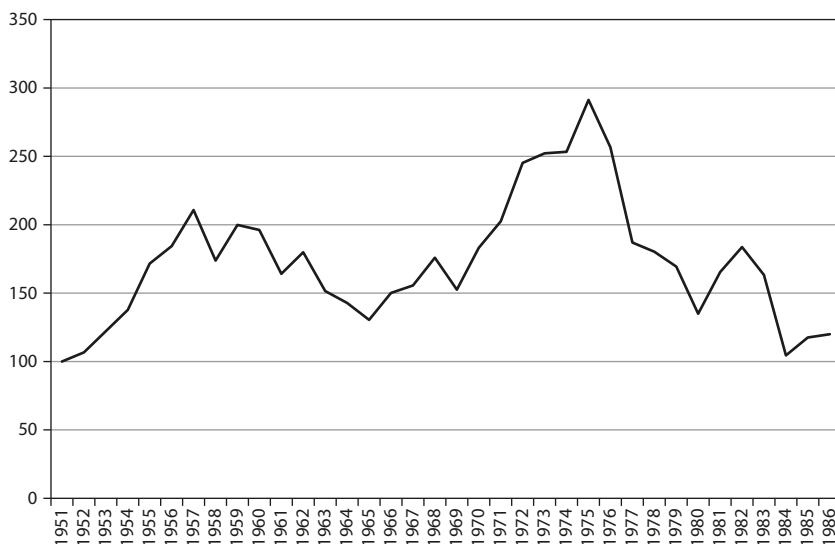
1 Scheepsbouw Nederland, *Jaarverslag 2012*, 75.

2 CBS, *Scheepsbouw- en scheepsbouwreparatiebedrijven 1952*.

3 Dirkzwager, "Scheepsbouw".

4 Kerr and Siegel, "The Interindustry Propensity to Strike", 209-210; van der Velden, *Stakingen in Nederland*, 195. The difference between the Kerr-Siegel findings and my own has much to do with the fact that the Dutch dataset of strikes and lock-outs is on a micro level, while Kerr and Siegel used data of a highly aggregated level. See also Hamark, "Strikingly Indifferent".

Figure 7.1 Production, Dutch shipbuilding industry, 1951-1986 (1951=100; in mn 1951 guilders)



Source: CBS, Produktiestatistieken Industrie. *Scheepsbouw- en scheepsbouwreparatiebedrijven 1951-1986 (1959-87)*

be extremely low. For example, at the Rotterdamse Droogdok Maatschappij (RDM) shipyard, twelve torpedo-boat destroyers were ordered by the Kriegsmarine of which not one was completed.⁵ At other shipyards work for the Germans was also sabotaged.⁶ When the Nazis realised that defeat was likely, they destroyed much of the infrastructure of the Amsterdam and Rotterdam ports, including parts of the shipyards.⁷

After the defeat of the Nazis, the Dutch government stressed the priority of reconstructing the economy. The main policy tool used was a strict policy on prices and wages in an attempt to limit inflation. This wage policy and the refusal to negotiate with radical labour unions, in tandem with shortages of food as the Netherlands readjusted to a peacetime economy and efforts to employ people who had collaborated with the Nazis, led to a wave of strikes in the immediate post-war period.⁸ Within a few years, however, this wave

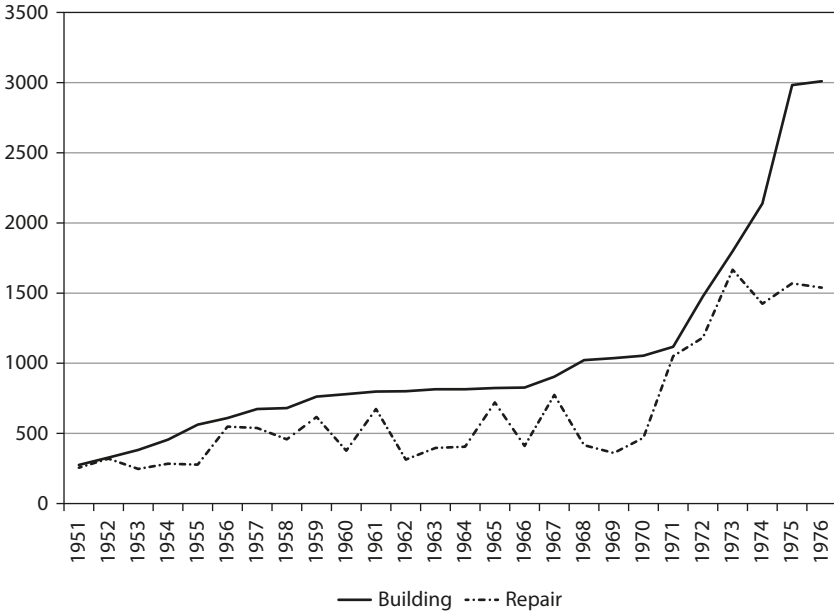
5 Van den Aardweg *et al.*, *1900-1952. Een halve eeuw "Droogdok"*, 151.

6 Van Borselen, *De Kriegsmarine in Rotterdam*, 203.

7 De Jong, *Het Koninkrijk der Nederlanden*, vol. 10b, 7.

8 Harmsen and Reinalda, *Voor de bevrijding van de arbeid*, 268-270.

Figure 7.2 Total production, Dutch shipbuilding: building and repair, 1950-1972 (in mn 1951 guilders)



Source: CBS, *Produktiestatistieken Industrie. Scheepsbouw- en scheepsbouwreparatiebedrijven 1951-1986* (1959-87)

ebbed as sustained economic growth made improvement of working-class life possible. The post-war strike wave was, however, also strongly opposed by officials and politicians who feared a repetition of the labour unrest that had followed the First World War. They did everything in their power to stop the activities of the EVC (Eenheids Vakcentrale, Unity Union) and striking workers.⁹

By around 1950, Dutch shipbuilding had recovered from the consequences of the war. This recovery was largely the result of ship repairing activities, which were more cost-effective than new construction. Things were, however, to change irreversibly. Because of the Japanese occupation during the war, the Dutch had lost control over the former Dutch East Indies, now Indonesia. Two days after the surrender of Japan in August 1945, led by the nationalist leader Sukarno, Indonesia declared independence, and Sukarno was appointed president. The Dutch attempted to re-establish colonial hegemony, and the

⁹ Coomans, de Jong, and Nijhof, *De Eenheidsvakcentrale (EVC) 1943-1948*, 494; van der Velden, "Geheim agent verdedigt arbeidersbelangen". See below, p. 232.

resulting conflict ended in December 1949, when, facing increasing international pressure, the Dutch finally recognised Indonesian independence.¹⁰

This was a serious setback for Dutch liner shipping companies which had previously relied on trading to and from Indonesia. As a consequence the Dutch shipyards that repaired and built ships for these shipping companies feared that their sales would also plummet.¹¹ However, despite this threat, the shipbuilding industry developed positively, as Figure 7.1 shows, in terms of production of ships from 1951 onwards. By 1957, production of ships had doubled; it dropped from 1960 to 1965, and rose again to a peak in 1975-1976, before declining in the extended wake of the OPEC quadrupling of oil prices and subsequent recession in world trade, so much so that, by 1986, the total value of Dutch shipbuilding and repair had almost returned to the level of 1951.

Figure 7.2 makes it clear that in most years the value of the building of new ships and of repair were roughly the same size until the early 1970s. Then building became much bigger than repair as a part of total production.

Location and importance of shipyards

In 1889 only three big shipyards existed (in Amsterdam, Rotterdam, and Vlissingen) but this number expanded when a few new companies were established, mainly in the Rotterdam area.¹² During the twentieth century, the Dutch shipbuilding industry was concentrated near the port of Rotterdam, with minor concentrations in Amsterdam and Vlissingen and in the province of Groningen. In Groningen the yards built many smaller inland vessels while the shipyard in Vlissingen (De Schelde) mainly built warships for the Royal Dutch Navy. In the Amsterdam and Rotterdam areas the shipyards largely built passenger and general cargo ships.

The seven largest shipbuilding companies in the Netherlands were labelled the “seven sisters” by a parliamentary research commission that investigated the problems of the Dutch shipbuilding industry in 1984-1985. In doing so they acknowledged the importance of these seven companies which had a similar impact on Dutch shipbuilding as had the “seven sisters” on the international oil trade.¹³

10 Woltjer, *Recent verleden*, 179-207.

11 Van Zanden and Griffiths, *Economische geschiedenis van Nederland*, 80.

12 Brugmans, *Paardenkracht en mensenmacht*, 319.

13 Sampson, *The Seven Sisters*.

Table 7.1 The "seven sisters" of Dutch shipbuilding, 1958-1967^{14, 15}

Name	Location	Established	Own capital 1967 (mn guilders)	Turnover/sales	Percentage newbuilding	Employees
Van der Giessen-de Noord NV	Krimpen aan den IJssel (Rotterdam area)	1820	15.5	90	70	1,750
Nederlandsche Dok- en Scheepsbouw Maatschappij (NDSM)	Amsterdam	1894	74	147	53	3,500
Rotterdamsche Droogdok Maatschappij (RDM) ¹⁴	Rotterdam	1902	91	148		4,728
Machinefabriek en Scheepswerven van P. Smit Jr.	Rotterdam	1871			Since 1939 property of RDM and WF, each 50%	
Koninklijke Maatschappij "De Schelde"	Vlissingen	1875	64			(5,000)
Verolme Verenigde Scheepswerven	Rotterdam	1947	80			(5,000)
Dok- en Werfmaatschappij Wilton-Fijenoord (WF) ¹⁵	Schiedam (Rotterdam)	1823	71			8,400

Source: Tweede Kamer der Staten-Generaal vergaderjaar 1984-1985, *Verslag van de Enquêtecommissie Rijn-Schelde-Verolme (RSV)*, deel 1, 7-9. Estimates from other sources are enclosed in brackets.

14 Van der Schee, *Rotterdamsche Droogdok Maatschappij*.

15 Bouman, *Gedenkboek Wilton-Fijenoord*.

Table 7.2 Shipbuilding companies with more than fifty employees compared to the seven sisters, 1958-1967

Year	Number of companies	Sales in mn guilders	Workers	Sales by seven sisters	Percentage of total sales	Employment with seven sisters	Percentage of total employment
1958	107	1,315	53,836	985.7	75.0	29,122	54.1
1959	101	1,512	51,608				
1960	100	1,608	49,975	819.9	51.0	27,199	54.4
1961	100	1,345	49,180				
1962	98	1,531	49,091				
1963	94	1,290	46,252	674	52.2		
1964	94	1,306	44,634				
1965	91	1,275	43,545	777.2	61.0	24,153	55.5
1966	91	1,515	42,600				
1967	88	1,668	42,821	921.8	55.3	23,355	54.5

Source: CBS, *Productiestatistieken Industrie. Scheepsbouw- en scheepsbouwreparatiebedrijven 1958-1967* (1959-68); Tweede Kamer der Staten-Generaal vergaderjaar 1984-1985, *Verslag van de Enquêtecommissie Rijn-Schelde-Verolme (RSV)*, deel 1, 6-9. Unfortunately figures from this source are incomplete and therefore do not allow the construction of an uninterrupted series.

These seven biggest companies, out of a total of around one hundred companies, accounted for a disproportionate amount of sales and employment as can be seen from Table 7.2.

From Figure 7.1, it is clear that shipbuilding production rose steadily to the end of the 1950s and peaked in the mid-1970s. From then it declined, as did the numbers of employees and value of sales.¹⁶ There were on average a little under one hundred companies with more than fifty employees during those years, but the seven sisters accounted for almost 59 per cent of annual sales in 1958-1967.¹⁷

The 1950s

During the 1950s there was still a sense of euphoria in Dutch shipbuilding. Big passenger liners were built – such as the 35,000-ton SS *Rotterdam*, built by RDM in 1959 – and a new company was established, Verolme Verenigde Scheepswerven (Verolme United Shipyards). The latter was the work of one

¹⁶ CBS, *Productiestatistieken Industrie. Scheepsbouw- en scheepsbouwreparatiebedrijven 1951-1986* (1959-87).

¹⁷ I calculated the average of the given shares in Table 7.2.

man, Cornelis Verolme, who stood outside the existing Rotterdam metal industry elite.¹⁸ Verolme refused to co-operate closely with the other companies in the Rotterdam area that were united in the employers' organisation, the Metaalbond (Metal Union), which had taken a firm stand against labour unions since the beginning of the twentieth century. Verolme was able to obtain huge profits in comparison to the other "sisters". During the years 1957-1967 Verolme had a net profit that was much higher than the others combined. He earned 167.9 mn guilders, while the others made 101.5 mn.¹⁹ As he was the sole owner (no other shareholders were involved), Verolme's company was, despite the good results, vulnerable. It was not easy for him to attract outside capital to expand and renew the company.

Growth and decline

In general the 1960s was a period of economic growth in the Netherlands. The welfare state also grew, and workers managed to obtain higher wages by way of a series of wildcat strikes. Through these strikes workers tackled the system of wage control that had existed since 1945. When the state abandoned such control in 1963, wages started rising rapidly, including in the shipbuilding industry (Figure 7.3). In general, wages in the metalworking industry were lower than the average for the entire Dutch industry. For example, in 1966 metalworking wages per hour were 375 cents while the overall average was 384 cents.²⁰ But nominal wages rose year after year until the mid-1970s.²¹

During the 1960s, labour became expensive in relation to the 1950s, when wages in the Netherlands were among the lowest in Europe. To cut costs, companies merged, employees were sacked, and capital looked for more profitable opportunities by moving to countries where wages and labour costs in general were lower. One of the first industries where this happened was shipping. Others were clothing and shipbuilding.²² From 1967 unemployment started to rise and, with the crisis of the 1930s in mind, most of those involved in the political scene became convinced that it was time to turn the tide. One of the important economic sectors that drew

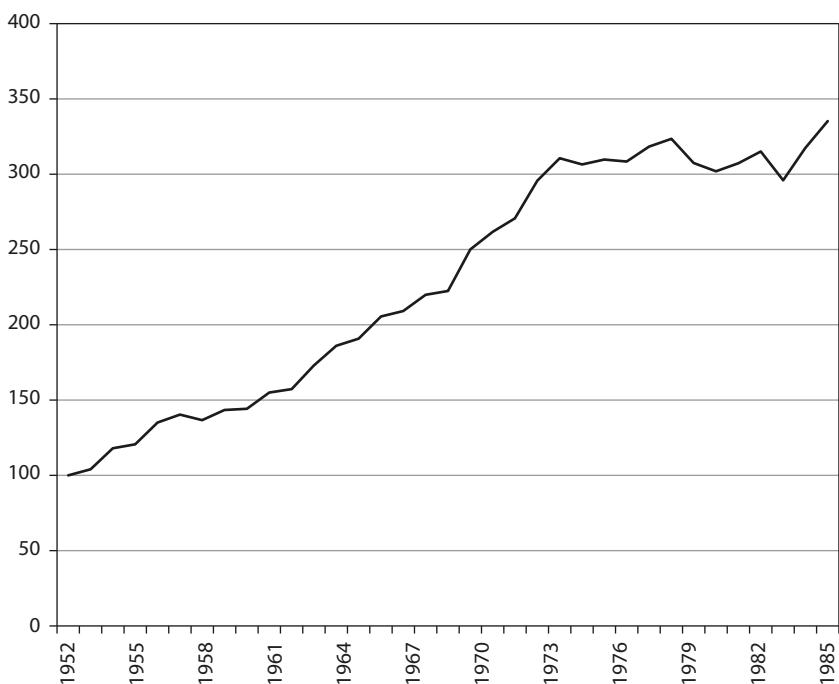
18 Verolme, *Memoires met medewerking van Leo Ott*; Dekker, *Cornelis Verolme*.

19 Tweede Kamer der Staten-Generaal vergaderjaar 1984-1985, *Verslag van de Enquêtecommissie Rijn-Schelde-Verolme (RSV)*, deel 1, 7.

20 CBS, *Statistisch Zakboek 1972*, 252.

21 CBS, *Vijfennegentig jaren statistiek in tijdreeksen 1899-1994*, 50.

22 Van Zanden en R.T. Griffiths, *Economische geschiedenis van Nederland in de 20^e eeuw*, 269.

Figure 7.3 Wages in the Dutch shipbuilding industry, 1952-1986 (1952=100)

Source: CBS, *Produktiestatistieken Industrie. Scheepsbouw- en scheepsbouwreparatiebedrijven 1951-1986 (1952-87)*

the attention of the state was the shipbuilding industry as it had begun to exhibit signs of a slow and probable decline. In 1930, the Dutch shipbuilding industry had been the third-largest in the world (after the United Kingdom and Germany) but those days were over. From 1956 Japan, and later, Sweden outstripped the Netherlands; by the end of the 1960s the Dutch occupied a lowly fourteenth place in the world shipbuilding league table.²³

Pressed by parliament, the Dutch government established a research commission in 1965 to investigate the problems. This Commissie Keyzer (Keyzer Commission), named after its chairman, intended to devise a common policy for the state and the industry to follow with regard to shipbuilding.²⁴ Contemporaneously, the European Economic Community

²³ Tweede Kamer der Staten-Generaal vergaderjaar 1984-1985, *Verslag van de Enquêtecommissie Rijn-Schelde-Verolme (RSV)*, deel 1, 4.

²⁴ *Rapport van de Commissie Nederlandse scheepsbouw 1965*.

proposed a policy that allowed its member states to place orders with their own industry without actually giving subsidies to the companies involved.²⁵

When the Commissie Keyzer published its findings in 1966, it came to three conclusions. Dutch shipbuilding had suffered from the fact that it received no state support in the form of subsidies, while other countries did; the industry was unable to attract young workers; and it was too conservative in its working methods. It leaned too heavily on craftsmanship instead of trying to industrialise shipbuilding.²⁶ In short, Dutch shipyards had not kept pace with advances elsewhere in production methods and were insufficiently specialised.

The recommendations of the commission implied co-operation and mergers of the seven major existing companies in order to foster specialisation in products and to modernise shipbuilding through standardised serial production. Another important recommendation was the introduction of a state subsidy to enable shipyards to match those subsidies given to shipowners elsewhere. Following the conclusions of the Commissie Keyzer, the Dutch government decided in 1967 to support the industry if companies actively engaged in innovation and a restructuring of the sector. A good example of the way this worked is the support that Verolme received in 1968. He obtained a state guarantee for the building of a new dock as a reward for taking over the unprofitable NDSM shipyard in Amsterdam. Two years earlier, a few of the seven sisters had already decided to co-operate more closely in order to be able to build larger ships. The building of tankers (66,000 tons or more) had become urgent after the closing of the Suez Canal in 1956, and this trend was strengthened as a result of the Six-Day War between Israel and Egypt in 1967.

In 1966, RDM (including its subsidiary Piet Smit) and De Schelde merged to form Rijn-Schelde Machinefabrieken en Scheepswerven NV (RSMS) or Rijn-Schelde. Other shipyards including Wilton-Fijenoord joined in 1968, but this was not the end of the merging process. Despite the state support for Verolme, the construction of supertankers at the former NDSM shipyard and at the new Verolme shipyard in Rotterdam was not profitable. Continuing losses tempted Verolme to ask for more support, which was granted only on the condition that Verolme and Rijn-Schelde merged. In January 1971, the two companies merged into Rijn-Schelde-Verolme Machinefabrieken en Scheepswerven NV (RSV). Within a few years six of the seven sisters of

25 Tweede Kamer der Staten-Generaal vergaderjaar 1984-1985, *Verslag van de Enquêtecommissie Rijn-Schelde-Verolme (RSV)*, deel 1, 14.

26 *Rapport van de Commissie Nederlandse scheepsbouw 1965*.

Dutch shipbuilding had merged into one single company, together with a few engine-manufacturing factories. Only Van der Giessen-de Noord had stayed out of this merger (see Appendix 4).

The RSV concern was now in a stronger position regarding the Dutch state. It employed many thousands of workers, and with each restructuring the state had also stipulated that a merger should not jeopardise employment. Internally, the concern was no more than a combination of several companies that did not really work together; hence the potential advantages of economies of scale and scope of RSV were limited. The economic crisis of 1973-74 also worked in favour of RSV, not just because for a short period it stimulated the building of new supertankers,²⁷ but also because the government was convinced that it should follow an anti-cyclical policy. The maintenance of jobs was considered very important by the governing Social Democrat Party, and RSV was therefore well supported, not only with orders for the Royal Netherlands Navy, but also with financial support. Later governments, in which there was no social democratic representation, continued this policy. In 1977, the state even agreed that it would cover 75 per cent of the calculated company losses.²⁸ Between 1967 and 1983 the Dutch state thus financially supported RSV with 2,700 mn guilders, which was roughly 5 per cent of total sales of the entire Dutch shipbuilding industry for the period.²⁹

Financial support from the state was conditional on RSV restructuring several times during the second part of the 1970s. Each time employment decreased and the company became a little more stable, but it was ultimately in vain. When the company asked for new support in 1983, after having received aid in 1982, the government finally decided to cut its losses.³⁰ RSV entered bankruptcy and the remaining 5,000 workers of the company – of which the component parts had employed around 30,000 men during the mid-1970s – lost their jobs.

The extended demise of RSV changed the entire landscape of Dutch shipbuilding. Some parts of RSV were actually closed; other parts were saved. De Schelde became the property of the state and the province of Zeeland.³¹ In Amsterdam there is no shipbuilding left apart from a few ship repair yards, and the big companies in and around Rotterdam were also closed and some parts sold to other companies. The once huge Verolme

27 In 1974, Verolme delivered the biggest ship ever built in the Netherlands: *Lepton*, an oil tanker of 318,000 dwt.

28 Van Zanden, *Economische geschiedenis*, 83.

29 *Ibid.*, 84.

30 Graf, *Een ongelijke strijd*.

31 Quite, *Koninklijke Mij. "De Schelde"*.

shipyard is now part of the Singapore-based specialist ship repairers, Keppel Corporation. In Vlissingen the shipyard of De Schelde still exists despite being sold by the state and the province in 2000. It is now part of the Dutch Damen Shipyards Group building for the navy while other parts of the group build yachts and inland vessels. Dutch shipbuilding nowadays is much reduced from its heyday, but what remains has specialised in niche markets and is relatively healthy.

A highly unionised and strike-prone workforce

The social democratic metalworkers' union (Algemeene Nederlandsche Metaalbewerkers Bond, ANMB) was the biggest Dutch trade union in the years between the two world wars. Union membership in the metal industry generally was also among the highest in the entire economy. Due to the lack of available data the extent of trade union membership in the Dutch shipbuilding industry is impossible to calculate. However, the overall union penetration of the Dutch metal industry in the 1930s was roughly 41 per cent, although in the Amsterdam and Rotterdam regions numbers were higher (47 and 48.8 per cent respectively).³² There were also a number of unions besides the ANMB that represented metalworkers. The ANMB was by far the largest, comprising almost 60 per cent of total union membership; in addition the Roman Catholic Union accounted for 22.6 per cent of total membership, the Protestant Union for 12 per cent, and two small revolutionary unions less than 3 per cent.³³

The combined metal unions negotiated collective agreements with the companies which for their part wanted such agreements in order to prevent competition on the labour market. Most employers also wanted a general wage standard to prevent competitors attracting workers by offering higher wages. This scenario would end with higher wages for the whole industry – not exactly an endpoint that would please employers – hence they were prepared to sign collective agreements.³⁴ After the German occupation this system returned within the policy of strict wage regulation initiated by the state. There was, however, a problem with a newly established radical labour union,

32 Own calculations from CBS, *Overzicht van den omvang der vakbeweging in Nederland op 1 januari 1932*; digitised census 1930, www.volkstelling.nl/nl/volkstelling/jaartellingdeelview/BRT193007/index.html.

33 CBS, *Overzicht van den omvang der vakbeweging in Nederland op 1 januari 1932*.

34 Binneveld, *De stakingen in de Rotterdamse metaalindustrie in 1965*, 35.

EVC. Many workers joined this new organisation, which was clearly a result of the war resistance. EVC wanted to do away with the pre-war division within the union movement, which encouraged workers to join a union of their own “pillar” instead of joining the one union that aimed to organise the entire working class. Because of its apparent radicalism shown during a number of big strikes, especially in the port of Rotterdam, both employers and the state refused to accept EVC at the negotiation tables. It took until 1950 before the role of this union was finished, and the old relations had been restored. EVC still existed; however, most union members rejoined the pre-war unions.³⁵

There was, however, one big change. Within the leaderships of the three major pre-war unions there was a changed state of mind. This attitude can possibly be best illustrated by citing the chairman of the Rotterdam branch of the ANMB who in 1954 wrote:

social struggle in the past could not be carried out other than by the sharpest weapon of class struggle; the strike must be regarded historically only as a social evil, as a tragic episode in the development of mankind to a higher stage.³⁶

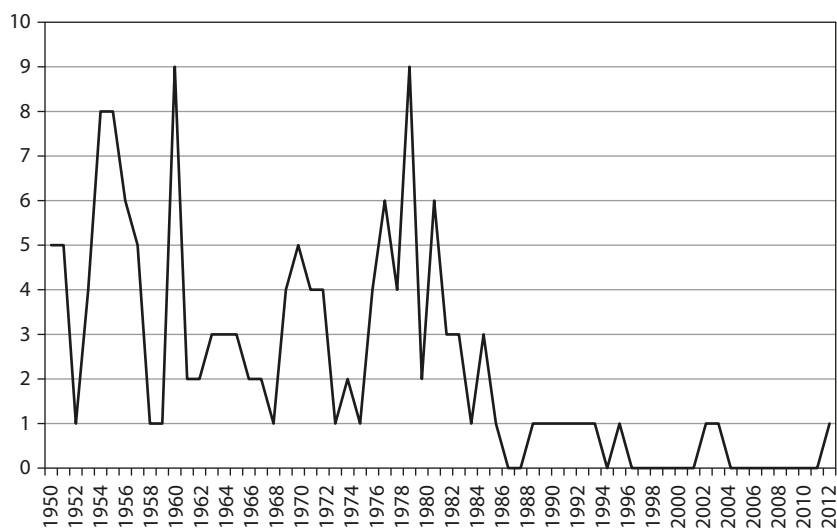
This comment highlighted a tendency in the official labour movement to participate in the new social and economic policy of post-war governments, stimulated by the welcoming of the unions into a number of new organs of management, the tripartite system which came into being in the years 1945-1950 and was still intact in 2014. Part of this management was regular consultation between employers' organisations, labour unions, and the state. In such consultations, collective agreements were settled for entire industries like metals or construction. The unions, which were originally organised along professional lines, were now also structured along industrial lines.³⁷

Under this new tripartite approach, labour unions became a well-respected part of management, and they therefore almost never issued a strike call during the 1950s. However, this did not prevent workers from staging wildcat strikes during that period. This new attitude of the union movement had a

35 Van der Velden, *Werknemers georganiseerd*, 131, 180.

36 “Dat de sociale strijd in het verleden niet anders dan door het scherpste wapen van de klassenstrijd: de staking, kon worden gevoerd, moet – historisch gezien – slechts als een maatschappelijk kwaad, als een brok tragiek in de ontwikkeling van de mensheid naar een hoger plan worden gezien”: Wacht, *Heet voor de vuren*, 242.

37 For a good overview of the early history of the Dutch tripartite system of labour relations, see Windmuller, *Labor Relations in the Netherlands*.

Figure 7.4 Number of strikes in the Dutch shipbuilding industry, 1950-2013

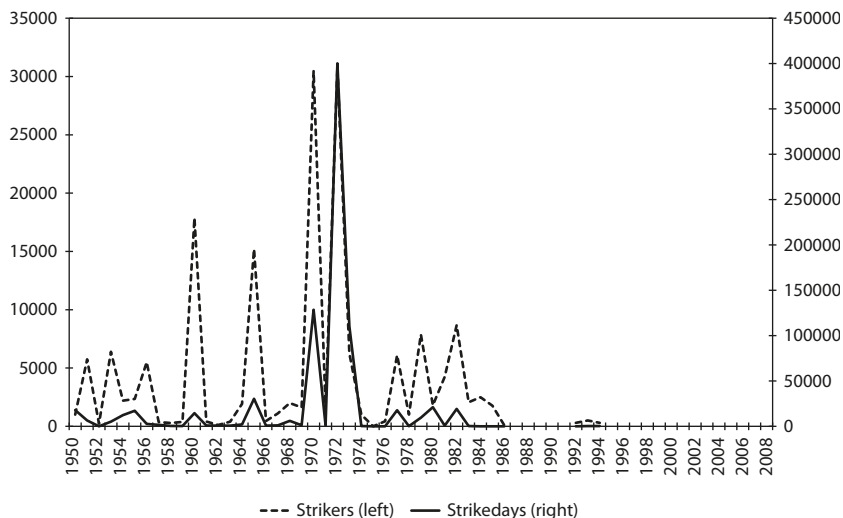
Source: <http://socialhistory.org/en/stakingen>; 2008-13 data are from author's own database

counterpart in what is termed the social policy of many employers. Since the 1870s there had been developments, especially within the industry, towards affording better education and housing for the workers. This movement started in reaction to the threat of the emerging labour movement combined with the social attitude of certain individual employers.³⁸ This combination of interests was strengthened by certain specific factors. The Rotterdam metal employers had problems with recruiting skilled labour. It was therefore in their own interest to attract workers by providing accommodation. A good example of this is the living quarters built by RDM in Rotterdam Heyplaat.³⁹ This quarter was built in 1914 according to the principles of garden villages, like other quarters built in the Netherlands, such as the quarter De Schelde erected for its workers in Vlissingen. What the companies attempted to foster was a form of community feeling among the workforce by affording all kind of facilities including libraries, musical societies, and sports clubs.⁴⁰

38 Nijhof, «Villages ouvriers: de l'idéalisme au pragmatisme?», 16.

39 Van den Aardweg *et al.*, 1900-1952. *Een halve eeuw "Droogdok"*, 65, 211-225.

40 *Ibid.*, 221. Other industrialists known as social entrepreneurs were already active at the end of the nineteenth century; see Kleij, *Sociaal Ondernemerschap*.

Figure 7.5 Number of strikers and number of strike-days, 1950-2008

Source: <http://socialhistory.org/en/stakingen>

Figure 7.4 illustrates the number of strikes in the shipbuilding industry from 1950 to 2013. It shows that the trend of strike frequency is diminishing. After a fairly high number of strikes during the 1950s, the 1960s saw fewer. The 1970s started with an upsurge while during the early 1980s strike frequency returned to the level of the 1950s. This was understandable at a time when workers in shipbuilding felt a constant threat of sackings because the state wanted to stop financial support to the industry and especially RSV. To get a better picture of strike activity I present in Figure 7.5 two other strike indicators: the number of strikers and the number of strike-days.

Looking at Figures 7.4 and 7.5 together makes it clear that the 1970s and 1980s were periods of a higher strike activity. The total numbers of strikers and days lost to strikes in the two decades to 1970 were lower but, although the number of strikes was higher, they had less impact in terms of days lost than the strikes in the early 1970s.

After the initial strike wave just after the war, the 1950s saw few and small strike events. The labour conflicts that occurred were in most cases unofficial wildcat strikes by union members because the union leaderships were primarily engaged in deliberating in the tripartite system and this, necessarily, took time, leaving local matters unresolved. Despite the growth of the Dutch welfare state, many workers were unsatisfied by recent

developments. In 1957, Dutch wages were among the lowest in Europe and workers naturally wanted higher wages for comparable work. From 1959, a strike wave developed in order to end the strict wage policy in order to raise wages. The metal industry, including ship building, also played a role in this movement.⁴¹ The following strike stories are taken from the website <http://socialhistory.org/en/stakingen>. Only literal quotes receive a footnote from the original source.

Overview of strike movements

In 1960, the 4,000 workers of the NDSM in Amsterdam struck for the payment of travel expenses and a 45-hour working week. They were not supported by the unions but nevertheless reached a settlement after two days. Travel expenses would be met in the future. This was one of the nine strikes that took place in shipbuilding in 1960. Most were on a small scale, but from 24 November a nationwide strike by 24,000 workers from 35 companies started in the metal industry, including shipbuilding. This strike movement started without the approval of the unions, although the strikers supported the unions during their negotiations for a new collective agreement. Most shipbuilding workers participated for a short period or a number of periods. The 800 workers of the Amsterdamse Droogdok Maatschappij (ADM) for example, joined for two and a half days, and their counterparts of RDM struck for a few hours. The 5,000 workers of Wilton-Fijenoord (WF) resumed work after a few hours, although two days later, 550 of them struck again; on 8 December, 3,000 WF workers joined the strike again. They demonstrated through the streets of Schiedam (a small city close to Rotterdam) to express their anger about the government's refusal to grant a wage rise of 3 per cent.

Strikes like this were the reason for a discussion within the union movement about the lost connection between the leadership and the rank and file. It was acknowledged by social researchers invited by the Metalworkers' Union to study this discrepancy between management and members that a union with unsatisfied members, who, at times, threatened to terminate membership, might be a threat to the credibility of the unions in the eyes of employers and the state.⁴²

41 Van der Velden, *Werknemers in actie*, ch. 7.

42 Harmsen, Perry, and van Gelder, *Mensenwerk*, 190-195.

Five years later an event took place known as the Rotterdam metal strike of 1965.⁴³ The strikers took over a wage demand the unions had already issued a few months before. The Rotterdam department of the employers' organisation Metaalbond still practised the same policy they had up to and beyond the Second World War. They would not negotiate during the strike and refused to pay for strike-days (a demand often made during strikes). The newcomer Verolme, on his own, hardened the employers' attitude by declaring in the midst of the conflict that, although business was going well, he would decrease the workers' share of the distribution of profits. This incited a general strike at the Verolme yard and radicalised the other shipbuilding workers in the Rotterdam area. Despite his provoking the strike, the first to break the ranks was Verolme, but the other employers followed suit quickly. After all, business was recovering after the decline of the early 1960s (see Figure 7.1). When Verolme gave in to the demands, the workers of Wilton-Fijenoord took this as their inspiration to walk out. Under the leadership of an action committee, the shipyard was occupied during the *Zwarte Nacht van Wilton-Fijenoord* (Wilton-Fijenoord night).⁴⁴ Management of Wilton-Fijenoord soon submitted, as did the other companies. At one point, more than 10,000 workers of 13 companies were on strike in the Rotterdam metal industry. They all gained the wage rise they desired.

The 1965 Rotterdam metal strike was decisive for years to come. The unity within the Metaalbond was broken by the strike, and, according to the sociologist J.M.W. Binneveld, who has studied the strike thoroughly, future strikes in shipbuilding were enabled by the 1965 events.⁴⁵ A few small strikes occurred between 1965 and the big outburst of worker discontent in 1970. In one simultaneous but disconnected movement the dockers and metalworkers of the Rotterdam area came out without union support at the end of August 1970. On the docks almost 20,000 workers in Rotterdam and Amsterdam struck for more than 2 weeks from 28 August. The metalworkers preceded the dockers by three days when the workers of Wilton-Fijenoord walked out.

Both employers and the leaderships of labour unions showed that they had been slow to understand the rationale of strikes since 1965. The August 1970 strike took them by surprise and, despite several attempts at negotiation, the strike continued. One of the union executives declared in a national newspaper: "We don't support the strike because we feel tied

43 This strike is described and analyzed in Binneveld, *De stakingen in de Rotterdamse metaalindustrie in 1965*.

44 Henriks *et al.*, *De zwarte nacht van Wilton-Fijenoord*.

45 Binneveld, *De stakingen in de Rotterdamse metaalindustrie in 1965*, 62.

to the collective agreement.⁴⁶ On a national level there were also negotiations within the extant tripartite system. Because almost everyone in these institutions felt that there was a growing discontent among Dutch workers, they agreed that all workers should receive a one-off extra payment of 400 guilders in 1970. This agreement caused the metalworkers to resume work, while the dockers continued the strike for a further week.

The discussion within the union movement about the lack of connection between leadership and the members, which had begun around 1960, revived. The leadership realised that the voice of the members had to be heard if the union executives wanted to prevent being taken by surprise in the future. Over the next few years, a higher proportion of strikes than during the preceding decades occurred, and now most strikes were initiated and led by the unions. It seemed the waves of wildcat strikes that had swept the Netherlands during the 1950s and 1960s had come to an end.

However, in 1972 there was a very large wildcat strike in shipbuilding. On 4 February the workers of RDM began the strike, and they were followed by many colleagues at short notice. One day later, 30,000 workers in Amsterdam and Rotterdam were on strike in protest against a court order that forbade the metal unions to issue a strike call. The fact that the lawyer for the employers stated in court that the workers' meetings summoned by the unions reminded him of the meetings of the Nazi party in Nuremberg⁴⁷ aroused a lot of anger among the workers. This strike also expanded to a shipyard in Zaandam and De Schelde in Vlissingen.

It took twenty-one days before the strikers – who continued their struggle without any financial compensation – realised that they would not receive the rise the unions had asked for. Although this strike was unofficial, it was recognised that union cadres took the lead in many instances.⁴⁸ In 1973, things were different. Because of the threat of an economic crisis, there was no more room for offensive strikes and the unions had seemingly learned their lessons from 1970 and 1972. They realised they should take the lead in the future. The entire union movement then launched a series of nation- and industrywide strikes against the threat that rises in prices would no longer be compensated for by the employers. The unions even demanded that this compensation would be paid in an absolute amount, instead of a percentage

46 "Wij staan echter niet achter de staking want wij achten ons gebonden door de CAO": *Nieuwe Rotterdamse Courant*, 29 August 1970.

47 Kommunistiese Eenheidsbeweging Nederland (ml), *Metaalstaking 1972*, 17.

48 Smolders, "Chronologie van de belangrijkste gebeurtenissen voor en tijdens de metaalstaking".

of wages. Thus wage differences would be levelled, and at the same time the total wage rise would be moderated.⁴⁹ A total of more than 80,000 workers (6,000 in shipbuilding) went on strike in this defensive action, totalling more than 600,000 strike-days (110,000 in shipbuilding). During the 1973 Easter weekend, the unions suddenly reached an agreement with the employers. Not all strikers were happy with this, and it took a lot of persuasive power by the union leaders to talk the workers of ADM, NDSM, and Verschure back to work. At the Rotterdam shipyards a reporter noted: "We were mad enough to slave away and now we must back off."⁵⁰ After fifty days of a variety of actions, the strike was settled.

The next year that saw a big industrial strike was 1977, again for the maintenance of price-rise compensation. This strike lasted 25 days, and more than 34,000 workers participated under the leadership of the unions. After 270,000 strike-days were lost, the strikers, including the 5,000 shipbuilders, resumed work. The biggest single strike during this action occurred at the Wilton-Fijenoord shipyard where 3,000 workers stopped working for 3 days. During the mid-1970s there was a shift from an offensive to a defensive attitude by labour. As Dutch shipbuilding suffered intense foreign competition and plummeting sales from 1976, its workers lost confidence, and not many joined the last offensive strike movement of that year. Even during later national strikes against a reduction in wages in 1980 and 1982, most shipbuilding workers continued to work. In 1980 only the workers of the independent shipyard Van der Giessen-De Noord struck. However, during the 1982 strike against the diminution of the Sick Leave Act initiated by the social democratic minister of social affairs and employment, more shipbuilding workers followed the strike call by the union movement. They thus protested against the lowering of sick-leave payments by 10 per cent. More than 100,000 workers participated in this strike but they lost, although many employers were forced to compensate their employees for the consequences of the new law in favour of their employees. At almost all the big shipyards the workers joined the strike, despite the difficult situation in shipbuilding. The workers of Wilton-Fijenoord even ignored the fact that a judge forbade them to go on strike. Their wildcat strike was supported by 2,500 workers and ended only after ten days. This was the last big strike in Dutch shipbuilding before the bankruptcy of RSV.

In the meantime a few strikes had occurred in order to prevent this bankruptcy and push the state for more financial support. It began in 1977 during

49 Breij, *Een kwestie van principe*, 9.

50 "We waren gek genoeg om voor sloof te spelen, en nu kunnen we oprotten": *ibid.*, 144.

a one-day strike by the workers of the Schiedam Gusto shipyard. They went to The Hague to present the government with a petition containing 1,400 signatures asking for more state support for shipbuilding. In 1979 more workers' actions took place urging that the endangered industry be protected. On 4 January of that year workers of De Schelde interrupted work for one hour to demand preservation of the yard. In April, strikers at Verolme demanded that the state should negotiate soon about financial support instead of postponing the final decision, and talks were promised. Despite the April strike, state support was not finalised. The union therefore issued a strike call in June, which was backed by 2,700 workers. The strike ended after three days, but other actions continued. In June, the workers of IHC Verschure in Amsterdam received a notification that the restructuring of the company threatened the jobs of 780 of the 3,400 workers. They were not willing to accept this possibility. After a month, the unions advised the workers to stop all kinds of action (on one occasion workers prevented the managing director entering the yard) as management had threatened to stop paying wages. The company decreased the number of workers during the following years. In February 1982 the workers of IHC Verschure occupied the shipyard to prevent a further decrease in the number of employees to just one hundred.

There were more labour actions to stop or redirect the restructuring of the shipbuilding industry but, as we have seen, they were all in vain. The industry has suffered hard times and even as late as 2004 there was a demonstration in The Hague for state support attended by 4,000 workers. Shipbuilding was restructured and the workers had to accept this. Although they had fought the consequences of the restructuring process the number of workers plummeted, as did their strike activity. Meanwhile, what remains of a once-great industry seems to be relatively healthy again, although it is much smaller than before. In 2013, workers in the shipbuilding industry together with their colleagues from the metal industry dared to strike for higher wages again. And they were successful.⁵¹

Concluding remarks

Dutch shipbuilding is still vibrant in many niche shipbuilding markets, but it is no longer one of the biggest shipbuilding industries in the world as it was in the 1930s, when it was the third-largest. In 2012 it was the

51 See http://www.fnvbondgenoten.nl/mijnbranche/branches/metalektro/nieuws/655996-grootmetaal_werkgevers_komen_211013/.

fourth-largest – but not on a global scale: only in Europe. Indeed, all European countries together, including Turkey, only made up about 5 per cent of world production.⁵² The big shipyards no longer function as they did: some survive either as repair companies or the yards have been taken over for other purposes.⁵³ The Dutch shipbuilding industry has at least retained one of its long-standing specialisms, the building of dredgers. Today, the construction of super-yachts and specialist offshore vessels is prevalent in the Netherlands, which shows that Dutch shipbuilding has found a new niche market to operate in. For example, IHC Holland Merwede is focused on the continuous development of its design and construction activities for the specialised shipbuilding sector, in particular the dredging and offshore industries. IHC Holland Merwede is the world market leader in the construction of specialist dredging equipment and complex custom-built offshore vessels.⁵⁴

After a short period in the 1960s and 1970s when shipbuilding workers were able to gain higher wages by large and offensive strikes, the tide turned to defensive actions. Shipbuilding as an industry moved to low-wage countries, and the Dutch government's support policy was not able to stop this. The only thing that it accomplished was to delay the advent of high unemployment in Dutch shipbuilding. Ultimately many thousands of workers lost their jobs, and the social environment of many of those workers also crumbled.

52 Scheepsbouw Nederland, *Jaarverslag 2012*, 71-73.

53 Ter Brugge, Moeyes, and Spits (eds), *Scheepsbouw in perspectief*.

54 See www.ihcmerwede.com/.

Appendix 7.1 Completed ships in the Netherlands, 1950-1986

	Sea-going		Inland vessels		Tow-boats and tugboats	
	Number	1,000 GRT	Number	1,000 tons	Number	1,000 kW
1950	87	195	47	22	35	12
1951	115	256	65	29	28	11
1952	132	235	38	11	51	9
1953	116	287	19	5	52	13
1954	119	342	50	18	64	14
1955	124	396	70	24	51	11
1956	136	399	96	44	56	14
1957	172	537	84	38	59	19
1958	146	500	91	55	36	13
1959	106	564	95	67	32	13
1960	116	599	112	56	45	27
1961	115	466	144	122	31	13
1962	111	544	165	147	66	20
1963	77	423	173	137	40	28
1964	62	226	188	155	57	22
1965	86	111	115	70	58	17
1966	90	292	99	76	57	23
1967	88	263	54	36	46	9
1968	62	228	45	68	62	26
1969	76	452	56	56	49	23
1970	74	603	83	88	70	29
1971	79	565	83	124	85	45
1972	79	750	94	143	92	37
1973	60	792	78	127	88	41
1974	64	895	53	75	113	52
1975	86	991	50	59	96	76
1976	82	594	25	21	110	96
1977	70	204	15	11	65	55
1978	53	320	20	12	55	64
1979	52	172	53	71	29	16
1980	22	92	88	137	71	62
1981	25	102	69	106	80	66
1982	46	162	44	81	85	95
1983	38	139	9	8	69	90
1984	30	109	30	52	28	30
1985	45	109	29	36	33	36
1986	28	95	25	48	24	24

Note: 1950-62 companies ≥ 25 employees, 1963-86 all companies ≥ 10 employees

Source: CBS, Produktiestatistieken Industrie. Scheepsbouw- en scheepsbouwreparatiebedrijven 1986, 37

Appendix 7.2 Number of companies and number of employees in shipbuilding and ship repair, 1951-1986

	Number of companies	Number of employees
1951	136	48,338
1952	134	50,882
1953	139	51,795
1954	150	52,746
1955	156	53,191
1956	163	54,202
1957	175	56,054
1958	173	56,074
1959	170	54,011
1960	171	52,623
1961	172	51,866
1962	243	53,006
1963	254	50,490
1964	250	48,653
1965	250	47,704
1966	256	46,600
1967	245	46,595
1968	246	46,074
1969	253	45,827
1970	252	45,685
1971	249	48,191
1972	253	49,258
1973	258	48,080
1974	255	47,452
1975	257	47,577
1976	257	45,410
1977	246	42,106
1978	238	38,104
1979	238	34,443
1980	230	32,466
1981	264	34,526
1982	250	34,538
1983	247	29,612
1984	223	27,081
1985	222	24,525
1986	213	22,698

Note: all companies ≥ 10 employees

Source: CBS, Produktiestatistieken Industrie. Scheepsbouw- en scheepsbouwreparatiebedrijven 1986, 37

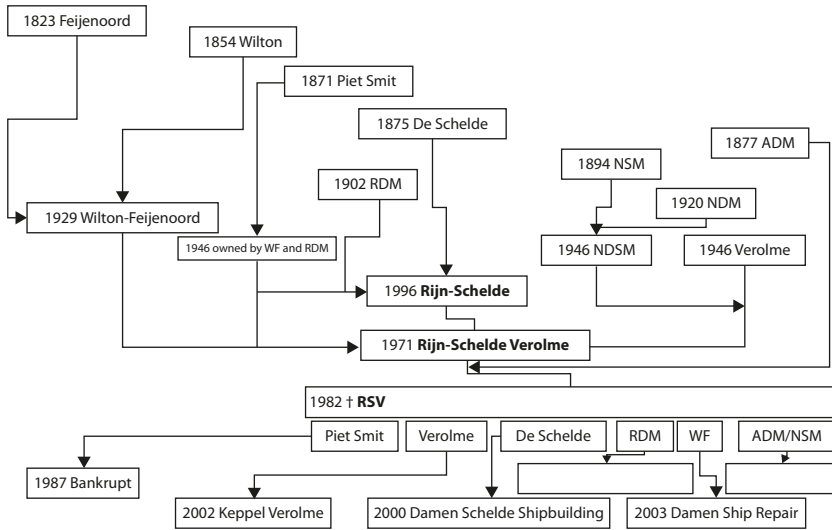
Appendix 7.3 Strikes in the Dutch shipbuilding industry, 1950-2013

	Total number of strikers	Strike-days	Number of strikes
1950	1,009	17,933	5
1951	5,745	6,470	5
1952	230	29	1
1953	6,396	5,125	4
1954	2,201	12,253	8
1955	2,568	17,409	9
1956	5,502	2,629	6
1957	367	1,613	5
1958	286	429	1
1959	380	333	1
1960	17,866	14,468	9
1961	410	878	2
1962	120	800	2
1963	400	795	3
1964	1,929	2,003	3
1965	15,195	30,285	3
1966	458	816	2
1967	1,111	1,022	2
1968	2,000	6,000	1
1969	1,620	1,214	4
1970	30,470	128,510	5
1971	1,672	1,215	4
1972	30,820	400,153	4
1973	6,246	110,411	1
1974	1,000	288	2
1975	.	.	1
1976	435	83	4
1977	6,100	17,725	6
1978	1,000	125	4
1979	7,880	9,472	9
1980	1,800	21,071	2
1981	4,243	698	6
1982	8,678	19,250	3
1983	2,060	260	3
1984	2,500	.	1
1985	1,770	.	3
1986	97	30	1
1987	.	.	0
1988	.	.	0
1989	90	0	1
1990	.	.	1
1991	.	.	1

	Total number of strikers	Strike-days	Number of strikes
1992	300	37	1
1993	500	312	1
1994	300	300	1
1995	.	.	0
1996	.	.	1
1997	.	.	0
1998	.	.	0
1999	.	.	0
2000	.	.	0
2001	.	.	0
2002	.	.	0
2003	70	18	1
2004	.	.	1
2005	.	.	0
2006	.	.	0
2007	.	.	0
2008	.	.	0
2009	.	.	0
2010	.	.	0
2011	.	.	0
2012	.	.	0
2013	.	.	1

Appendix 7.4 History of RSV

History of RSV



Southern and Eastern Europe

8 Always on the verge of sinking

Labour and production in the Sestri Ponente shipyard,
Genoa (Italy), 1950-2014

*Giulia Strippoli, Davide Tabor, and Luciano Villani*¹

Introduction: is the identity of Sestri Ponente at a crossroads?

In this chapter we examine the history of the Sestri Ponente shipyard in relation to three themes: employment and labour composition; production trends and changes in the organisation of work; and workplace struggles that took place during the Republican period to guarantee the role of the workers in the company, and to avoid the closure of a highly productive shipyard. The importance of the local context in which the shipyard stands seems to go beyond the issue of employment, embracing the physiognomy of a territory in its broadest sense, embedded in cultural and communal identity processes over a long period. This identity has flourished throughout the past two centuries and has been forged around the knowledge and special skills learned and passed down through generations by the Sestri Ponente shipyard workers. Although many of its constituent elements remained intact, Sestri Ponente eventually declined as a result of economic, production, and social changes.

Sestri Ponente

Sestri Ponente is an industrial suburb of Genoa in north-west Italy and is situated on the Ligurian Sea to the west of the city.² It grew to become

1 Giulia Strippoli wrote two sections of this chapter (on workers' identity and workers' struggles), Davide Tabor wrote two sections (on the quantitative profile and on health and safety), and Luciano Villani wrote two sections (on Sestri Ponente and on the business and technical profile), with the rest being a combined effort of the three authors.

2 The Port of Genoa is an important outlet to the sea for northern Italy's most industrialised area. It covers a total surface area of about 7 mn m² and extends uninterrupted for 20 km along a coastal strip protected by breakwaters, starting from the Old Port basin, in the city's historic centre, to the far western end, in the area of Voltri. It has 47 km of maritime works, including 30 km of operative quays. The Sestri Ponente shipyard covers an area of approximately 248,000 m², of which 81,000 m² are covered. It has three docks of 285 m, 255 m, and 250 m in length and three cranes including one with a capacity of 200 tons.

a working town in the early decades of the nineteenth century with a particular “vocation” of otherness, expressed in the form of a jealously guarded administrative autonomy, which was lost during the fascist period as it was subsumed into a wider urban area.³ However, in the current economic climate, it seems that Sestri is unwilling to accept a future without maritime activities, despite the threat of a future without shipbuilding. During periods of difficulty of the yard, the company, employees, and trade unions have proudly proclaimed their long tradition of work, each according to its role in the history of Sestri Ponente’s “forge of ships”.⁴ Founded by Ansaldo (an Italian engineering company est. 1853) in the latter years of the nineteenth century, Sestri Ponente was eventually taken over by the state conglomerate Finmeccanica in 1948, which then divested the shipyard to Italcantieri of Trieste in 1966. Italcantieri was established in 1959 as a state financial holding company for the Italian shipbuilding industry under the supervision of the Istituto per la Ricostruzione Industriale (Institute for Industrial Reconstruction, IRI),⁵ and in 1984 became a state-owned operating company under Fincantieri, at which point it merged eight Italian shipyards controlled by it, including Sestri Ponente.⁶

Workers’ identity

Hull-launching ceremonies, often witnessed by the entire community, projected an image of perfect co-operation between the company and workers. At this moment, the workers recognised the result of their labour and their special skills and creative abilities, according to a specific culture of the enterprise, the “*ansaldina*”, which created a strong relationship between the workers and Ansaldo. This culture stimulated a particular valorisation of the essential traits of the workers’ mental universe and skilled training, but remained sensitive

3 See Rugafiori, “Da città a quartiere operaio”.

4 The title of a 2012 book: Caterino, *Fucina di navi*.

5 IRI was an Italian public holding company established in 1933 by the fascist regime to rescue, restructure, and finance banks and private companies that had gone bankrupt during the Great Depression. After 1945, IRI played a pivotal role in the marked growth of the Italian economy of the 1950s and 1960s. It was dissolved in 2000.

6 The company, founded in 1959 as a finance company, the Cantieri Navali – Fincantieri Ltd Company, was transformed into an operating company in 1984, following the merger of eight companies controlled by it, in the field of shipbuilding, ship repair, and production of mechanical components and diesel engines. For Fincantieri, see Carminati, *Il settore delle costruzioni navali tra globalità e nazionalità*, 159–200, and Galisi, *Dai salvataggi alla competizione globale*.

to the sirens of the productivist ideology.⁷ This specific culture also involved other aspects of the social and professional identity of workers and employees. Working at Ansaldo – which was strongly rooted territorially – meant gaining a position in Sestri society and guaranteed access to a range of benefits (from grants to welfare activities for employees' families organised by the company, from recreational clubs to internal solidarity funds) that helped to cement the bond with the company.⁸ These features and the “*ansaldina*” culture would continue even when the shipyard was no longer part of Ansaldo.

“In Genoa”, as Duccio Bigazzi has written, “it was enough to say, ‘I work at Ansaldo’ to find all doors opened.”⁹ This summarises a perception of common purpose that rested on internalising a certain corporate loyalty – constitutive of workers' pride – able to coexist with the spirit of the values of their social class. The transition to the public sector in 1966 triggered by Italcantieri's takeover led to the strengthening of the welfare mindset, which had important implications, due to the assurance of work and the redistribution of resources to the whole community, and contributing in other ways to mitigate the harshness of the capital-labour conflict. At some points, especially with the creation of Intersind (the trade union for workers at state holding enterprises) at the end of the 1950s, the trade unions and Ansaldo came together in applying for grants and contracts from government. And, in more recent times, when the unions disapproved of the decisions of public managers less willing to participate in dialogue, they invoked the better team spirit they had enjoyed with the previous managers.¹⁰

Between the reality of the yard and the rest of society of Sestri Ponente existed a natural exchange of interests. It was a relationship developed within traditional family and social structures, as the transmission of working knowledge occurred mainly through the generational inclusion or in specific group dynamics, and was then articulated in a more extended way.

7 Molinari, *Lettere al padrone*, 19, contains a description of typical characters of workers: “The Ansaldo worker [...] is politically antagonistic but he has an ideology that exalts the value of labour; he fights inside the factory but is respectful of order and discipline. He can also oppose and despise the ‘owner’ or those who represent the ‘owner’, but he is proud of his work and the place where he works.”

8 For the relationship between corporate culture and professional hierarchies at Ansaldo, see Gibelli, “Tecnici e operai”.

9 Bigazzi, “Culture ed etica del lavoro”, 198.

10 This is the case of the metalworkers' union FIOM, which, in criticising the decisions of Giuseppe Bono, Fincantieri's CEO since 2002, recalled the previous CEO Pierfrancesco Guarguaglini, who immediately after taking office declared: “the workers do not have to ask anything, the problem is ours”. See Coordinamenti nazionale FIOM-CGIL del gruppo Fincantieri, *Il caso Fincantieri*.

On this, the processes of mobility had an influence: besides the stable and mostly unionised workforce, some workers spent only a few weeks or months in the yard; others worked with assiduity at Sestri Ponente, even if they were employed by sub-contracting companies. There was also considerable mobility of workers, and an objective community of interest expressed in the good performance of shipbuilding orders, elements that explain the support provided by the citizenship to the mobilisations against the closure of the plant in recent times. For some people, support originated from a long-lasting professional relationship with the yard, but for others this relationship appeared mediated by different relationships with other companies and with the wider community: the yard retained, however, a heritage they wanted to defend, because it was deemed an irreplaceable major part of the local economy. The region's identification with the shipbuilding industry is therefore the result of long historical experience with multiple trajectories, condensed into a symbiotic relationship that has made the image of Sestri Ponente almost indistinguishable from its shipyard's activities.

A quantitative profile of the work in Sestri Ponente

The first element we would like to highlight concerns the gender composition of the labour force: the majority of shipyard workers were men, with some females employed in cleaning and canteen work. This is a constant, which changed only partially during the period of the Second World War and in the past two decades, when there has been a limited increase in female employment in the shipyard. Employment statistics over the decades under consideration outline a clear trend, although it is one peppered with some variations. The reduction in the number of workers is constant and relevant. The data show a radical contraction of the labour force, which began in the mid-1950s and has continued ever since. In 1956 there were 5,235 employees; in 1965, 3,383; in 1970, 3,764; in 1980, 2,530; and in 1996, 1,020. By the year 2000, the numbers had fallen to 770 employees; although in 2004 this had slightly increased to 1,050, by 2010, only 770 employees remained, almost seven times fewer than in 1956.¹¹ This sharp decline had

11 Istituto per la Ricostruzione Industriale, Archivio generale e pratiche societarie (hereafter AIRI), FC, b. R1558, *Brevi note sulla cantieristica italiana degli ultimi venti anni. Genova 25 agosto 1977*; b. R1693, *Piano quadriennale 1980, Relazione*; b. R1564, *Bilancio consolidato 1998. Esercizio 1998*; b. R1566, *Preconsuntivo 2000. Budget 2001*; documents provided by Sandro Scarrone (interview 22 November 2012). It is better to consider the data as trends, because they are obtained from different sources.

several causes; including marked technological change, the organisation of the production cycle, and changes in the market for ships.

The recurrent crises in the sector have not simply reduced the number of workers: they have represented an unusual condition of employment. The role of social safety in Italy in the public sector has been translated, when necessary, into the absorption of the workforce dismissed from small companies in crisis into larger public industrial establishments, as happened in Sestri in relation to the troubled history of a local ship repair firm, OARN.¹² More generally, the result of labour disputes has undoubtedly had an influence on those entering the workforce: an example was the negotiation, completed in the mid-1970s, which led to the absorption of those who worked for outside contractors into the shipyard in Sestri.¹³ Finally, the recruitment processes have been affected by domestic migration. Between the 1950s and 1970s, when the population of Genoa grew by approximately 150,000 inhabitants – mainly due to migration from southern Italy, where recruitment was extensive. The first recruitment drive was directed at towns in the South, where posters were displayed. The second was indirectly linked to the classic cycle of urban integration: after a period of work in small companies, often engaged in related industries of the sector, workers moved to work at Sestri. Similar models operated in more recent years, with migration from abroad becoming more prominent: for example, Croatian welders arriving in Genoa in the 1990s.¹⁴

Up to the 1960s workers at Sestri were mainly Genoese or Ligurian. This changed in the next decade as a result of the arrival of workers from different regions. Thereafter, many people from different localities and nationalities worked in the yard, with inevitable problems related to their integration and to language barriers. The district of Sestri, however, is still involved in immigration to some extent: according to municipal statistics (2010), 6 per cent of local inhabitants were foreigners, a percentage lower than the urban average of 8.3 per cent.¹⁵

12 The absorption occurred in 1992. There was a documentary and an exhibition on OARN, *OARN: una storia di uomini e navi* (by Luigi Pastorino, a former worker), which premiered at Genoa in 2012.

13 AIRI, fondo Italcantieri (hereafter ITC), b. R1688, *Piano quadriennale 1975, Relazione* (5 December 1975), 81.

14 Interviews with Diego Delzotto, Giulio Troccoli, and Bruno Manganaro (21 November 2012); interviews with Camillo Costanzo and Vincenzo Alicinio (22 November 2012).

15 Comune di Genova, Direzione statistica, *Stranieri a Genova al 31 dicembre 2010*, 10 (http://statistica.comune.genova.it/pubblicazioni/storico/stranieri_2010.pdf, accessed 22 September 2013).

Table 8.1 Workers and clerks from 1959 to 1982 (percentages)

	Workers	Clerks
1959	85.8	14.2
1960	85.7	14.3
1961	85.2	14.8
1962	84.6	15.4
1963	84.0	16.0
1964	83.6	16.4
1965	83.4	16.6
1966	86.3	13.7
1967	86.2	13.8
1968	85.6	14.4
1969	87.3	12.7
1971	89.9	10.1
1972	90.0	10.0
1973	90.3	9.7
1974	89.6	10.4
1975	88.1	11.9
1980	85.0	15.0
1982	85.5	14.5

Source: Istituto per la Ricostruzione Industriale, Archivio generale e pratiche societarie (hereafter AIRI), ITC, b. R1688, *Piano quadriennale 1975. Relazione* (Trieste, 5 December 1975); b. R1689, *Società Italcantieri. Note sul bilancio al 31 dicembre 1968; Società Italcantieri. Note sul bilancio al 31 dicembre 1969; Italcantieri. Bilancio al 31 dicembre 1971; Italcantieri. Bilancio al 31 dicembre 1972; Italcantieri. Bilancio al 31 dicembre 1973; Italcantieri. Bilancio al 31 dicembre 1974*; b. R1693, *Piano quadriennale 1980. Relazione* (Trieste, 8 October 1980); b. R1697, *Piano quadriennale 1982. Relazione* (Trieste, 16 September 16, 1982); Centro Ligure di Storia Sociale (hereafter CLSS), Camera del Lavoro di Genova (hereafter CdLG), Succursali CdL di Genova-Sestri (hereafter Sestri), b. 4, FIOM-CGIL, *Inchiesta sulla struttura del salario nelle aziende metalmeccaniche Italcantieri Sestri P.* (February 1968).

The data on employment in Table 8.1 highlight that between 1959 and 1975 86 per cent of employees were workers, with peaks of 90 per cent.¹⁶ The proportion of workers to clerks can be considered constant, with the exception of the early 1970s, when a favourable economic and commercial situation and the stimulus of the trade union battles allowed the hiring of hundreds of workers. Table 8.2 refers to the technical composition of the workforce and reveals the clear dominance of those with higher qualifications. In 1972, this percentage was 90 per cent of the labour force working in the yard. This peak owed much to collective negotiations arising from

16 Statistics about workforce are discontinuous in available sources. In case of Table 8.1 there are no figures for 1976, 1977, 1978, 1979, or 1981: despite the fact that the statistical series is incomplete, it nonetheless provides an overview of trends.

Table 8.2 Workers' qualifications 1959-1975 (percentages)

	Highly skilled workers	Skilled workers	Semi-skilled workers	Unskilled workers
1959	21.2	41.0	35.5	2.3
1960	22.2	42.7	32.8	2.2
1961	22.9	43.2	31.4	2.5
1962	22.6	43.3	31.5	2.6
1963	22.7	45.6	29.2	2.5
1964	22.0	46.7	29.2	2.1
1965	22.2	47.8	28.0	2.0
1966	21.9	48.4	28.1	1.6
1967	22.1	46.9	29.7	1.3
1971	23.2	42.6	33.2	1.1
1972	25.5	46.6	26.8	1.1
1973	25.3	50.6	22.9	1.2
1974	29.8	49.4	19.8	1.0
1975	36.4	51.7	11.7	0.2

Note: Workers in Italy were divided by national collective agreement into the four categories above based on the nature of the work and its specialisation. Totals may not equal 100 because of rounding.

Source: CLSS, CdLG, Sestri, b. 4

actual or threatened trade union action. It should also be highlighted that it was difficult for the company to find not only skilled workers, but also unskilled ones. During the 1970s there were extensive efforts to plan appropriate courses of pre-placement for workers, especially for the “younger generation”, organised with the help of the local ANCIFAP,¹⁷ while IFAP from Rome – a branch of the IRI – was involved in the training and retraining of clerks and managers.¹⁸

At the end of the 1960s, the average age of workers and clerks was rather high, about 45 and 47 years old.¹⁹ The data seem to be confirmed by the testimonies collected today, which give the impression of strong job stability: many employees, once they entered the yard, grew old doing the same job until retirement. The work in the yard crowned a long period of working life: the first part was spent in the apprenticeships in small enterprises;

17 The National Association IRI Training Centres and Training was formed in Genoa in 1936 and developed especially in cities where the group's companies were situated.

18 IRI, numerazione rossa, AIRI, ITC, b. R1687, *Piano quadriennale 1972-75*, f. 1 (Trieste, 10 November 1971), 85. IFAP stands for Institute for Training and Professional Qualifications.

19 AIRI, ITC, b. R1689, *Società Italcantieri. Note sul bilancio al 31 dicembre 1968*.

Table 8.3 Workers in Sestri under 25 and 29 years old, 1974 and 1980 (percentages)

Workers under 25		Workers under 29	
31 December 1974	31 August 1980	31 December 1974	31 August 1980
12.9	0.5	25.5	8.7

Source: AIRI, ITC, b. R1693, *Relazione* (Trieste, October 8, 1980), 87

Table 8.4 Workers at Sestri by age in 1974, 1977 and 1980 (percentages)

	0-20	21-24	25-28	29-32	33-36	37-40	41-44	44-48	49-52	53-56	57-60
1974	1.2	11.7	12.6	9.1	9.3	8.7	10.8	10.4	11.5	8.4	6.4
1977	0.1	5.4	12.7	12.5	11.1	10.9	10.7	11.6	11.8	9.6	3.5
1980	0.0	0.5	8.2	13.3	13.0	12.6	12.8	13.1	12.8	9.3	4.3

Note: Totals may not equal 100 because of rounding.

Source: AIRI, ITC, b. R1693, *Relazione* (Trieste, October 8, 1980), 87

employees then began to work for the public company. Employment at Sestri was a relevant “leap forward” in people’s lives, for better wages and working conditions, including safety. Retention of the skilled workforce along with the recruitment of adult workers increased the average age of the workforce.

The seniority of the workforce, in particular among the working class, was addressed by a report on the budget in 1980: it highlighted that the percentage of young people was “drastically decreased”.²⁰ A long-running trend has become acute in the years following the global crisis in 1973. During that crisis, the process of expulsion of labour from the yard penalised younger age groups. For example, the number of workers under 25 years old decreased from 25.5 per cent in 1974, to 8.7 per cent in 1980 (Tables 8.3 and 8.4). The expulsion of the lower age groups should therefore be linked to the lack of orders after the OPEC crises of 1973-1974, and it is the first indication of a significant change in the composition of the Sestri workforce, mainly related to seniority in service.

High rates of labour mobility are easily distinguishable as long as we include in the analysis the relationship between internal and external sub-contract and temporary workers. In the yard, in addition to the employees counted in official statistics, hundreds of people worked, some permanently, on behalf of small and medium-sized sub-contractors for

20 AIRI, ITC, b. R1693, *Piano quadriennale 1980. Relazione* (Trieste, 8 October 1980).

Table 8.5 Minimum wage of unskilled workers and women, 1959-1962 (lire per hour)

	Unskilled workers	Women
1959	138.15	130.7
1960	138.15	130.7
1961	176.95	185.8
1962	176.95	185.8

Source: CLSS, CdLG, Sestri, b. 4, FIOM-CGIL, *Inchiesta sulla struttura del salario nelle aziende metalmeccaniche. Italcantieri Sestri P.* (February 1968)

certain services and processes. Statistics show the extent of this kind of work in the yard: some surveys conducted by the CGIL (Italian General Federation of Labour) in 1971 showed that of 3,200 workers employed in the yard about 860 were actually sub-contract workers.²¹ The shipyard resorted to external companies when orders and production cycles required it, on an intermittent basis. Because of the labour agreement of September 1975, which opposed the hiring of outside workers, the use of this kind of contracts decreased drastically. As late as 1981, the company complained about long delays in the execution of the work, attributing this to union obstructionism, procurement problems, and overtime.²² In recent years, however, the amount of sub-contracted work has increased dramatically, unbalancing the relationship with internal employees. On the one hand, it was the consequence of the increasing outsourcing of services in the public sector, not just in industry; on the other hand, it was the result of the change of the core business of Sestri Ponente to cruise-ship construction, for which the fitting-out operations – where the sub-contract work predominates – account for more than 70 per cent of the value of a ship. According to another union estimate, in November 2012, there were some 2,000 sub-contract workers, of which about 700 worked on a regular basis.²³ This number is comparable to the internal employees, of which there were 777 in 2010. Another much earlier form of mobility of labour was the phenomenon of workers transferred, in moments of particular need, from other yards of

21 Centro Ligure di Storia Sociale (hereafter CLSS), Camera del Lavoro di Genova (hereafter CdLG), Succursali CdL di Genova-Sestri (hereafter Sestri), b. 4, Italcantieri di Sestri. *Situazione ditte di appalto* (1 May 1971).

22 AIRI, ITC, b. R1693, *Piano quadriennale 1981. Relazione* (Trieste, 20 October 1981), 4-6.

23 CLSS, CdLG, Sestri, b. 4; interviews with Diego Delzotto, Giulio Troccoli, and Bruno Mangano (21 November 2012).

Table 8.6 Workers' wages, 1959-1967 (lire per hour)

	Highly skilled workers			Skilled workers			Semi-skilled workers I			Unskilled workers		
	Minimum wage	Contingency	Piecework average	Minimum wage	Contingency	Piecework average	Minimum wage	Contingency	Piecework average	Minimum wage	Contingency	Piecework average
1959	173.25	26.94	99.24	155.55	24.19	90.75	138.15	21.44	79.39	138.15	21.44	79.39
1960	173.25	31.37	101.75	155.55	28.19	93	138.15	25.06	77.32	138.15	25.06	77.32
1961	221.85	6.75	99.27	199.2	6.06	84.34	176.95	5.37	52.31	176.95	5.37	52.31
1962	221.85	22.44	119.15	199.2	20.12	104.37	176.95	17.87	53.4	176.95	17.87	53.4
1963	221.85	45.19	135.31	199.2	40.56	119.82	188.6	38.94	62.77	176.95	35.75	62.77
1964	221.85	68.81	144.27	199.2	61.69	126.39	188.6	58.75	63.62	176.95	53.62	63.62
1965	221.85	83	140.26	199.2	74.31	126.07	188.6	70.69	60.1	176.95	64.37	60.1
1966				199.2	80.63	122.67	188.6	76.63	59.58	176.95	69.75	59.58
1967	221.85	86.94	141.84	199.2	82.56	124.24	188.6	82.56	57.35	176.95	75.12	57.35

Note: The contingency allowance was a component of the Italian wage to align it to the cost of living; it was introduced in Italy after the Second World War by collective agreement. The original wage calculation system was gradually changed over time.

Source: CLSS, CdLG, Sestri, b. 4, FIOM-CGIL, *Inchiesta sulla struttura del salario nelle aziende metalmeccaniche. Italcantieri Sestri P.* (February 1968). See also collective agreements in b. 3

Italcantieri; this phenomenon is not observable for the whole period, but is nevertheless present.²⁴

With regard to salary, although the changes in the labour agreement do not facilitate the reconstruction of a complete wage series, we can still summarise some macro-trends of negotiation. The difference in pay between men and women was observable until at least 1963;²⁵ men, as in the rest of the Italian industrial sector, earned higher wages than women did. Up to 1960, labourers, the category of male shipyard worker that was the least well paid, received a minimum wage higher than women (Table 8.5).

Until the 1970s, the salary structure was broadly divided into two parts: one fixed at the minimum wage; and payment by results, represented by piecework. As the data in Table 8.6 show, in Sestri during the 1960s piece rates accounted for one-third of workers' wages. In addition, from 1961 there was also a production bonus, not counted here. The structure of the piece rate or piecework was overhauled at the end of the 1970s, as we will see later in this chapter.

Health and safety

A dramatic aspect of work at Sestri Ponente – certainly felt by the workers – was the dangers inherent to the job. During the 1950s, there were frequent articles addressing the issue in the official newspaper of the company, *L'Ansaldo*.²⁶ Both the company and trade union archives testify to the importance assigned to the problem. Of course, there were many other measures to be taken to limit the number of accidents that occurred in the shipyard, in the workshops, and in the basins of the yard. The incidence of injuries depended of course on typical working conditions of shipbuilding production, which took place in precarious places, forcing welders to work in narrow tunnels or people to work in solitude and in cramped conditions, at least in some phases of the construction cycle, and certainly more in the past than in recent times. A better idea of what it meant to work in Sestri in terms of safety can be inferred from the data and statistics contained

24 AIRI, ITC, b. R1686, *Nota sul programma aziendale a fine 1969*: Sestri “has been able to take advantage of the performance of substantial rates of workforce moved temporarily from Monfalcone”, 3. There was worker mobility between yards in the next period too.

25 From that year onwards, the union documentation tended to refer to two different wages.

26 For example, *L'Ansaldo*: 1 September 1954; 1 June 1955; 15 February, 1 April, 1 October 1956.

Table 8.7 Accidents per million hours worked, 1968-1979

	1968	1971	1973	1977	1979
Number of compensated injuries	95	148	129	133	138
Number of accidents requiring medical treatment	1,422	1,730	1,730	1,290	1,360
Number of production hours lost per accident	13.1	18	15.5	18.8	18.9

Source: AIRI, ITC, b. R1689, *Note sul bilancio al 31.12.69*, p. 8; ivi, *Bilancio al 31.12.71*; *Bilancio al 31.12.1974*; AIRI, ITC, b. R1693, *Relazione* (Trieste, 8 October 1980), 89

in the official reports. Table 8.7 describes the situation rather effectively for about a decade.

A union survey in 1968 subdivided risks according to the stage of the production cycle.²⁷ Just two examples from this survey are worthy of special attention. In the basin, according to a FIOM (metalworkers' union) document:

The construction of the bow and stern lockers, along with the pace and the delivery dates, makes this a hellish environment. In a few square feet of space the workers assembling the hull, masons, welders, and electricians worked one above the other, elbow to elbow.

Secondly, about assembly on board:

[it] is certainly the phase when the indices of harmfulness are the highest. All or almost all of the negative environmental factors (as they relates to shipbuilding) are added together. Temperature: too hot or cold. Humidity. Very poor air circulation. Low lighting. Dangerous scaffolding. Noise. Vibration. Radiation.

There were also risks arising from the presence of asbestos dust and marinite, welding fumes, and vapours of many other dangerous products. Given the inherently dangerous working environment, many union campaigns focused on the issues of health and safety at work.

27 CLSS, CdLG, Sestri, b. 3, *Appunti sull'ambiente di lavoro* (20 February 1968).

Evolution of business and technical-production profile

The phase of post-1945 reconstruction and the needs posed by the conversion to the civilian market presaged the beginning of a difficult period fraught with uncertainties for the shipyard in Sestri Ponente. The shipyard had structural limitations inherent to its location in an urban environment, and was crossed by the railway line from Genoa to Ventimiglia. A profound reorganisation, moreover, was urgently imposed after the war for the entire Ansaldo group.²⁸ From that moment the yard was the centre of several renovation projects – some of which were realised, although others remained on paper – in order to try to reduce the constraints dictated by topography. In conjunction with the introduction of more modern techniques and with the improvement of the facilities and organisational systems, the aim was to make Sestri more productive and efficient in comparison to its international competition. In market terms, the yard had to deal with a new situation and it was necessary to change to respond to the emergence of a different composition of the demand for ships: the yard – which also launched cargo ships – had specialised in warships and passenger liners (passenger liners were built even later despite the growth in air travel). With Italy defeated in the Second World War there were fewer warship orders from the state, and the market growth sectors were in the liquid and dry bulk sectors as the world economy recovered and then grew in the post-war climate.²⁹

Up until this period, Ansaldo's Sestri Ponente yard had been able to maintain a leading position in Italian shipbuilding – mainly thanks to its expertise acquired in building fast trans-Atlantic liners. The company had consolidated its position during the 1930s with the addition of new berths and 21 per cent of the national average annual production of hulls (32,000 tons per year under full employment).³⁰ A considerable handicap was, however, already detectable at the time of the launch of the famous trans-Atlantic passenger liner *Rex* in 1931.³¹ In the immediate post-war

28 On the history of Ansaldo, see Castronovo (ed.), *Storia dell'Ansaldo*, and Doria, *Ansaldo*. The renovation was completed in 1948 on the basis of the plan for grouping together similar sections of production prepared by Finmeccanica (the holding company of IRI, formed to reorder the entire mechanical sector also including shipbuilding), and this led to the concentration into the Ansaldo Group of other yards, as Odero Terni Orlando (Livorno and Muggiano-La Spezia).

29 See Fioratti (ed.), *Ansaldo navi*, 17.

30 See Manetti, "La cantieristica e le costruzioni navali", 116.

31 See the document by the first Technical Committee created in 1934 within IRI to examine problems of the publicly owned part of the shipbuilding industry in Italy: Fragiaco, *L'industria come continuazione della politica*, 100.

period, the company tried to resolve this crucial problem by taking the first steps to rationalise its production. Between 1948 and 1952, some workshops and facilities required for staging were built at Sestri, and some docks and piers were served by special lifting equipment. But it was not enough in comparison to the better Swedish, German, or Japanese companies, where, following wartime American practice, considerable progress had been achieved in the prefabrication and assembly of hulls. Nonetheless, from 1954 to 1957, Italian shipbuilding was able to survive thanks to subsidies amounting to 27 per cent of the cost of cargo vessels and 21 per cent for passenger liners built in Italy arising from the Tambroni Act (named for the minister of the merchant marine) of the spring of 1954. This act replaced and co-ordinated earlier measures, and was designed to expand the Italian merchant marine and bring the output of Italian shipyards near capacity levels.³² This level of subsidy masked the fundamental lack of competitiveness of Italian shipbuilding in the international context,³³ but nevertheless had important repercussions on production. Italy's share of world output rose from 3 to 5.7 per cent, but the subsequent downturn in international freight rates from 1958 onwards demonstrated the fragility of the Italian position: 25 per cent of the orders held by Italian shipyards were cancelled.³⁴ The cost gap with other countries was substantial and difficult to resolve because of the deficiencies of the technical and production systems of Italian yards.

At Sestri, facilities were totally outdated: the different parts of the hull were transported by a system of cable cars, each of which had a capacity under 4 tons; assembly took place in the open, on an inclined plane where the ship was launched. In 1959 a project of modernisation began: the aim was to raise Sestri to a first-rate industrial level within the European shipbuilding industry. In fact, in 1967, when this programme was almost finished, the yard had been fundamentally changed. Cableways and inclined slopes had been replaced by the building of three basins, each served by 60-ton capacity cranes. New covered welding and steel-fabrication halls were built, and optical marking of steel plates began. The steel-plate storage area was expanded by annexing 12,000 m² first occupied by the Ansaldo Fossati. A dual ramp, which opened to traffic in 1960, put in direct communication

32 Law no. 522, 17 July 1954.

33 In 1938, the level of subsidies available to Italian shipbuilders was 40 per cent; see Parkinson, *The Economics of Shipbuilding in the United Kingdom*, 195.

34 AIRI, FC, b. R1524, f. Note e relazioni dell'IRI, *Situazione e problemi dell'industria cantieristica* (24 July 1958).

central areas of the yard: the welding workshops and the basins, respectively located upstream and downstream of the railway.³⁵ Overall, it was an investment of 15.5 bn lire.³⁶

But the expectation that this modernisation would mean that Sestri could match its foreign competitors' levels of productivity and ship prices was unfounded. In fact, IRI's own leaders did not believe in the modernisation programme. Before the modernisation plan was launched, the prefect of Genoa and the Ministry of State Holdings contacted IRI, lamenting the reasons that hindered its approval, because it would be difficult "to maintain the current employment at the end of the orders".³⁷ The concerns for the political and social consequences of a potential closure of Sestri won against purely economic logic. It must be said, however, that the city of Genoa had already witnessed a considerable downsizing of its industrial infrastructure, much of which took place under public control and resulted in the reduction of about 50 per cent of workers in a decade.³⁸ The restructuring of Sestri (with other initiatives such as the expansion of the steel mills of Cornigliano) became a measure of compensation, and IRI could not escape from this mechanism.³⁹

Without modernisation, the fate of Sestri would probably have been sealed, as Giuseppe Petrilli, the president of IRI, wrote in a letter to Minister for State Holdings Giorgio Bo: on one hand, he applied new funds in order to achieve the laws approved by parliament to support the sector at the beginning of the 1960s.⁴⁰ On the other hand, he urged the authorities to install new measures to replace the ones that were expiring and, in response to the clarification requested by the EEC – which was opposed to state subsidies – to send a government memorandum in which they reiterated the reasons for continuing aid.⁴¹

35 The modernisation work on the site is described in Esercizi, Ansaldo, from 1960 to 1966, AIRI, fondo Ansaldo (hereafter Ansaldo), b. R1158.23, Assemblee e bilanci 1961-1970.

36 AIRI, FC, b. R1526, f. Relazioni e appunti IRI-Fincantieri, *Investimenti nei cantieri* (12 October 1966).

37 AIRI, FC, b. R1526, f. Corrispondenza, *Genova – Riordinamento aziende IRI*, lettera del ministero delle PP.SS. all'IRI (26 November 1958).

38 AIRI, FC, b. R1526, *Rapporto sulla politica cantieristica italiana nel quadro del Trattato di Roma*, February 1961, 7-8.

39 AIRI, FC, b. R1526, f. Relazioni e appunti IRI-Fincantieri, Società cantieristiche del gruppo IRI. *Problemi e provvedimenti* (13 December 1960), 6-10.

40 In particular, Law no. 301 31 March 1961 supplemented the Tambroni Act, which assigned contributions to ships built in shipyards for Italian and foreign national military: laws no. 1 and 2 of 9 January 1962, concerning ship financing and contributions for scrapped vessels.

41 AIRI, FC, b. R1526, f. Corrispondenza, letter, 4 October 1963.

Meanwhile, the Italian public shipbuilding sector was separated from Finmeccanica and vested in Fincantieri, a new financial company created in 1959.⁴² The global crisis in the shipping sector began in 1957-1958 with a substantial fall in freight rates, and recession followed for most of the following decade with very serious consequences for Italian shipyards. Accordingly, suspensions and dismissals were a real risk for Sestri, where underutilisation of the yard's capacity increased the risk of redundancies caused by the restructuring period.⁴³ It was expected that 2,100 workers were at risk of losing their jobs in 1964.⁴⁴ Letters to ministers in Rome were sent by the mayor of Genoa, Vittorio Pertusio, and by the president of the province, Francesco Cattenei, hoping to avoid reductions in the Sestri workforce.⁴⁵ However, what was needed was not more time for solutions at the level of individual production unit, but an examination of the overall situation in Italy in terms of excessive fragmentation of the operating units, the heterogeneity of productive enterprises, outdated plant and machinery, low productivity, and inefficient management. A committee chaired by Giuseppe Caron was created as part of the Interministerial Committee for Economic Planning (CIPE) with the task of providing guidelines for the restructuring of the Italian shipbuilding industry. The industry had lost ground to other European competitors and to Japan. The overall situation in Europe prompted a change in the hitherto hostile attitude of the EEC on the continuation of state subsidies, and in April 1965 the EEC promulgated a draft directive allowing the granting of state subsidies to shipbuilding, with a limit of 10 per cent of the value of the ship.⁴⁶

The proposals by Caron's commission incorporated the reorganisation plan presented by Italcantieri and approved by IRI. It established on one hand the combination into one operating company all the yards considered useful for a possible recovery and, on the other, the conversion of smaller shipyards to ship repairing, and in some cases closure. In addition, the commission subordinated these interventions "to the questions of a social

42 On the creation of Fincantieri, see Carminati, *Il settore delle costruzioni navali tra globalità e nazionalità*, 159-200; Galisi, *Dai salvataggi alla competizione globale*.

43 At that moment, the few orders in the works were part of a special programme developed by Finmare – the financial company of the IRI group that controlled the major Italian shipping company – in order to prevent the orderbooks being empty.

44 AIRI, FC, b. R1524, f. Esuberanza di personale, *Esuberanze personale aziende cantieristiche "Fincantieri" previste alla fine del 1964*.

45 AIRI, Ansaldo, b. R1157.22, f. Riordinamento del cantiere navale di Genova-Sestri, letter by Petrusio to Minister Bo (3 October 1963); letter from Cattenei to Petrilli, 24 October 1963.

46 Doria, *Ansaldo*, 293-294.

and economic nature, related to the general conditions of the local area".⁴⁷ It thus reaffirmed that protection of employment was a principle to be defended, as well as, if necessary, establishing new activities for workers as compensation measures. At the same time, some passages contained in the committee's report brought to light a degree of scepticism about the real possibility that the Italian shipbuilding industry could rise to the level of the world's largest producers. For example, the report stated that the rationalisation would in any case be insufficient "to soothe the pain of this particular sector of the domestic industry, because [the pain] is rooted in the social and political situation of Italian reality".⁴⁸ The government approved the Caron Plan and a few days later, on 22 October 1966, Italcantieri was born; its general shipbuilding division encompassed the shipyards of Castellammare, Monfalcone, and Sestri Ponente.⁴⁹

All shipyards under Italcantieri had a production specialisation. The choice of IRI to establish the headquarters of the General Directory in Genoa contained in the 1965 Caron Plan sparked the beginning of a serious dispute with Trieste, already apprehensive because of the expected downsizing of its San Marco shipyard. The strong pressure exerted by public opinion and by the institutions in Trieste, supported by a fierce press campaign orchestrated by local newspapers, prevailed over the claims of Genoa, and the IRI chose Trieste as the headquarters and design centre of Italcantieri. The move was emblematic of the politics of compromise, susceptible to local interests, which inevitably intertruded in the politics of the system of state-controlled companies.⁵⁰ The centralisation of ship design in Trieste meant that the technical department of Sestri remained active only for liquid natural gas carriers, which at that time marked the workload of the Genoese yard as did other "sophisticated" ships, such as containerships. However, LNG carriers built in Sestri in the second half of the 1960s had notable technical problems, attributable in part to the delay of the company Chicago Bridge in the machining of the cryogenic parts of these vessels.⁵¹

47 AIRI, ITC, b. R1696, *Relazione della commissione interministeriale di studio per i cantieri navali* (Rome, 1966), 135.

48 *Ibid.*, 77-78.

49 AIRI, Ansaldo, b. R1158.23, *Assemblee e bilanci 1961-1970, Relazione del CdA all'assemblea degli azionisti dell'Ansaldo tenutasi il 28 dicembre 1966*. The Sestri shipyard passed officially to Italcantieri on 1 February 1967. See *ibid.*, Plan 1967, 8.

50 AIRI, FC, b. R1526, f. *Relazioni e appunti IRI-Fincantieri, relazione Cantieri navali - Ristrutturazione* (Rome, 7 October 1966).

51 AIRI, ITC, b. R1686, *Programma quadriennale 1969-72. Note riassuntive* (Rome, November 1968), 8.

Given the problems encountered on LNG carriers from the 1970s the workload was focused on two types of ships: bulk-oil carriers and container ships.⁵² It was, however, a transitional phase, in which in fact Italcantieri planned to reorganise its plant and equipment in order to reduce its construction lines and so that each factory would specialise in monotype production. In 1972, with two production lines instead of three, repeat orders accounted for 93 per cent of Sestri's workload.⁵³ However, the oil crisis of 1973-1974 sparked a drastic decline in the freight market, especially for oil tankers, calling into question Italcantieri's strategy of monotype production, which particularly affected the Monfalcone shipyard, which exclusively produced very large oil tankers. Not surprisingly, the comments about the four-year plan in 1973 warned about the completion of a monotype conversion of Sestri shipyard.⁵⁴ The plan of 1975 emphasised the importance of achieving "technological, organisational, and engineering effective improvements".⁵⁵ Subsequently, these improvements, particularly in fabrication and welding of sub-assemblies, when completed, increased production and ultimately kept costs down.

In August 1974, Italcantieri presented a programme of modernisation of its Sestri shipyard to IRI. The plan called for the creation of a new block-construction manufacturing plant. The anticipated area set aside was over 100,000 m², made up of 34,000 m² of land occupied by old plant, the acquisition of 21,000 m² of state-owned land, and the reclamation of 47,000 m² of land covered by water.⁵⁶ Overall, when completed, it was estimated that an increase would result in production capacity from 50,000/60,000 to 90,000 tons per year. Without this investment, worth 20 bn lire, Sestri would have been unable to compete with the best of the competition.⁵⁷ In supporting the project Italcantieri used traditional arguments that emphasised the expectations of workers "particularly worthy for the professional maturity and operational commitment that characterise them", who had waited "for too long a time for major investments in Sestri".⁵⁸ However, the post-OPEC crisis in the mercantile market imposed a significant downsizing on the investment programmes and therefore on the prospects for the shipyard's

52 AIRI, ITC, b. R1687, *Piano per il quadriennio 1971-74*, f. 1 (Trieste, 23 November 1970), 32.

53 AIRI, ITC, b. R1695, *Esercizio 1972*, 6.

54 AIRI, ITC, b. R1687, *Osservazioni sul piano Italcantieri a fine 1973*, 7.

55 AIRI, ITC, b. R1688, *Piano quadriennale 1975. Relazione* (Trieste, 5 December 1975), 29.

56 AIRI, ITC, b. R1697, *inserto "g", Sistemazione degli impianti di scafo del cantiere di Sestri* (31 July 1974), 4.

57 *Ibid.*, 9.

58 AIRI, ITC, b. R1688, *Piano quadriennale 1974. Relazione* (Trieste, 9 December 1974), 10.

modernisation. In June 1978, the possibility of beginning reclamation of land from the sea had not yet become possible (there remained the issue of difficult negotiations with local authorities for the acquisition of the areas to be reclaimed). However, the four-year plan drawn up in November of that year postponed to the following year any decision in relation to this and to 1982 the probable beginning of the investment in plant.⁵⁹ Among the objectives of the four-year plan in 1982 again appeared the elimination of “bottlenecks in the production flow resulting from the presence of the railway overpass”, but the layout of the shipyard remains largely unchanged to this day.

The changes that did occur were in terms of work organisation. By an agreement of October 1975, the company and unions agreed to abolish the system of piecework by 31 December 1978. Instead, a new organisational system was developed, known as “islands”, which would have to overcome the piecework component of production while ensuring the overall control of production and yields, focused on the use of the workers according to the principle of “expanded craft”. The island is a basic unit of production in which workers perform various operations complementary to each other, designated by a programme (*cedola di lavoro*). This method creates joint responsibility and implies that workers perform tasks other than those strict specifications of their craft.⁶⁰ The island system, launched in 1977 in Sestri, aimed to eliminate waiting times and optimise work performance, subject to a process of collective control of time and carried out by “new” workers, who were flexible and versatile. For these reasons, there was considerable working-class resistance to the adoption of the new organisational system developed in Sestri; this resistance was deemed to be more fierce than in other establishments.⁶¹ Meanwhile, the fall in global demand assumed the proportions of a real collapse. Many shipyards in Europe closed, and even Japanese yards cut labour and acquired contracts at a loss.⁶² There was a sharp

59 AIRI, ITC, b. R1691, *Piano quadriennale 1978. Relazione* (Trieste, 10 November 1978), 60.

60 The method and experimental path adopted in establishments Italcantieri are illustrated in a document in AIRI, ITC, b. R1696, *Il caso Italcantieri*, December 1978, 121ff. On the island system, see Merotto, Sacchetto, and Zanin, *Fincantieri fabbrica globale e territorio*, 37ff.

61 AIRI, ITC, b. R1693, *Piano quadriennale 1977. Relazione* (Trieste, 8 October 1980), 54: “The organisation of ‘island’ work has been extended to almost all productive sections of Castellammare shipyards, while unions and workload have prevented the launch in some departments at shipyard of Sestri. The analysis of the first results confirms both the maintenance of productivity and reduction in accounts aids and services, although the basic principles of the new organisation, such as enlargement of the trade and joint responsibility, have not yet been satisfactorily applied.”

62 See *Rapporto sull'industria cantieristica giapponese*, October 1979, inside *Piano quadriennale 1979*, AIRI, ITC, b. R1693.

deterioration in economic performance of Sestri, from a profit of 4.4 bn lire in 1976 to a deficit of 13.9 bn lire in 1978, caused by a decrease in production volumes and lower remuneration for orders. According to business calculations, the market prices covered just 55 per cent of the cost of the ship.⁶³

Despite the freeze on hiring, extended until 1984, and the attempt to settle the production in monotype, the shipyard, facing gaps in work, could not escape layoffs, launched in April 1980. From that year, among the solutions proposed by Italcantieri to revive the fortunes of the national shipbuilding industry (the reactivation of ship financing, the modernisation of national armament, alternative market prospects in the field of offshore and floating production plant) began to appear the possibility of “deactivation” of the Sestri Ponente shipyard.⁶⁴ Otherwise, governmental charges of 350 bn lire a year to stay in the market and compensate for gaps in production were predicted. Italcantieri discussed the matter until 1984: that year Fincantieri, the financial holding company with headquarters in Trieste, became the new operating company (with a divisional structure of merchant shipbuilding, naval shipbuilding, ship repair, and marine engine building after merging eight subsidiaries) and issued yet another restructuring plan. The plan provided for a reduction in production capacity and the “drastic reduction of the shipyard in Sestri”⁶⁵ already provided for by the document drawn up by the Technical Advisory Committee for the shipbuilding industry and welcomed by the so-called Carta Plan, named after the minister for the merchant navy. However, the protocol approved at the Presidency of the Council of Ministers on 27 November 1984 committed the government to keep the shipyard open; it was to develop “integrated specialised productions – in addition to maintaining a naval [merchant] production function”.⁶⁶ However, Fincantieri failed to register profits: losses in 1985 totalled 89 bn lire; in 1986, 59 bn lire; and in 1987, 89 bn lire, the last prompting another reconstruction plan with the provisional aim to break even by 1990. This was substantially assisted, in addition to EEC subsidies, by a government package

63 AIRI, ITC, b. R1696, *La situazione e le prospettive della cantieristica a partecipazione statale* (Rome, 28 May 1980), 16.

64 *Ibid.*, 14.

65 AIRI, ITC, b. R1695, *Verbale dell'assemblea ordinaria degli azionisti della società Italcantieri* (2 May 1984). Fincantieri delegated merchant-ship construction to five yards, Ancona, Castellammare di Stabia, Sestri Ponente, Livorno, and Venezia Marghera. Naval warship-building was devolved to Muggiano and Riva Tregoso, with the Monfalcone yard building merchant and naval vessels. Ship-repair work was delegated to six yards at Trieste, Venice, Genoa OARN, Palermo, Naples, and Taranto.

66 The Provincial Council of Genoa approved article 6 of the *Protocollo di orientamenti e decisioni del governo sull'economia marittima*. AIRI, FC, b. R1555. *Corrispondenza col M/ro PP.SS.*

of aid to Italian shipowners, who would be eligible for interest subsidies on domestically ordered tonnage. Indeed, up to half of the price of a ship would be covered by one subsidy or other. As Daniel Todd has noted, the scheme was successful: the Fincantieri orderbook, which stood at a meagre 85,000 dwt in 1985, rose to 807,000 dwt one year later and undoubtedly saved the Sestri Ponente yard from closure. In addition, the Italian state shipping company Finmare allocated sums for a fleet-renewal programme from 1987. Accordingly, Finmare companies accounted for 54 per cent of Fincantieri's merchant ship newbuilding capacity at the beginning of 1989.⁶⁷

The 1990s were characterised by a profound change that swept through the state holdings, a process that ended with the abolition of the relevant ministry in 1993 and the liquidation of IRI, which took place in 2000. The company reoriented its mercantile production to large cruise ships, intended for a fast-growing international niche market.

In October 1993 the Sestri shipyard was separated from Fincantieri and transferred to the newly formed company Sestri Cantieri Navali Spa (owned almost entirely by Fincantieri itself), with the purpose of enabling co-operative projects in the area of marine systems.⁶⁸ Nearly a decade later, in September 2002, the shipyard returned to Fincantieri.⁶⁹ In the interim, the Sestri plant had transferred its activities to the high value-added cruise-ship market. Cruise-ship construction had in fact increased the backlog of orders at Sestri, and it was now joined in the production of "floating hotels" by the Monfalcone and Marghera establishments, to the point that Fincantieri approved new investment to improve these facilities for cruise ships.⁷⁰

This situation lasted until the 2008 world financial crisis, which resulted in a precipitous drop in orders that has once again engulfed the sector and called into question the future of the Sestri Ponente shipyard.

Workers' struggles at the Sestri Ponente shipyard

Sixty years separate the workers' struggles that took place in Sestri during the reconstruction phase from those to which now pertain. A considerable amount of time passed – along with major turning points – in which many

67 Todd, *Industrial Dislocation*, 83.

68 AIRI, FC, b. R1571, *Verbale del comitato esecutivo Fincantieri* (20 November 1992).

69 AIRI, FC, b. R1584, *Verbale di assemblea straordinaria della società Sestri Cantieri Navali S.p.A.* (4 September 2002).

70 The planned expenditure amounted to more than €35 mn; see AIRI, FC, b. R1582, *Verbale del CdA di Fincantieri* (4 April 2002).

of the aspects that affect the life of the shipyard have changed. Yet, yesterday as today, there is a common denominator in the workers' movement: avoiding mass layoffs and obtaining guarantees to continue employment. During the period of post-war reconstruction, the labour movement showed great resilience. In spite of the defeats suffered by the left and a decidedly unfavourable power relationship, the labour movement continued to act secretly in anticipation of change triggered by the resistance to and the defeat of Nazism and fascism. Political and trade union structures had taken root, and the area around the shipyard was distinguished by "a chain of uninterrupted neighbourhoods with a composition exclusively popular [...] a panorama singularly compact and homogeneous from the point of view of class", to quote the words of Antonio Gibelli.⁷¹ The situation after the Second World War was, therefore, in many ways not comparable to that of today: in the first case myths – and rhetoric – of a productive working class remained prevalent. This emphasis on productivity reflected aspirations to control the entire production process and ambitions to achieve self-management, an alternative to taking direction from the company.⁷² In the second case, job survival becomes the motivating factor. In addition to the claims made on the national level (remuneration, working hours, holidays), the most forceful requests at the local level were about the work environment and trade union rights, but also led to the idea that wage levels should be independent of productivity.⁷³ Below we will analyse the circumstances of the three moments of struggle, in the early 1950s, the late 1960s, and post-2000.

The 1950s represented a turning point for the labour movement in Genoa. The restructuring plans of the mechanical engineering and the steel industries instigated thousands of layoffs and redundancies. The alarms caused by redundancies and the withdrawal of managers from factories in liquidation led workers to engage in all-out strikes and sensational initiatives. As was the case at the St George factory, the workers of the Sestri Ponente shipyard decided to self-manage production. It was the time of the "72 days of occupied Ansaldo", from 28 September to 9 December 1950. During this period workers worked on a vessel commissioned by the owner Lauro, an oil tanker, *Will*, of 18,000 grt, eventually launched on 29 January 1951. The action was not confined to Sestri Ponente but was supported by all Ansaldo

71 Gibelli, "I 'grandi costruttori'", xxiv.

72 On this cycle of workers' struggles in Genoa, see interventions that appear under the title "Gli operai di Genova (1950-1970)" in the journal *Classe*, 19 (1981), 65-126.

73 AIRI, ITC, b. R1690, *Bilancio Italcantieri 1968* (May 1969), 17.

workers. The Ansaldo conglomerate employed 20,000 workers, of which only 250 chose not to join the strike; the majority of these were managers, while the rest of the workers were united in their opposition to the 4,417 layoffs, which precipitated the occupation. The union FIOM-CGIL had a leading role in the occupation of the shipyard, and in general the strike was highly organised, mainly thanks to the work of the “internal commissions” and “management councils”.⁷⁴

In addition to the trade unions, another important actor emerged: the Roman Catholic Church, which had always played a prominent role in the events of the shipyard. Even the communist PCI (Partito Comunista Italiano), then the largest communist party in the Western world, also accepted the presence of the church, which combined with political campaigns that the party was leading at the national level, in support of the plan of work started by the CGIL and, more importantly, of the peace movement. The PCI tended to emphasise the importance of moral values in particular, such as solidarity among the workers of Ansaldo and the fact that they were working while not receiving a salary. For example, in an article published in *Rinascita*, the weekly theoretical journal of the party, Luigi Longo listed the associations and institutions that had expressed solidarity with the workers of the shipyard and then appealed to the constitution and national solidarity for “a positive mobilisation and struggle of ever new layers of workers and population”.⁷⁵ In the struggles of the 1950s there emerged the following main components: strong organisation, a leading role for the trade union CGIL, broad participation of workers – not just of the shipyard, but also of all Ansaldo’s factories –, and an atmosphere glorifying the willingness to peace. There was also a great work ethic and vigorous reference to Soviet productivity models. Gibelli described the universe of workers of Ansaldo as:

Inside the mythology of the factory, of labour and its products, lived the mythology of the new man to be built, a future to be realised [...] In this way the work ethic is welded to a political ideal with strong moral content, which ideally joined, in an unbroken thread of continuity and consistency, setting the ship in the shipyard, alongside the resistance against dismissal and the fight against repression, the struggle for peace and for the defense of the USSR from the aggression of imperialism. A vision of what constituted the safest bearer, the most consistent and

74 Botta, “Gli anni cinquanta a Genova”, 86.

75 Longo, “Le lotte per il lavoro e il pane degli italiani”, 504-508.

unwavering defender, was the communist militant in the factory, the professionalised worker, master of the craft, an example and model for his comrades both on a moral and political as on that of the work.⁷⁶

At the end of the 1960s, there was another significant round of strikes in the shipyard – now part of Italcantieri – in very different circumstances from the ones just described. The more macroscopic effects of the post-1950 economic boom were fading, and the Italian situation was beginning to arouse anxieties. The student revolt of 1968 and the “Hot Autumn” of 1969 initiated a social and political conflict in a country emerging transformed by the “economic miracle” and not just with increased well-being: the development had also produced severe distortions and irreconcilable contradictions. The management described the situation of the shipyard in terms of contrast, in an analysis in which there were conflicting elements. On the “weak points”, the company wrote:

Union unwilling to co-operate, disrespectful of the pacts signed (they immediately strike without performing proper procedures of negotiation), which uses irregular forms of struggle (intermittent strikes).

As for the “strengths”:

Staff and managers basically healthy (better than the union that exploits them) satisfactorily responding to moral incentives (self-esteem, professional pride), the actions of training, to different incentives, and therefore likely, even for the rejuvenation that is going to begin, improved returns in the new organisation.⁷⁷

In the strike at the end of the decade, in fact, the union did not have a prominent role, at least in principle. It was a mobilisation born within the shipyard, but the workers involved were not Italcantieri employees, but Chicago Bridge's, an American company specialising in LNG carriers. Workers numbered between 1,000 and 1,300 people, and the pay was good, but the working conditions were deemed to be very bad. The authoritarianism of management increased the discontent among the workers concerning dismissals and dangerous work, the latter apparently worsened with the use

76 Gibelli, “I ‘grandi costruttori’”, xlix.

77 AIRI, ITC, b. R1686, *Piano per il quadriennio 1968-71. Parte generale sintesi e linee impostative del piano*, 6-8.

of a new welding process that involved the use of aluminium. In October 1968 workers began an all-out strike that would last for ten consecutive days. In the memory of the witnesses:

That fight was really legendary [...] [workers] upset industrial relations policies, invented new methods of struggle and new forms of organisation, and especially created new relations between workers and society.⁷⁸

From there was born a rapport between the Chicago Bridge workers and the collective of local university medical students, which occurred mainly on the issues of health and safety. This group, in fact, developed a test to be submitted to the workers on working conditions and health in the workplace, creating fierce unity between students and workers. American executives immediately tried to dismiss the struggle, firing workers who distributed leaflets and questionnaires. The PSIUP⁷⁹ of Genoa, which in a January 1969 flyer emphasised that from a “defensive” position the movement had changed to an “offensive and articulate” line. They also recognised the character of the struggle as being different from those of the past.⁸⁰ Of particular importance was a leaflet signed by “A group of workers at the Chicago Bridge and the neighbourhood group of the student movement” dated September/October 1968, in which they explained the danger of the work during the preparatory phase of construction. The authors described the noise level and the development of metal powders, as well as the risk of diseases that fall into the group that were not covered by the public health service. They denounced the excessive heat in the welding phase, responsible, they said, for a reduction in attention and a decline in energy levels, and the presence of ultraviolet rays, responsible for the formation of cancers and eye irritation that could cause eye diseases.⁸¹ It was a rather spontaneous conflict, with the union reduced to a role that was still relatively safeguarded by the link established between workers and students, in line with the atmosphere in the most important factories in Italy. The content of the struggle was also new, focusing on workers’ health, safety, and working conditions. Despite the negotiations initiated by the union in

78 Archivio dei movimenti a Genova e in Liguria, Biblioteca Civica Berio, “Autobiografia del 68 a Genova e in Liguria. Le occupazioni universitarie, la Chicago Bridge” (VTS_O1_1) mm. 15,44 (Genoa, 2010).

79 The Socialist Party of Proletarian Unity was created in 1964. See Agosti, *Il partito provvisorio*.

80 Archivio dei movimenti a Genova e in Liguria, Biblioteca Civica Berio, Fondo Bruno Piotti, faldone IV, *Chicago Bridge: una lotta che non deve rimanere isolata*.

81 *Ibid.*, *Compagni della Chicago Bridge*.

early November 1968 and the acceptance of all workers' demands on wages, working conditions, and prospects, sixteen workers were summoned in June 1969 by a court order to appear for questioning; they had been investigated for months without their knowledge. They had to respond to allegations of domestic violence, unauthorised marches, and injuries. The multiplier effect of the workers' struggle did not wait: in Sestri there began a series of strikes organised by working areas, which then moved to all suppliers, with serious damage to the timing of the flow of materials and for the image of the company, which described a catastrophic situation in the four-year plan 1970-1973:

Everything is against us: the actions of the union (official and "rebellious") which, while aiming to punish the "master" or protest against the state, seriously detract from business efficiency [...] The political "carpe diem" sanctions in fact only the obligation to strike, and strikes that are often illegal and destructive for the company. Crimes are in fact unpunished [...] leaders, without whom large masses of workers would not be capable of fruitful work, have a growing sense of painful powerlessness. It is a deadly virus for the future of the company.⁸²

The year 1969 was unique, with a total amount of 1.5 mn strike-hours in all sites of Italcantieri. As early as 1970, the strike-hours were reduced to 0.3 mn, which grew to 0.67 mn in the following year. However, severe outbreaks of discontent returned often in the course of the decade: for example, during contract negotiations, on the question of classification of workers on piecework rates, and so forth. In the mid-1970s, almost 20 per cent of hours lost were due to absenteeism.⁸³ The workers' struggles of the 1970s largely attained their objectives, economic and contractual, upsetting the traditional balance of power in the shipyard. However, to defend the workplace, the workers themselves initiated the largest labour mobilisation in recent memory. On 8 September 1983, Italcantieri announced that the Sestri Ponente shipyard would be closed. They gave two reasons for the closure: the site was considered obsolete and production too expensive compared to other sites in the group. Moreover, the city of Genoa was estimated to be capable of absorbing the industrial workers of the shipyard. The prediction of the yard's closure dated to a few years before. The Italcantieri programme for the years 1981-1984, drawn up at the end of 1980, provided for the reduction

82 AIRI, ITC, b. R1686, *Piano per il quadriennio 1970-73*, file 1 (Trieste, 15 January 1970), 1.

83 AIRI, ITC, b. R1688, *Piano quadriennale 1975. Relazione* (Trieste, 5 December 1975), 90 (table).

of shipyards' production capacity. The target, set in 1979, was to lower the production capacity from 250,000 to 200,000 cgt.⁸⁴ For this reason, it was necessary to close a medium-sized yard, identified as Sestri, whose workload would be exhausted at the end of 1982. Italcantieri considered the closure of Sestri a strategic necessity. There thus arose the problem of finding a place for the workers. In this regard, the solution advocated was to transfer the workers to other companies of Italcantieri. One thing seemed certain: Sestri would cease to manufacture ships. Although the yard was kept open (which had been considered improbable by many), it would be conducting another activity, "to be found, however, outside the shipbuilding industry".⁸⁵ The path to the end, moreover, had been established: it provided a gradual shift in numbers of layoffs, from 430 employees in the third quarter of 1981 to the remaining 2,365 in the following year, until 31 December 1982, when the shipyard would close. The layoff programme combined with mobility of labour and retraining would allow the gradual accommodation of all staff "either by transfer to other local companies, or by resorting to proper incentives for early retirement".⁸⁶

Despite this plan, the shipyard remained open, but on 8 September 1983 Italcantieri communicated its desire definitely to close it. The reaction of the workers was bitter, and they began a series of protests that enjoyed the broad support of the citizenship and the involvement of institutions and the Roman Catholic Church, especially in the person of the cardinal of Genoa, Giuseppe Siri. In this case, the protest of the shipbuilding workers extended to workers in the harbour, the private arsenals, and all companies thrown into crisis by the dismantling of the system of state holdings. On 1 October 1984, hearing the news that Fincantieri had cancelled, without notice and without explanation, the meeting with representatives of trade unions planned for the next day in Rome, there was a huge demonstration and occupation of the railway station. The demands of the protesters were threefold: the restoration of 80 bn lire in funding for the shipbuilding industry that had been cut, the immediate resumption of negotiations with Fincantieri, and the guarantee of a share of orders for Sestri. The closure of Sestri Ponente was eventually averted thanks to the collective actions of the workers and the contribution of all the citizens of Genoa: the local and national press, the Roman Catholic Church, and national politicians fearful of increasing levels of social unrest. Workers and trade unionists

84 AIRI, FC, b. R1546, *Nota sul programma del gruppo Fincantieri 1981-1984*, 18.

85 *Ibid.*, 19.

86 *Ibid.*, 22.

did not limit themselves to organising meetings: they went out onto the streets every night to discuss the situation with citizens. Cardinal Siri was very influential in the Vatican and especially in urging priests to denounce the idea of closing the shipyard during his homilies. Solidarity was also expressed by Sampdoria, the football team of Genoa: the players' visit to the shipyard was reciprocated at a football match, from the entrance of the workers on the pitch: an episode which long remained in the memory of many people. There were demonstrations for a year and at the end of 1983 Italcantieri, in drawing up the programme for the years 1984-1989, stated that "to mitigate the severe tensions" generated by the dispute, they were considering the possibility of preserving some of the workers' jobs, by using them in different processes, similar to ship-construction techniques.⁸⁷

Earlier, on 4 August 1983, the IRI had approved the reorganisation plan presented by Italcantieri. It provided, in addition to the closure of the shipyard, a reduction in capacity through radical rearrangements in each establishment "up to the level of the minimum operating under the best possible conditions of efficiency and productivity", and the merger of all the group's companies into one.⁸⁸ The pressures of many people, including local politicians, did change company policies: in November 1984, the government removed the right to close shipyards from the Protocol on Maritime Activities. In 1985, under Fincantieri, funds were allocated for the renovation of Sestri and investment allowed an improvement in production. The arrival of two new cranes made it possible to build larger ships. At the end of the 1980s, in order to make the most of its capacity, the shipyard began to build so-called marine systems, such as the submersible platforms *Scarabeo 5* and the *Spirit of Columbus*, commissioned respectively by SACEM and SANA. The diversification of the shipyard's production was not enough to reassure all of the workers, because the arrival of the work was not immediate, and many workers were forced to undertake work far away from Sestri. This situation created a sense of injustice and even revenge against members of the other sites, as evidenced by Pippo Carrubba in one of his memoirs:

The Sestri Ponente shipyard will not close; it will make floating platforms (offshore) to extract oil from the sea and to convince us they had put a sheet in the basin. They spent months and months, but the same plate was always there and the majority of us [worked] away in Italy making huge sacrifices. Meanwhile, both Monfalcone and other shipyards

87 AIRI, FC, b. R1549, *Programma a fine 1983*, 6.

88 AIRI, FC, b. R1549, *Osservazioni al piano Fincantieri a fine 1983*.

inaugurated giant platforms without having struck for an hour. We – who had conquered that specialisation with hard struggles – we saw that others were doing our job.⁸⁹

Meanwhile Fincantieri reorganised by divesting its division of ship repair yards, OARN of Genoa, Castellammare, Palermo, and Taranto. The divestment began with the closure of the yard in Taranto: in 1992, 390 OARN workers were transferred to the Sestri Ponente shipyard, which was able to absorb the excess through early retirement. In addition, the problem of asbestos and its related cancers led to a proportion of the workforce leaving Sestri. The enactment of Law 197 pushed the company, fearful of not being able to cope with the workload, to take on younger workers.

Meanwhile, within Fincantieri, Sestri, in tandem with the yards at Monfalcone and Marghera, concentrated on cruise-ship construction. Beforehand, in 1992, with the aim of privatising state assets the Italian government had published a White Paper on State Ownership, which defined the shipbuilding industry as a sector now “mature” and to be divested. This occurred in conjunction with the fruition of the new strategy of Fincantieri, which focused on cruise ships and had lifted the performance of the whole group, including Sestri. The yard first began the construction of mini cruise ships and ferries; then, with the orders of Costa Crociere, the shipyard positioned itself as a leader in cruise-ship construction. The predictions of continued prosperity after the millennium, moreover, were very optimistic. Cruise-ship construction was highly concentrated: there were only seven builders worldwide of vessels of more than 60,000 cgt. Therefore, as Fincantieri management noted, it was “a favourable competitive situation” which also highlighted the “excellent performance of ships built”.⁹⁰ The long-term plan of Fincantieri 2001-2004 provides interesting data on the cruise-ship market, in the hands of a small number of owners, often active in the entire sector of the tourism industry, including ships, hotels, and tourist agencies. However, the need for a cautious attitude was linked to the rise of oil prices and a slowdown in the US economy, factors that were causing a drop in the profitability of cruise-ship operators. Meanwhile, Fincantieri’s CEO, Pierfrancesco Guarguaglini, was replaced by Giuseppe Bono, who launched a plan to privatise the company. The mobilisation of trade union antagonism to this plan lasted from the autumn of 2005 to the end of 2007, and eventually led to its withdrawal and the abandonment of privatisation

89 Carrubba, *Lettere dalla fabbrica*, 85.

90 AIRI, FC, b. R1569, *Piano Poliennale 2001-2004*.

of shipbuilding by the centre-left government of Romano Prodi. Production at Sestri continued, but in September 2010 Fincantieri presented a draft plan that provided for a reduction of 2,500 jobs and the closure or semi-closure of three sites at Sestri Ponente, Riva Trigoso, and Castellammare di Stabia. As in the 1980s, though in lesser forms, the protest against this plan had spread from Sestri to the rest of Genoa. Its distinguishing features were the types of action, with the blocking of the motorway and the airport, citizens' marches, and the solidarity of the local population. There were also protests in the yards "saved" by the plan, such as Palermo. In Sestri at that time, the workers were building two cruise ships and an Indian military ship. A first strike, of two hours' duration, resulted in the temporary occupation of the site and in a short march. In May 2011, a strike involved the three threatened shipyards in Sestri Ponente, Riva Trigoso, and Castellammare di Stabia. The restructuring plan presented by CEO Bono confirmed the cutting of 2,550 jobs, the closure of Sestri and Castellammare, and the reduction of the workload of the shipyard in Riva Trigoso, leading to its closure. A series of agreements between the company and unions – 21 December 2011, 15 February 2012, and 5 April 2013 – reached a temporary solution: the shipyard in Sestri was saved (as were Castellammare and Riva Trigoso), and the company reduced redundancies at Sestri from 330 to 180.⁹¹

The turnaround in Fincantieri's fortunes was largely achieved with the aid of various subsidies and by reducing labour costs reached through simplification of the production process by computerisation of design and planning and the introduction of flexible work organisation on the so-called Fincantieri model. This was based exclusively on the use of direct employees in the construction of the hull and on on-site outsourcing for ship assembly operations by sub-contractors. The Fincantieri model led to the coexistence, in the same shipyard, of working conditions that were very different but interdependent, resulting in an overall worsening of working conditions for the entire labour force. In the sub-contracting system, there is marked racial division in the workplace; the prevalence of undeclared work to avoid taxation; lack of unionisation and lax health and safety standards; an extension of working hours up to 10-12 hours per day; and lowering wage levels through piecework and "global" pay.⁹²

91 Press releases issued by the unions related to negotiations were circulated and commented on by many media outlets. See for example <http://www.informare.it/news/gennews/2013/20130567-lavoratori-FincantieriSestriPonente-hanno-detto-si-accordo-sindacale.asp> (accessed 10 May 2014).

92 On the abuse of sub-contract workers and on wage reductions obtained using "global pay" in Italian shipyards and particularly at Sestri, see *Rassegna sindacale*, 22 June 2004; *Il Fatto Quotidiano*, 17 March 2012; the journalistic inquiry by the television programme "Report"

The future of Sestri Ponente?

Since the advent of Fincantieri's move towards cruise-ship construction, competition in this sector has intensified with companies such as Mitsubishi of Japan and Meyer Werft of Papenburg, Germany, achieving large market shares. Fincantieri responded in part by diversifying into off-shore construction while continuing to build warships and cruise ships and undertaking ship repair and conversion. In January 2013, Fincantieri, with its head office in Trieste, had almost 20,000 employees worldwide (8,400 in Italy) and twenty-one shipyards on three continents. That month, Fincantieri completed its acquisition of the financially troubled Korean-owned STX OSV – a company listed on the Singapore Stock Exchange and now renamed VARD. As a result, Fincantieri doubled its size and is now the fifth-largest shipbuilder in the world, after four South Korean shipbuilding companies.⁹³

The present position at Sestri remains ever vulnerable to competitive pressures. Its direct workforce has been drastically reduced with a greater than ever reliance on sub-contract labour now being the norm. At present the yard is in the process of completing an order of 13 July 2013 by Royal Seven Seas Cruises of a 54,000-grt cruise ship to be named *Seven Seas Explorer*, due for delivery in the summer of 2016.

on *Fuori bordo* (1 April 2012) by G. Boursier (<http://www.report.rai.it/dl/Report/puntata/ContentItem-ee826574-458d-4616-b1a2165f0804e857.html>, accessed 5 May 2014); interviews with Diego Delzotto, Giulio Troccoli and Bruno Manganaro (21 November 2012); and with Camillo Costanzo and Vincenzo Alicinio (22 November 2012). Global pay is a legal expedient utilised by sub-contractors to avoid paying social and pension contributions. Payment, in fact, is determined on the basis of individual bargaining in which workers are obliged to monetise all their social rights: payment of social security and insurance contributions for the hours of work not covered by the contract, severance pay, the thirteenth month's salary, overtime. It is lower than a wage calculated on the basis of a collective agreement.

93 Fincantieri's merchant-ship division comprises yards at Monfalcone, Marghera, Sestri Ponente, Ancona, and Castellammare. Its warship capacity is located at Riva Trigoso (Genoa), Muggiano (La Spezia), and Marinette Marine, Bay Shipbuilding, and ACE Marine, the last three located in Wisconsin, USA. Ship repair and conversion are undertaken at Palermo, Trieste, and La Spezia, and offshore work at Trieste, Sestri Ponente, Palermo, and Ancona. VARD comprises two yards in Brazil, Niteroi and Promar; five yards in Norway at Aukra, Langsten, Brattvaag, Brevik, and Soviknes; two yards in Romania at Braila and Tulcea; and one yard in Vietnam at Vung Tao. The sale by STX in January 2013 did not include its St Nazaire shipyard, which is partly owned by the French government. Fincantieri publicises the current organisation of the company as: "Working together as one large, flexible shipyard" (http://www.fincantieri.it/cms_display/pagina_sedi.aspx, accessed 12 May 2014).

9 Work, workers, and labour conflicts in the shipyard Bazán/Navantia-Ferrol, Galicia (Spain), 1950-2014

José Gómez Alén

The shipyard between autarky and economic development in the 1960s

The role of the state and the renewal of shipbuilding

After 1939, the Franco dictatorship's economic policy was one of autarky (self-sufficiency); the vast majority of companies with foreign capital were therefore taken under state control. This was the case with the Spanish Society of Shipbuilding (SECN), founded in 1908 with 60 per cent Spanish capital and the rest held by the British shipbuilding firms, Vickers, Armstrong-Whitworth, and John Brown.¹ Prior to the outbreak of the Spanish Civil War, SECN, known widely as "La Naval", comprised Ferrol and Cartagena shipyards and the artillery workshops at La Carraca in Cádiz. It subsequently acquired the shipyard of Matagorda (Puerto Real, Cádiz, 1914), built the shipyard of Sestao (1915-1916), and bought Astilleros del Nervión in Bilbao (1920) and other centres of armament such as Reinosa in Santander and San Carlos in Cádiz. In 1936 the navy took up arms against the Republic and seized the yards at Ferrol and Cádiz. Almost all warships built at the Ferrol yard were designed based on Royal Navy vessels.²

Throughout the 1940s, the Franco dictatorship attempted to restore the productive sectors destroyed during the Spanish Civil War; and the reform and modernisation of shipbuilding were among its industrial priorities.³ Although the legal basis for its creation was passed into law in 1942, the

1 Jordi Mollas-Gallart notes that a British consortium of Vickers, Armstrong-Whitworth, John Brown, and Sir John Jackson and Company (civil engineers) held a 40 per cent stake in SECN. See Mollas-Gallart, *Military Production and Innovation in Spain*, 43-44.

2 See Ramírez Gabarrús, *La construcción naval militar española*, 89-91, and Romero González and Houpt, "La Sociedad Española de Construcción Naval".

3 For an overview of Spain's domestic and foreign policy during the Second World War, see Bowen, *Spain During World War II*.

formation on 11 July 1947 of the Empresa Nacional Bazán (ENB) was the high point in the process of nationalisation and concentration of Spain's warship-building industry under the overall control of the Instituto Nacional de Industria (INI), with shipyards at Cadiz, Cartagena, and Ferrol. Under the 1951 Law for the Protection of Naval Construction, the company's main customer was the Spanish Admiralty. However, the persistence of structural problems in the post-war economy, a lack of accessibility to international markets due to political isolation, a scarcity of energy resources and raw materials, and the delay in the implementation of financial measures hindered the renewal of the sector during the 1950s.⁴

The realities of Cold War politics increasingly meant that US policy-makers saw the strategic importance of the Iberian peninsula. In September 1950 the United States had agreed a package of aid to Spain amounting to USD \$62.5 mn and supported a United Nations resolution lifting an international boycott on Franco's regime. In 1951, the United States resumed full diplomatic relations with Spain. The signing of the Pact of Madrid on 26 September 1953 marked the end of Spanish neutrality. The pact consisted of three separate, but interdependent, agreements between Spain and the United States making provisions for mutual defence, for military aid to Spain, and for the construction of US bases there for a renewable ten-year period, although the bases remained under Spanish sovereignty.⁵

The Preamble to the Pact of Madrid stated:

Faced with the danger that threatens the western world, the Governments of the United States and Spain, desiring to contribute to the maintenance of international peace and security through foresighted measures which will increase their capability, and that of the other nations which dedicate their efforts to the same high purposes, to participate effectively in agreements for self defense.⁶

Under this agreement the USA was granted the right to expand, build, and use military airfields and army and navy bases in Spain and to build secret installations. The agreement also provided for the importation of American military equipment. The Americans also provided financial support, raw

4 For an overview of the Spanish economy, see Prados de la Escosura, *The Progress of the Spanish Economy*.

5 For a succinct account, see, for example, Calvo-Gonzalez, "American Military Interests and Economic Confidence in Spain under the Franco Dictatorship".

6 US-Spain Treaties in force, Department of State, Mutual Defense Assistance Agreement between the United States and Spain, 26 September 1953.

materials, oil, and technology for the military sector, which then began a slow process of modernisation.

The pact was a triumph for the Franco dictatorship, bringing Spain in from the cold of international opprobrium. Franco stated in his 1 October 1953 message to the Cortes:

If the Spanish nation, serving its own interests and those of Western defense, has to cooperate closely with the United States, it has done so maintaining its own ideology intact and within its incorruptible sovereignty, thus inaugurating a policy of stable friendship between our two countries.⁷

Unsurprisingly, as the First Secretary of the American Embassy in Madrid later noted:

the reaction of the traditional, but not latent, political opposition to the Franco government – the Anarchists, Socialists, and Republicans – has been, insofar as the Embassy has been able to determine, predominantly adverse, since the US Agreements represent for them, in the first instance, the strengthening of a regime to which they are unalterably opposed.⁸

By the mid-1950s the United Nations had approved Spain's membership, and by the end of the 1950s new laws to support the sector, together with low wage costs, led to the growth of the shipbuilding industry in the next decade.⁹

The new economic policy also demanded the transformation of labour relations. The Law on Collective Agreements (1958) opened the way to collective bargaining between workers and companies. It allowed the creation of incentives to increase productivity and put an end to wage rigidity, which until then had been unilaterally imposed by the Ministry of Labour. All the factors of change, combined with the state's financial and legislative efforts, made possible the modernisation of shipyards. At Bazán, facilities and machinery were enlarged and improved. A new huge slipway, 260 m long and 110 m wide, where several ships could be assembled at the same time, was

7 *Foreign Relations of the United States of America 1952-1954*, vol. VI, Pt 2, doc no. 920, 1st Secretary of US Embassy in Spain to the Department of State, 16 June 1954.

8 *Ibid.*

9 Ley de Protección y Renovación de la Marina Mercante (1956); Plan de Estabilización (1959); Plan de Renovación de la Flota Pesquera (1961); I Plan de Desarrollo (1963); Decreto de Acción Concertada (1967).

built, and the new cranes installed had more carrying capacity and could move crosswise. New machinery workshops, smelting and metal-fabrication shops, and a large dock for armament afloat were built. Working conditions also improved with new toilets and dining rooms and new premises for a School of Apprentices.¹⁰ At that point Bazán was the foremost Galician company, and the group it belonged to was the largest in Spain.

The growth of construction activity gradually increased, as did the labour force, rising from 5,249 workers in 1947 to 5,840 in 1960 and to just over 6,000 in 1966.¹¹ The increase in the workforce was in part met by rural migrants in search of the job stability offered by the shipyard. Another portion of the workforce came from the company itself, which gave priority to the children of workers first entering the Work School; at 14 years old they were transferred to the School of Apprentices where they were trained for four years prior to joining different sections with the professional qualifications obtained in the theoretical and practical exams performed.¹²

In terms of production, the shipyard kept its traditional lines: construction of new vessels, ship repairing, and manufacture of turbines and engines. Although in the decade following the Civil War the shipyard focused on military construction, from the mid-1950s onwards it would incorporate newbuilding of oil tankers.¹³

Until the mid-1960s the shipyard continued to work along traditional lines despite some technical and organisational changes. The vessels designed in the drawing office still followed traditional plans, the only novelty being that small parts were made in precast blocks. Bazán was the one shipyard in Spain which, having been run by British engineers and technicians during the first third of the twentieth century, would start to apply some of the innovations already being developed in other countries. In fact, the shipyard had a certain tradition of technological innovation: it was the first Spanish shipyard to use prefabricated welded parts and autogenous welding (a process that does not require a filler metal), before going on to use electric arc welding.¹⁴

10 Ramírez Gabarrús, *La construcción naval militar española*, 162.

11 Carmona Badia, "La economía gallega en el periodo franquista", 285.

12 Reglamento Nacional para el Trabajo en la Industria Siderometalúrgica de 1938 and 1946, and Reglamento de Régimen Interior de la Sociedad Española de la Construcción Naval, Factoría de Ferrol, 1939.

13 Blanco Núñez, *La construcción naval en Ferrol*, 129-130.

14 Houpt and Ortiz-Villajos, *Astilleros españoles*, 478. For welding in British shipbuilding, see Murphy, "The Health of Electric Arc Welders", and Johnman and Murphy, "Welding and the British Shipbuilding Industry".

Despite various difficulties and the ups and downs in production, the number of ships built in this period illustrates the capacity of Bazán. Between 1950 and 1966, thirty-nine ships were delivered: twenty torpedo destroyers and landing craft and nineteen other vessels including tankers, freighters, and bulk carriers. The percentage of Spanish output produced in the shipyards in Ferrol (Bazán and ASTANO) more than doubled during the mid-1960s, rising from 20 per cent of the Spanish total in 1964 to 43 per cent in 1967.¹⁵

Autarkic rigidity and the earliest forms of industrial protest

During the 1950s the framework of labour relations remained inflexible, similar to the politics of the first stage of Franco's dictatorship. Once freedom of association was suppressed, the state created the OSE (the State Union) inspired by the *Fuero del Trabajo* (Labour Law), and the principles of unity, totality, and hierarchy. Workers were compulsorily included in the only trade union permitted in Franco's Spain, along with entrepreneurs. The leaders of the union belonged to the Falange, the government party, and labour relations were controlled by the state. The Law of Contracts (1944) and the Regulations Act (1942) established a ranking of labour relations in which employers and employees were forced to accept the wages guidelines decided by the Ministry of Labour, while working conditions were established through regulations corresponding to each sector and company. The union defended the interests of companies and exercised rigid social control over the workers, whose claims were represented by the OSE and ultimately resolved by Labour Courts, *Magistraturas de Trabajo*. Collective claims were banned, and the possibility of labour disputes disappeared from factories and shipyards.¹⁶

The workers could, however, elect their own trade union delegates, who formed the representation bodies in large companies; the Committee of Safety and Hygiene and the works councils were both conceived as "entities of social harmony [...] called to achieve coexistence in the heart of the company, increase in production, and development of our economy".¹⁷ In practice these bodies did not begin operating until the end of the 1950s, and in Bazán not before 1960. The works councils incorporated shop-floor representatives who had to be politically trusted by the official trade union,

15 *Galicia. Su realidad socio-económica*, 87.

16 *Fuero del Trabajo* (1939), *Ley de Unidad Sindical* (1940), and *Ley de Constitución de Sindicatos* (1940).

17 Pérez Leñero, *Jurados de Empresa*, 430.

delegates of other departments, and the company management that actually controlled it. Subjected to the orientation of the State Union hierarchy and the interests of the companies, they intended to overcome class struggle, guaranteeing social peace in factories and in other workplaces.

The shipyard in Ferrol was no exception. Working conditions followed the guidelines of the state, and company management imposed their own interests on a workforce lacking legal instruments for collective action. The wages were generally very low and, although workers could supplement them with labour premiums (overtime work, piecework, etc.) and bonuses for children and other dependants, they failed to improve their precarious living conditions.¹⁸ Work organisation was determined by the Regulation of Internal Regime, in force at the time. It organised the shipyard in departments and sections; regulated working conditions; fixed professional categories, performance standards, the working day, all wage levels, and the hiring of labour; and controlled the relationship between workers and the company.¹⁹ During the 1950s, the workforce endured extremely hard conditions in all respects: long working hours, eight hours a day, six days a week; serious deficiencies in workshops due to poor wall and roof insulation and no heating, no extractor fans, and no proper ventilation, which caused high levels of toxicity and frequent respiratory diseases. In addition, scaffolding was in poor condition, as was access to ships, there were no protective helmets, the shipyard was badly lit, and scant attention was paid to security measures.²⁰

Plant, equipment, and tools were on the whole outdated. The deficiencies were highly visible in the workshops of welders and foundry and metal fabrication, where they still used cloth gloves, old masks, and poor welding goggles, which led to diseases and above all a large number of eye injuries, as evidenced by 3,070 cases in 1948 and 2,950 in 1961.²¹ However, some accidents were caused by neglect as the workers often refused to take preventive measures, although they were disciplined if found out.²²

18 Records of the Distribution Committee of Family Bonuses, E.N. Bazán, 1947 to 1956, Archivo Comité de Empresa NAVANTIA (Archive of the Company Committee of Navantia, Ferrol; hereafter ACENF).

19 Reglamento de Régimen Interior de la Sociedad Española de la Construcción Naval, Factoría de Ferrol, 1939.

20 Records of the Committee of Safety and Hygiene, E.N. Bazán, 1950-1960, in ACENF.

21 Annual report of the Committee of Safety and Hygiene, 1966, in ACENF.

22 Records of the Distribution Committee of Family Bonuses, 1947-1960, and Records of the Committee of Safety and Hygiene, 1948-1960, illustrate the salary problems and working conditions in all workshops and sections of the shipyard, in ACENF.

Despite poor working conditions and low wages, forms of protest did not surface easily. Some workers still had fresh memories of the fear and repression that many of them and their families had endured as a result of the Civil War, or of the strike of 1946, even closer.²³ However, while they lacked the freedom to put into effect any kind of labour protest, they tried to overcome difficulties to regain a sense of class and an incipient organisation that would enable them to express their dissatisfaction. Not all the old Republicans had been wiped out. Those that remained would help to recover the working-class culture and spread it among the young. The communist militants made efforts to reorganise clandestinely during the 1950s, following a new strategy that turned the factories into the arena for socio-political confrontation against the dictatorship. To do this they needed stable organisations inside factories and all the instruments of mobilisation Franco's legality would allow workers.²⁴ In this, Bazán had an additional difficulty because it was primarily a military shipyard, and collective labour disputes and strikes were not only banned, but also considered crimes of sedition. Therefore strikers could be court-martialled, with no redress to civil law.

However, although their efforts at reorganisation during much of the 1950s failed, the workers would find ways of displaying their discontent and generating forms of conflict and industrial protest. Wage complaints were soon received by the organs of social representation, the Commission for the Family Bonuses and the Committee for Security and Hygiene. Individual claims quickly acquired a collective significance and a class sense that workers began to recognise. The content was varied, and it was repeated year after year and meeting after meeting. On the one hand, they made wage claims, seeking above all the recognition of family bonuses, premiums for endangerment such as for toxicity or for dirty work, promotion, and recognition of occupational categories. On the other hand, there appeared claims concerning working conditions: medical services, changing rooms, tools and equipment, and the provision of leather boots and asbestos gloves for foundry workshops.²⁵ Above all, they were concerned with safety problems related to electricity lines, scaffolding, safety belts, handrails, etc., and demanded preventive measures against the labour risks involved.²⁶

23 See Maíz, *Resistencia, guerrilla e represión*.

24 Testimony of Julio Aneiros, 1991, and Francisco González Vidal, 1992, personal archive.

25 Records of the Committee of Safety and Hygiene, June 1953, in ACENF. The fact that the provision of asbestos gloves and sheets, material that the company had already introduced in the previous decade, was one of the recurring claims indicates both the high risk levels the shop floor lived with and their ignorance.

26 *Ibid.*, 1950 to 1960.

The management either rejected claims or gave excuses that delayed any response, which was hardly ever favourable to the workers, although productivity was greater in better working conditions as a comparative study concluded: “in the workshops without heating the coldest days only yield $\frac{3}{4}$ parts net of the daily hours and the number of sick workers in the workshops where heating was installed fell from 7.5 per cent to 1.5 per cent”.²⁷ The intensification of individual protests and the negative attitude of the company exacerbated the discontent felt by the workforce.²⁸

During this stage, other signs of labour unrest were detected in attitudes of defiance towards head engineers and foremen. Such resistance to authority and refusal to accept the rules (which meant sanctions) were accompanied by conscious oversights with working tools (which increased losses), by small thefts of material and tools, by slow-paced work, and above all by the incessant wandering of workers across the yard.²⁹ These shows of strength and vindication were the basis on which some Communist Party militants would finally create a clandestine organisation inside the shipyard, which would soon play a central role in all the labour disputes of the following decades.³⁰

The new framework of labour relations and collective labour troubles

As Franco’s Spain began to liberalise its outlook on the economy at least partially, the Law of Collective Agreements of 1958 put an end to autarkic rigidity, and a new framework of labour relations began to materialise: it would have immediate consequences for the working class. For the first time the rank and file could negotiate wages and working conditions with management. The union elections for works councils as well as the new focus of their functions turned them into useful tools for the interests of workers because they gave their representatives the chance to take part in the preparation of, internal debate on, and negotiation of collective agreements.

The first elections in Bazán were held in 1960, and the results left no doubt that something was moving, surreptitiously, in the shipyard. The small communist core, which had achieved significant social support in

27 *Ibid.*, November 1948 to October 1950.

28 Records of the Committee for Family Bonuses, July 1947. Similar ones appeared until 1955.

29 Interview with Julio Aneiros and Francisco González Vidal.

30 See González Vidal, *Paco Balón*; Gómez Alén, *As Comisións Obreiras de Galicia e a conflictividade laboral durante o franquismo*; and Santidrián, *Historia do PCE en Galicia*.

some workshops, prepared the election call with a demanding programme following their general guidelines in the fight against the consequences of the 1959 Stabilisation Plan, which had been promoted by the government as a starting point to increase productivity.³¹ The plan entailed measures that affected working time, and the first changes in work organisation put mounting pressure on the workers, through surveillance and control in the various tasks and the restriction of breaks and dead time, with coercive and punitive measures. The hardening of working conditions and the increase in work-related accidents as a result of increased pressure on the labour force were the immediate cause of the rise in labour disputes, which adopted new forms of social mobilisation.

It was soon perceived that the balance of power between centralised management and the workforce was changing. The workers began to organise outside the State Union headquarters. From all sections of the shipyard a tide of demands emerged: the workers' representatives, already in permanent conflict with the management, demanded wage bonuses for hazardous work; more time to attend medical appointments; dining rooms; houses for workers; a suggestion box; and union time to meet with the workforce in order to listen to their claims.³²

The confrontation would experience a major turn with the emergence of the first collective conflicts in the early 1960s. The first originated in the wage discrimination suffered by workers in Bazán in comparison to others in the metals sector.³³ The next one began when management presented a plan restructuring the working day that meant a change in remuneration per hours worked, and which was openly detrimental to workers. After the proposal was rejected at the works council, stoppages and interruptions of production followed. The members of the works council met with the minister of labour who finally imposed a solution favourable to the workers, as management was forced to maintain the existing overtime system with the same pay per hours worked.³⁴

At the beginning of 1962 the workers requested a collective agreement. The written petition "Un clamor de justicia" (An Outcry for Justice) forced the formation of a commission to begin the negotiation.³⁵ Again strain and

31 Records of the Company Works Council (hereafter RCWC), 7 December 1960, in ACENF. Julio Aneiros, Ramón Arbe, and Manuel Anido received massive electoral support among the workers and the technicians.

32 *Ibid.*, 1960-1963, in ACENF.

33 *Ibid.*, February 1962, in ACENF.

34 *Ibid.*, December 1961, in ACENF.

35 *Ibid.*, February 1962, in ACENF.

unrest seized the shipyard. Eventually the workers' representatives rejected the agreement, and the company put into operation the Rules of Compulsory Compliance, which presented the same salary conditions.³⁶

During the following years, the shipyard suffered from lack of orders and from new employment regulations, which sparked new collective protests aggravated by the signing of the first collective agreement that incorporated the Gombert system for work organisation. These major changes generated numerous protests.³⁷

As a result of all the conflicts and of the constant pressure on management, working conditions gradually improved and work accidents decreased significantly³⁸ from 1960. The struggles had pointed to the possibility of defeating the company and escaping the control of the State Union by using new forms of organisation, and combining the use of legal instruments such as union delegates, shop stewards, and collective bargaining with illegal methods, such as slow-paced work, stoppages, and strikes, to force them to negotiate. Collective disputes allowed workers to learn the new rules in collective bargaining and helped to enlarge their mobilisation repertoire: rejection of the authority of heads and foremen, threats of resignation from shop-floor delegates, written petitions, slow work, interruption of production, and strikes.³⁹

From an organisational point of view, the emergence of workers' commissions in the framework of the labour disputes of those years was to be of the greatest importance for the workforce. Formed by workers of different ideological tendencies, those first commissions, which sprang up to channel specific complaints, consolidated in Bazán thanks to the instigation of communist militants who had managed to extend their organisation throughout the shipyard.⁴⁰

36 Interview with Julio Aneiros, 1991, personal archive; and RCWC, October 1962.

37 The Gombert system is a model of work organisation that determines the salary for each worker according to professional category and amount of useful work in each period; the time for each work stage is measured in work units. See Gómez Alén, "La organización del trabajo y los conflictos laborales en Galicia", 51-56.

38 Accidents resulting in sick leave fell from 872 in 1960, to 637 in 1962, and to 438 in 1963. Those without sick leave fell from 12,800 in 1960 to 6,661 in 1964: Records of the Committee of Safety and Hygiene, E.N. Bazán, 1960-1966, in ACENF.

39 Lago, *La construcción del movimiento sindical en sistemas políticos autoritarios*, 173, and Gómez Alén, *As Comisións Obreiras de Galicia e a conflictividade laboral durante o franquismo*, 46-50.

40 For the origin and expansion of Comisiones Obreras, see Ruiz (dir.), *Historia de Comisiones Obreras (1958-1988)*. For Bazán, see Gómez Alén, *As Comisións Obreiras de Galicia e a*

At the end of 1966, before the renewed election of the works council, the first open battle against the State Union was fought. The Communist Party, the main supporter of Comisiones Obreras (Workers' Union), once again chose its well-known strategy of participation in the elections to take over the control of the works councils.⁴¹ They prepared a wide programme approved in a general meeting and asked for a minimum daily salary of 250 pesetas, a working week of 44 hours, and changes in the implementation of the Gombert system owing to its negative effects on working conditions and to the increase in the number of accidents. There were also claims of a political nature, such as freedom of association and the right to go on strike.⁴² A single candidacy, in which communist leaders joined with HOAC (Brotherhood of Workers of Catholic Action) workers was prepared to defend that programme. The results gave victory to Comisiones Obreras,⁴³ which anticipated the start of a new stage in industrial action.

Bazán: a shipyard between productive growth and the crisis in the shipbuilding industry, 1967-1977

Productive growth and the state

The closure of the Suez Canal from 1967 occasioned a huge demand for large oil tankers to reap economies of scale in seaborne crude oil transportation. This demand increased expectations in Spain, especially in those shipyards prepared for the construction of ships of more than 200,000 dwt. Anticipating greater demand, the state promoted some liberalising measures for the sector to facilitate export. A system of official credit was opened with tax advantages, facilities of amortisation, and low interest rates. The Empresa Nacional Bazán was one of the fifteen establishments participating in a new programme, which aimed to increase productivity by up to 50 per cent and to preserve employment.⁴⁴

The financial support of the state, an increase in productivity because of the high amount of work, and low wages kept production costs low,

conflictividade laboral durante o franquismo, and Lago, *La construcción del movimiento sindical en sistemas políticos autoritarios*, 46-50.

41 "La batalla de las elecciones sindicales".

42 Gómez Alén and Santidrián Arias, *Historia de Comisiones Obreiras de Galicia nos seus documentos*, 58-66.

43 RCWC, 19 October 1966, in ACENF.

44 Sequeiros, *El desarrollo económico de Galicia*, vol. II, 62, and Capmany *et al.*, *La industria en la economía de Galicia*, 209.

favouring the competitiveness of Spanish shipyards in international markets. In 1975, Spain reached 2.5 per cent of total world shipbuilding production, and in the following year moved up to third place in output behind Japan and Sweden.⁴⁵ Nevertheless, the first symptoms of a deepening crisis began to appear in that year. The economic effects of the energy crisis of 1973-1974, aggravated by the continued closure of the Suez Canal, accounted for increasing amounts of laid-up tanker tonnage. However, the lag effect of completing tonnage under construction kept employment steady in some shipyards, but the overall tanker orderbook suffered a considerable drop. Market conditions particularly affected the ASTANO shipyard in the adjoining town of Fene, which in 1973 had delivered the largest tanker in the world, but by 1976 had no new ships on its backlog.⁴⁶ In the following years the situation worsened, although in 1978 Spanish shipyards still built 998,763 tons of shipping. World production dropped from 33 mn tons in 1976 to 19 mn tons in 1977 and to 11.8 mn tons in 1980.⁴⁷

Technological modernisation and changes in the construction process

In 1964, the Spanish government decided to purchase one cruiser and five British Leander-class frigates, but the British government, under pressure from Harold Wilson's Labour Party, refused to sign an agreement that would benefit Franco.⁴⁸ The Spanish government then sought co-operation with the United States, which put an end to the long dependence on French and British designs. The ambitious initial plan, which would require the introduction of significant technical changes, was considerably reduced, but Bazán was given the order for modernisation of two destroyers, and importantly the construction of five guided missile-launching frigates, which were subsequently Baleares class, with US design and supervision. In addition, Bazán undertook the conversion of the former US light aircraft carrier, USS *Cabot*, loaned to Spain in 1967 and sold to the country in 1972. Initially to be converted to a helicopter-only carrier renamed *Dédalo*, it was transformed into a STOVL (short take-off and vertical landing) aircraft carrier and became the first aircraft carrier of the Spanish navy.⁴⁹

45 *Lloyd's Register of Shipping*, cited in Capmany *et al.*, *La industria en la economía de Galicia*, 195.

46 Yañez, "A incidencia da reconversión naval en España", 92.

47 Tamames, *Estructura Económica de España*, vol. I, 523.

48 Ramírez Gabarrús, *La construcción naval militar española*, 191-192.

49 *Ibid.*, 192-195.

The government invested 500 mn pesetas to enlarge and adapt the shipyard facilities to the new needs: a large workshop for the prefabrication of aluminium blocks, enlargement of the plumbing workshop, etc. Several pipe-bending machines and more new plant and machinery were purchased. A new dry dock was designed for the repairs section with capacity to accommodate the largest tankers of the time; when it opened in 1973 it was the largest in Spain.⁵⁰

With renovated and technically prepared facilities the pace of production increased considerably. While the Ministry of the Navy remained the main client, new customers appeared, demanding all types of merchant ships: OBOs, bulk carriers, and especially tankers which were delivered to Argentina, Greece, Norway, Peru, Panama, Uruguay, and Yugoslavia. During this phase Bazán-Ferrol delivered-tonnage data increased from 154,000 cgt in 1967 to 205,973 cgt in 1976 and 205,903 in 1977; the end of the year would bring a backlog of 10 ships which made a total of 271,634 cgt.⁵¹ The technical ability of the repair unit reached its peak with the tanker *Marquina*, a technical landmark in careening.

The activity of the different sections had positive effects on employment, which grew slowly to reach 6,749 direct workers in 1975. The workforce was to take a technological leap in shipbuilding because of the technical features required for the construction of the five missile-guided frigates. First, they would begin to develop the building-by-block system, and secondly the increased technical and constructive features demanded that workers were technically trained for each phase of the process, which in addition would be restricted by the specifications imposed by the project itself and by the American technicians who directly controlled it. Accordingly, staff had to take courses either in Spain or abroad.⁵² The ship's hull was to be partially built of blocks prefabricated in pre-outfitting workshops. It was then assembled on the slipway where the outfitting tasks were carried out. The new construction process also required changes in work organisation and co-ordination, in design and hull assembling, and in the times outlined for each task.⁵³ The technological success, compliance with deadlines, and construction requirements would determine the future of Bazán, and it was the starting point of a new era for the shipyard.

50 Blanco Núñez, *La construcción naval en Ferrol*, 192 and 211.

51 Capmany *et al.*, *La industria en la economía de Galicia*, 214.

52 Martínez Gabarrús, *La construcción naval militar española*, 193; and Blanco Núñez, *La construcción naval en Ferrol*, 135.

53 Cabanas *et al.*, "La construcción integrada".

Bazán at the foreground of political struggle for democracy

Since the 1966 elections Comisiones Obreras had managed to reach all the workshops and sections of the shipyard. The introduction and application of the Gombert system subjected workers to a new pattern of time measurement and generated wage disparities by restructuring occupational categories. Industrial relations deteriorated and labour unrest intensified, resulting in a relentless surge of protests and demands that the new shop stewards raised at works council meetings.⁵⁴

The conflict coincided with a temporary reduction in backlogs, and management proposed the closure of the section known as Civil Works and consequently the dismissal of 1,162 employees and 62 apprentices. The works council and the shop floor opposed this, and a period of intense disputes began. The leaders formed a negotiation committee with the company; they met with the local authorities and eventually with the minister of labour in Madrid. Supported by the shop floor, they triggered a wide range of collective actions, inside the shipyard with stoppages, working to rule, overtime boycotts, and strikes, and in the streets with gatherings at the State Union headquarters and city hall. They also created a network of citizens' solidarity to raise funds to aid workers and finally, after several months of struggle, managed to avoid layoffs.⁵⁵

These actions had significant costs for the leaders, who were arrested, prosecuted by the Tribunal of Public Order, dismissed from their union posts for their role in the conflicts, and temporarily sacked. On the other hand the repression strengthened their prestige and their leadership in the shipyard. They understood the need to widen the organisation of Comisiones Obreras, the importance of bringing the struggle into the open, in search of support and solidarity from the rest of the companies. The unrest reached the most important industrial centres in Spain, and the government responded by stepping up repression. In November 1967 the Spanish Supreme Court in Madrid pronounced Comisiones Obreras an illegal organisation and measures to weaken their ability to mobilise were adopted.⁵⁶

In 1969 the shipyard orderbook was brimful: freighters, bulk carriers, tankers, and the five guided-missile frigates occupied the slipways and workshops. To increase productivity, management imposed twelve-hour

54 Gómez Alén, "La organización del trabajo y los conflictos laborales en Galicia".

55 Gómez Alén, *As Comissões Obreiras de Galicia e a conflictividade laboral durante o franquismo*, 99-101.

56 Supreme Court sentence 39/1967. See Bastida, *Jueces y franquismo*, 177-179.

shifts and stepped up the work pace with the Gombert system. Under these conditions the workers redoubled their protests and demanded amnesty for their leaders and the revision of the collective agreement.⁵⁷

In the heat of labour struggles, the shipyard was becoming a political space of reference in the fight for democracy. In addition to the efficient propaganda apparatus, the leaders of the now illegal Comisiones found places for clandestine meetings, further developed their range of collective actions, and also organised an effective solidarity network. Their influence had spread throughout the region, and they were a part of all cultural associations in several city quarters. They had allies that guaranteed social support: worker priests let them use parish premises and churches for their meetings and also helped with the solidarity network;⁵⁸ a law firm provided advice on collective bargaining and defended them before the Labour Courts or the TOP, Tribunal de Orden Público, a special Court of Law and Order.⁵⁹

At the beginning of 1971 the situation forced the government to hold new elections for the shop stewards in the works councils, which in many companies were short of delegates due to dismissals and arrests. The government was, however, concerned about communist influence in Ferrol and the shipyard:

We have already seen its penetration since 1966; in 1968 in the Bazán factory and another company in the city there have been partial stoppages and constant agitation of the worker masses with subversive propaganda.⁶⁰

The workforce went a step further and demanded a collective agreement unique to their shipyard, and amnesty for imprisoned and dismissed worker representatives. The now clandestine Comisiones Obreras also prepared its strategy while the new leaders developed a programme trying to mobilise

57 Gómez Alén, "La organización del trabajo y los conflictos laborales en Galicia", 104-106, 133-135.

58 Gómez Alén, "El Ferrol y la Bazán", and Lago, *La construcción del movimiento sindical en sistemas políticos autoritarios*, 148-151.

59 The TOP was created in 1963 to judge what the dictatorship considered social or political crimes. It was abolished in 1977. See del Águila, *El TOP*.

60 Ministerio de Trabajo, *Criterios ante una posible situación conflictiva*, 1971; Boletín Informativo de la Dirección General de Seguridad, 18 (Madrid, 1972). This document lists the names of communist militants in Comisiones Obreras and their activities. The civil government in the province considered Bazán-Ferrol an endemic problem in their Memoria Anual del Gobierno Civil (Madrid, 1969) in Archivo General de la Administración. Fondo Interior.

workers to rescue those still in prison or suspended.⁶¹ The management tried to impede meetings and assemblies, hampered delegates in the exercise of their functions, and transferred shop stewards suspected of being members of Comisiones Obreras or changed their work shifts in order to minimise their influence on other workers. Economic penalties were also frequent, and when a worker was arrested management would sack him for staying away from work.⁶²

The 1971 elections for union delegates in the works councils gave the victory to members of Comisiones Obreras. All the shop stewards elected were members of Comisiones, and as soon as they took over they denounced the extant agreement and demanded that the collective bargaining was kept solely for Bazán-Ferrol. The company rejected the proposal, and the ensuing conflict brought about fresh trouble when two of the delegates were subjected to disciplinary proceedings.⁶³

The confrontation with the company and with the State Union was building up: workers' proposals were rejected; dismissed workers were not readmitted; the agreements approved in assemblies were not accepted; the shop stewards' movements inside the yard were restricted; and general assemblies were banned from union premises. Collective bargaining was moved to Madrid with only the representatives of the other two shipyards of the group attending. In response, the workforce in Bazán gave up the twelve-hour shifts and kept supporting their representatives with new actions and partial strikes in the first days of March 1972, and almost the whole shop floor demonstrated on the courtyard in front of the management building. When the company announced that the collective agreement had been signed in Madrid, the protests increased, and harsh repression hit again: six delegates were suspended. The workforce decided to remain assembled until the suspensions were lifted. Finally, on 9 March, management allowed police to enter the shipyard, and more than 3,000 workers who were gathered before the buildings were evicted with extreme violence. The conflict then spilled over into the city, and there were clashes and police charges in the streets. On 10 March the police fired directly into a crowd of thousands of workers. They left behind two dead workers and forty wounded, and a city paralysed with shock. For ten days the shipyard remained closed while

61 RCWC, 5 November 1970, document signed by 1,147 workers demanding the revocation of disciplinary proceedings for two leaders and "Llamamientos de las CCOO por la amnistía", in Gómez Alén and Santidrián, *Historia de Comisiones Obreiras de Galicia nos seus documentos*, 129-137.

62 Gómez Alén and Santidrián, *O 10 de Marzo*, 35-38.

63 RCWC, November 1971, in ACENF.

strikes and demonstrations of solidarity swept Galicia, the rest of Spain, and even many European countries.⁶⁴

The months following the conflict saw a temporary retreat in the activity of the banned Comisiones Obreras. The protests focused on demonstrations for democratic liberties and amnesty. The mobilisations against the trial of *Los 23 de Ferrol*, their leaders who were still in prison, were particularly intense.⁶⁵ Their victory in the union elections of 1975 meant the beginning of the end of the State Union. That year Franco died and the transition to democracy began, but it was also a period of labour unrest. Those who mobilised in Bazán-Ferrol never forgot the claim for amnesty for those dismissed in 1972, who were slowly reinstated except for Manuel Amor, Rafael Pillado, and José María Riobó, the last labour leaders to be released from Francoist prisons. In February 1976 a demonstration of more than 10,000 citizens welcomed them back home.⁶⁶

From Bazán to Navantia: the crisis in the shipbuilding sector, 1978-2010

Crisis and restructuring of the shipbuilding sector on the new international scene

From 1978 the consolidation of a democratic and constitutional framework would facilitate the final integration of Spain into international markets and onto the path towards accession to the European Economic Community in 1986. The context was one of widespread crisis in European shipbuilding owing to the long-term shift of production to South-east Asia.⁶⁷ This situation along with the conditions to be admitted to the European Community forced the Spanish state to start a long reconversion and restructuring of the shipbuilding sector.

The Royal Decree of Naval Reconversion of 1984, which would be developed until 1987, would have continuity in successive feasibility plans and

64 The conflict can be followed in Gómez Alén and Santidrián, *O 10 de Marzo*, and the testimonies of Rafael Pillado Lista (2005) and Manuel Amor Deus (2004) in *Archivo Historia del Trabajo*, Fundación 1º de Mayo, Fondo Biografías Obreras, Madrid.

65 Twenty-three citizens of Ferrol were tried by the TOP for the events of 10 March 1972. The communist leaders of the Comisiones Obreras in Bazán were part of them.

66 *La Voz de Galicia*, February 1976; and Gómez Alén, *Manuel Amor Deus*.

67 On this, see Strath, *The Politics of De-Industrialisation*, and Todd, *Industrial Dislocation*. See also Todd, "Going East".

staff adjustments until 1999. The Spanish shipbuilding sector was still trying to adapt to a situation that would require it to reduce its production capacity, further reduce its workforce, gain competitiveness against East Asian producers, and overcome the gaps in expertise, technology, and equipment to increase productivity.⁶⁸ In 2000, the Spanish government's commitment to the restructuring of the public shipbuilding sector led to Bazán-Ferrol joining the newly created state conglomerate IZAR. IZAR was founded in December 2000 following the merger of Astilleros Españoles SA (AESAs) and Empresa Nacional Bazán. Its activities were spread over eleven sites in Galicia, Asturias, the Basque region, Valencia, Murcia, Andalucía, and Madrid. It had approximately 10,700 employees. Around half of the sales concerned military production. This operation, far from solving problems, aggravated them as it integrated loss-making shipyards, some in their terminal phase, with others that were more profitable but had to take a share of the losses of the whole sector, as was the case of Bazán-Ferrol. Spanish government attempts to prop up IZAR through subsidies fell afoul of the European Union Commission. In a decision in October 2004, the commission ruled that €556 mn of state aid to IZAR was not compatible with EC state aid rules and had to be recovered.⁶⁹ In response, Spain invoked Article 296 of the EC Treaty, which allowed it to "take such measures as it considers necessary for the protection of the essential interests of its security which are connected with the production of or trade in arms, munitions and war materials". The state

68 Houpt and Ortiz-Villajos, *Astilleros españoles*; Sánchez Aguilar, *La crisis de la industria naval ante el desarrollo económico*.

69 See www.europa.eu (20 October 2004). This decision concerned capital injections of €1,477 mn provided in 2000-2002 from the state holding company SEPI to IZAR, the owner of the public Spanish shipyards. The commission established that of this amount €556 mn was used to cover losses and to provide other forms of support to IZAR's civil activities. The rest of the capital was used to cover social costs and other costs linked to past and recent military activities of IZAR and its predecessor Bazán. Funds for military activities are in principle not covered by European Union's state aid rules. But the €556 mn in aid provided to IZAR's civil activities was not in line with the rules, and the commission, therefore, concluded that this amount had to be recovered from IZAR. It should also be noted that in 1997 the commission and the council approved restructuring aid to the public Spanish shipyards amounting to €1,380 mn, on the condition that no further such aid could be provided. Including aid approved in 1995 the total restructuring aid package amounted to €1,900 mn. The restructuring period lasted from 1994 to 1998, after which the shipyards should have become profitable. This did not happen, and the shipyards continued to generate losses. In 1999 the commission decided that €111 mn provided in 1998 to the public Spanish shipyards could not be approved and had to be recovered. The Court of Justice upheld the decision. In May 2004, the commission also decided that further aid of €308 mn provided to IZAR's civil shipyards in 2000 could not be authorised and had to be recovered.

rescue would take place by transferring IZAR's military shipyards to a new public company, Navantia, owned by the state holding company Sociedad Estatal de Participaciones Industriales (SEPI), which controlled 100 per cent of Navantia's capital. The former Bazán-Ferrol was to be joined with the old ASTANO shipyard at Fene. Navantia also had yards at Cadiz, San Fernando-Puerto Real, and Cartagena.

Throughout this period Bazán-Ferrol did not remain unaffected. The company implemented a series of measures to reduce production costs as well as its workforce, which gradually diminished in successive viability plans until 1999 when the Plan for the Future gave 2,125 workers early retirement.⁷⁰ Bazán-Ferrol concentrated its activity on warship construction. Spain's earlier entry into NATO meant that the construction of new ships had to adapt to the needs and characteristics of that body's military operations, defined mainly by US geo-strategic policy.

In the 1990s warship-building activity increased gradually, and some warships were built in collaboration with the Dutch Royal Schelde dockyard. This line of work presaged a fundamental technological leap for Bazán-Ferrol in developing technology-transfer programmes which increased its added value content and its specialisation in a high-tech production segment that turned it into one of the largest warship constructors in the world.⁷¹ At the beginning of 2000, IZAR-Ferrol tendered to build five frigates for the Norwegian navy. Of the fifteen shipyards worldwide participating, only three developed the project: Blohm und Voss from Germany, a Norwegian shipyard Consortium NORD-ESKORT, and IZAR-Ferrol, which finally won the contest. The Norwegian frigates were worth €1.1 bn, and consisted of 1 mn engineering hours and 11 mn work hours. The project for the second frigate involved five yards: IZAR-Ferrol, IZAR-Gijón, IZAR-Fene, and the Norwegian Bergens Mekaniske Versted and Kleven Floro; they had to deliver one frigate per year, starting in 2005.⁷² Another super-contract with the Royal Australian Navy would also be signed to construct several blocks for some AWDs (air warfare destroyers) and two LHDs (landing helicopter docks) at Ferrol and Fene, in collaboration with the UK-based BAe Systems, which would finish the job in its Australian shipyard in Williamstown.⁷³

70 Plan de Futuro de Bazán, 1999; early retirement for 2,125 workers older than 52 was voted in referendum in all the shipyards of the company. See RCWC, 1998-1999; interview with José Portas, secretary of the works council in 1999, and Yáñez, "A incidencia da reconversión naval en España", 89-99.

71 Rodríguez, "El Futuro de la industria naval militar I-II-III, Ferrol".

72 Cabanas *et al.*, "La construcción integrada".

73 Blanco, *La construcción naval en Ferrol*.

Integral construction and work organisation

At this stage, the construction of increasingly complex ships called for new advances in the building process. Therefore the changes experienced in the previous period would continue in the 1980s to incorporate all the features of integral construction in the 1990s. This system required a construction strategy essential to consistently set plans to build the ship in sections and modules. The technical office defined the manufacture and assembly programme of each block built in the workshop.⁷⁴ When the block left the workshop on its way to the slipway for the assembly of the engine, mounting and a few other tasks remained to be completed. This system, which required computerised programming and tooling, allowed the distribution of the workload between several shipyards, as was the case with the Norwegian frigates, which involved five Spanish and Norwegian factories producing blocks that were finally assembled in Ferrol.⁷⁵

Integrated construction optimises human resources, galvanises information flows, makes the organisation more flexible while improving the quality of the product, and reduces costs and construction times by distributing the workload evenly. The same applies to working conditions as it improves the way every task is performed with greater safety, thanks to the removal of scaffolding and other portable structures, and because it facilitates welding, electrical, and piping work while jobs are carried out according to the “just-in-time” (JIT) system. For these recent projects, the features of the JIT system also meant the introduction of the techniques and tools of Lean, the system with the five Ss: Sort (organisation), Straighten (neatness), Shine (cleanliness), Standardise (visual control), and Sustain (discipline and habit). Not without a certain resistance, these lines began to be followed during the construction of the Norwegian ships in the Ferrol factory; they meant a step further in the development of a more effective and profitable construction model.⁷⁶

74 Interview with Agustín Álvarez, Engineering Manager, Navantia-Ferrol, 2012.

75 Metodología de diseño and Design capability evolution, Internal papers of Navantia-Ferrol.

76 Liker and Lamb, “Que son la construcción y reparación naval Lean?”; interviews with Rafael Suárez, Deputy Managing Director of Navantia-Ferrol; José Antonio Cabanas, Piping Workshop Chief Engineer in Navantia-Ferrol; and Begoña Rodríguez, Head of Electricity and Electronic Area, Navantia-Ferrol (all 2012).

Labour disputes in a democratic framework of labour relations

The consolidation of democracy in Spain gave labour relations a distinct social sense while the composition of the workforce in the shipyard suffered some important changes and some reduction, in part caused by the restructuring of the sector and in part by the changes in the productive system I referred to earlier. The reduction in the number of workers was more difficult for workers organised in traditional guild occupations replaced by sub-contractors, while the number of engineers and technicians grew. In 2012 the staff of Navantia in the Ferrol-Fene shipyards had fallen to 2,335 workers, 238 of them engineers.⁷⁷

A fact worthy of attention is that since 1978 more women began to join the shipyard, not only in clerical jobs, dining rooms, or technical offices where they used to work, but also in workshops and in the Engineering Department. It was in the early meetings of the first elected Company Committee that the delegates of Comisiones Obreras got, despite opposition from some sectors, the admission of two women as apprentices. Today there are 221 women working there, 39 of them on the slipways and workshops; those with a university degree include 24 technical engineers and 24 senior engineers. One, Begoña Rodríguez, was the first woman to be head engineer during the Norwegian frigate programme.⁷⁸

Within the democratic framework of labour relations, for the first time workers could freely choose their delegates and form company committees without the presence of their employers. They had meeting places, union time to hold meetings, and editing media to present their proposals or their mobilisation slogans. The workers themselves opted to allow trade union diversity, and new union options emerged in the yard, although throughout this time Comisiones Obreras had the majority of representatives and therefore a certain control over collective bargaining. The final decisions were taken in assemblies, which decided the forms of collective action at every moment; when there was no agreement with the company they fell back on traditional forms of pressure and on strikes that were then regulated by law.⁷⁹

From 1978 collective bargaining became a slow process; with regular demonstrations and strikes and also with no agreement with management over wages; it coincided with the protest against the restructuring of the

77 Data provided by the Organisation Department of Navantia-Ferrol.

78 Interview with Begoña Rodríguez, Head of Electricity and Electronic Area, Ferrol, 2012.

79 Real Decreto Ley de Relaciones de Trabajo, 1977, and Constitución de 1978.

shipbuilding sector and employment regulation mainly affecting workers in sub-contracting companies. The rank and file supported such workers and defended their integration in Bazán, proposing the abolition of overtime so that casual workers could join the shipyard. Closures and assemblies were constantly held in the shipyard, and the tension reached its peak when the police entered the factory to evict workers. Strikes also played an important role in the pursuit of solutions, and numerous workshops went on partial strike because of labour problems caused by new work organisation.⁸⁰ However, most of the conflicts ended up in agreement, particularly with collective bargaining; on some occasions they even reached agreement with the government to accept plans for early retirement in exchange for hiring young people and other types of compensation.

Since 1993 the unrest in the yard had been marked by the restructuring of the workforce, by difficulties involving wages and collective bargaining, and by changes in the construction system. During this time the workers retained their negotiation model and their intermittent strikes, demonstrations, and meetings, but finally accepted the company's Plan for the Future and the proposal of early retirement that would reduce the shipyard workforce who were moved to the IZAR group and after 2005 to Navantia.⁸¹

The results of 2009 showed that, while the accounts of Navantia Ferrol-Fene presented a positive balance of more than €12 mn, the rest of the company shipyards had million-euro losses; however, political decisions remain favourable to the shipyards in southern Spain and do not take into account the levels of profitability and the technological innovation in the various shipyards. For two years now Ferrol has been demanding the construction of a floating dock with space to accommodate the large ships being repaired. The workers see it as essential to preserve both their jobs and the prestige of the repair unit. It is technically and financially feasible, but political decisions seeking to redirect the workload to the shipyards in the south are hampering it. In recent years the situation is getting worse thanks to the inability of the SEPI leadership and of the government, whatever its political colour, to put pressure on European institutions and acquire workload, as other European countries whose shipyards compete with Spain do. Therefore, Navantia Ferrol-Fene, the Norwegian frigates completed and the last HLD ship about to be delivered to Australia, sees its future threatened by the lack of orders in the short term.

80 RCWC, 1978-1993.

81 RCWC, Bazán, IZAR, and Navantia, 1993-2010, in ACENF.

In 2014, Navantia Ferrol-Fene was in a difficult situation caused by the absence of sufficient workload to maintain the activity of the two shipyards. There is only enough work for those who were preparing the last blocks of the Australian destroyers and for the group of engineers and workers who were in Australia where they were contributing, in collaboration with BAe Systems, to the completion of the two LHDs which will be delivered by the British company in 2015.

The crisis of shipyards in northern Galicia threatens their survival and the economy of the region. In the immediate future Navantia Ferrol has one single contract, a floating hotel for the Mexican oil company PEMEX, which will be built soon and will give work only to 25 per cent of the staff. On the other hand the limitation to 20 per cent of its productive capacity, imposed in 2005 to comply with the demands of the European Commission, will be in force for another year. This has caused a decline in labour force in auxiliary companies, which have lost 2,657 workers since 2011, while the permanent staff have been reduced to 313 workers in Fene and 1,994 in Ferrol.⁸²

The economy of the region suffers from the insecurity of its shipyards and from the effects of the layoffs in the sub-contracting companies; in the meantime the disorientation and improvisation of the policies of the governments of Galicia and Spain for the shipbuilding sector became obvious, in addition to their usual sluggishness in making decisions to ensure work continuity. For their part, the trade unions are trying to reignite their tradition of social struggle and widen their range of mobilisations; they meet with members of the parliaments of Galicia and Spain and use time-honoured methods such as demonstrations and assemblies both inside the factory and at the town hall, stopping traffic on motorways, etc. They meet with the directors of SEPI and Navantia and, with the support of the city, try to broaden the social projection of their claims to defend, once again, their jobs and the future of a shipyard with three centuries of labour history in its workshops.

82 Information provided by the Organisation Department of Navantia-Ferrol.

10 Against market rules

A Spanish shipyard nobody wanted (except workers)

Rubén Vega García

Introduction

From construction of the Dock to the creation of Naval Gijón

Modern industrial shipbuilding in Gijón has its origin in the late nineteenth century. In 1892, a dry dock was built enabling construction and repair of ships. Because of its dimensions (87 m long, 14 m wide and 5.2 m deep), it had capacity for small and medium-sized hulls. Throughout its history and despite the many changes of business ownership, this shipyard was known as El Dique (the Dock), distinguishing it from the rest of shipyards in the Bay of Gijón.¹ The Dock is part of a larger industrial complex where, in addition to the construction and repair of boats, boilers, engines, and machinery were also manufactured.

After various vicissitudes, in the period immediately after the Spanish Civil War, (1941) El Dique became part of one of the oldest and most important of Asturian industrial business partnerships: Duro Felguera, which at that time had a large number of coal and iron mines, a steel factory, and workshops manufacturing heavy machinery, as well as a shipping fleet for the transportation of minerals.² El Dique's inclusion in the vertically integrated Duro Felguera conglomerate gave the shipyard stability over four decades.

Prior to the 1950s the Spanish economy had suffered from decapitalisation, technological backwardness, weakness of internal markets, international isolation, and stagnation. However, its shipbuilding industry experienced rapid growth from the 1950s and, above all, the 1960s; this growth linked to industrial expansion and aid policies operated by the state.³ This boom was accompanied by modernisation of production which left behind sections of the craft-based workforce. The previous fabrication of moulds in wood to guide cutting of metal plates and manual riveting of plates of the hull of ships were replaced by machine cutting and electric arc welding. Nevertheless,

1 Toral Alonso, "Breve historia del Dique de Gijón".

2 For Duro Felguera, see Ojeda, *Duro Felguera*.

3 For this period, see, for example, Hopt and Ortiz-Villajos, *Astilleros españoles*.

workers in qualified trades were retrained. At the same time, the increase in workload in boom conditions fed a growing need for labour that was met by extensive recourse to sub-contracting. Auxiliary companies supplied an increasing proportion of the work needed by the shipyard but this did not have a great impact on the permanent staff of the parent company. El Dique had 378 full-time employees in 1962 and 316 in 1974; however, the number of sub-contractors working in the shipyard increased, with those workers on less favourable contractual terms and conditions.⁴

The phenomenon of outsourcing became a key part of management strategy during the peak years of demand in the 1960s and early 1970s. It helped the company reduce costs, introduce flexible employment depending on demand, and weaken unionisation. However, the abundant supply of jobs existing in the metallurgical industries for skilled workers and the youth of most contract workers sowed the seeds of persistent conflict. The contractual divergence among workers who shared tasks and spaces delineated by one or another company's name embroidered on their work clothes or by the colour of their helmets created comparative grievances and generated a climate of discontent and a suitable ground for trade union activists to encourage political opposition against the Franco dictatorship. Reports of the so-called *prestamismo laboral* ("phantom" companies that lacked capital, facilities, and machinery, but served as intermediaries to supply workers to the parent company) assumed a growing importance in workers' claims. This discontent unleashed two successive strikes in the early months of 1975, leading to a victory for the workforce, who achieved the incorporation of all outsourced labour as fixed in the payroll of the shipyard, which doubled the number of permanent workers employed.⁵

This led to a profound alteration of the balance of power in relationships between company and workers. The latter became extraordinarily cohesive and strong; however, it coincided with the first symptoms of the crisis in the shipbuilding sector in the wake of the downturn in demand occasioned by the OPEC price hikes of 1973-1974.⁶ The company had lost its ability to regulate the volume of employment through sub-contracting and was faced

4 *Asturias Semanal*, no. 317, July 1975.

5 See Vega García, *La Corriente Sindical de Izquierda*.

6 During the economic expansion of the 1960s and the early 1970s, Spain became one of the world's leaders in shipbuilding, ranking third in 1974. Its merchant shipbuilding industry was one of the few major industries in the country that made little use of foreign capital. Shipbuilding, both in Spain and among other shipbuilding nations, was, however, one of the main casualties of the post-1974 energy crisis; following a sharp drop in orders in the late 1970s, the shipbuilding sector was in serious difficulty. Among Spain's leading industries, it was one of those most affected

with an oversized payroll (more than 700 workers between 1976 and 1982) in a period of low demand. The threat of the company reducing wages or rights was resisted by a highly unionised, spirited, and self-confident workforce buoyed by the death of Franco and return to democracy.⁷ The Dock of Duro Felguera became, between 1976 and 1980, the focus of frequent, intense, and prolonged industrial conflicts. Union leaderships, organisational loyalties, and forms of collective action that had originated at the end of the dictatorship crystallised in the years of democratic transition. They remained almost immutable in the following decades through productive restructuring, defence of employment, and the struggle for the survival of the shipyard.⁸

Crisis and shipbuilding restructuring policies

For a few years, membership in a diversified industrial group (although Duro Felguera had abandoned mining and steel activity, but maintained a significant presence in the manufacture of heavy machinery and assembly) served to mitigate adverse market conditions. Construction for the fleet of Duro Felguera was an interim solution but one which could not be extended indefinitely. At the same time, in a more general framework, policy measures that aimed at an orderly restructuring of the sector, inaugurated by agreements signed in 1979, were delayed due to the weakness of the government, the instability of the new democratic system, and the expected strength of union resistance. Consequently, the restructuring of the Spanish shipbuilding sector was not undertaken effectively until 1983, when a socialist government, in tandem with trade unions (the socialist UGT, Union General de Trabajadores), initiated closures of facilities, reductions in productive capacity, and losses of a large number of jobs. This policy of industrial restructuring resulted in the closure of three shipyards in Gijón and the reduction of the volume of direct employment by more than one-third, from 3,384 to 2,138 people employed in shipbuilding in the two companies which remained open: a private company (Naval Gijón) and a state-owned enterprise (Juliana Constructora Gijonesa).⁹

by production cutbacks, closures, and reductions in personnel. The number of shipbuilding yards able to build steel-hulled vessels declined from forty-three in 1975 to thirty a decade later.

7 Juan Carlos was crowned on 22 November 1975, two days after Franco's death. In 1978, a Spanish constitution was approved by referendum; it established a constitutional monarchy in Spain, bringing the years of dictatorship to an end.

8 Vega Garcia, "La fuerza del pasado".

9 Vega Garcia, *Crisis industrial y conflicto social*.

Table 10.1 Shipbuilding workforce in Gijón

	1974	1978	1980	1982	1984	1986	1988	1990
Juliana Constructora Gijonesa	908	1,768	1,665	1,497	1,426	1,235	995	786
Astilleros del Cantabrico y Reira	571	533	616	588	578			
S.M. Duro-Felguera (Dique)	316	705	715	699	635			
Marítima del Musel SA	170	324	315	309	298			
Industria Auxiliar Interna	1,778	197	177	169	162			
Industria Auxiliar Externa		630	438	320	285	152	151	126
Naval Gijón SA						742	742	595
TOTAL Gijón	3,743	4,157	3,926	3,582	3,384	2,129	1,888	1,507

Source: Censos de empresas y Expedientes de Regulación de Empleo, author's calculations

For the private yards, restructuring measures meant the creation of a new company resulting from the merger of two pre-existing Gijón shipyards: Duro Felguera and the smaller (Marítima del Musel) to form Naval Gijón SA in 1985, operating on the old facilities of the Dock. The new company was 50 per cent owned by both original companies, which in practice meant the segregation of the shipyard from the rest of the industrial group Duro Felguera. As in Spain generally, the restructuring measures implemented by the socialist government were the source of intense conflict, and led to prolonged challenges by the workers directly concerned; such measures also directly affected the population of the districts where the shipyards were located. In Gijón, barricades of burning tyres and clashes with the police became part of everyday life. With clockwork regularity, workers occupied the streets of the city every Tuesday and Thursday for almost three years, highlighted by black columns of smoke from the barricades and the sound of police sirens. Contemporaneously, the city of Gijón was paralysed up to four times throughout 1984 by general strikes called in protest against the industrial crisis and, in particular, about the situation of the shipyards.

The extraordinary capacity of workers to mobilise in the culminating phase of industrial restructuring was maintained long after it developed; however, it had to cope with significant union division. Internal fractures affected not only organisations but also workers, who were divided by the intense conflicts held in the years of democratic transition. In the final phase of the dictatorship, the CCOO (Comisiones Obreras, or Workers' Commissions, usually led by Communists) completely dominated the leadership in many conflicts which occurred, but in the new democratic context other

unions managed to strengthen their presence in the shipyard. The more reluctant to strike were found in the socialist trade union UGT. A split in the CCOO created a new organisation, *Corriente Sindical de Izquierda* (CSI). CSI supported protest in the streets, and boasted the most prestigious leaders. However, both CCOO and CSI formed an alliance representing the majority of the shipyard workforce and based their strategy on radical mobilisation and prolonged resistance.¹⁰

The critical phase of industrial restructuring in the mid-1980s, when the size of the payroll, conditions of employment, and the productive capacity of the new company (Naval Gijón) had to be determined, was subject to great political, trade union, and business tensions. Workers were determined to retain their jobs and refused to accept any cuts to the workforce which did not include access to early retirement or guarantees of relocation in jobs with similar conditions.

In the case of Naval Gijón, the aim of Duro Felguera was initially to maintain a workforce of 350 employees, but the pressure of demonstrations and strikes finally set its size at 742. Negotiations between entrepreneurs, the regional government, and the UGT resulted in a plan that envisaged the construction of a new covered shipyard, investments amounting to 11 bn pesetas, and 975 employees; however, this plan did not come to fruition. Naval Gijón began its existence in extremely adverse conditions: reliant on the aged facilities of the Dock, without any improvement since the crisis had begun; undercapitalised; no workload; and a lack of will on the part of managers to solve structural problems. With no contracts for the construction of new vessels, the shipyard slipped down a slope of indebtedness with workers being laid off and forced to seek unemployment benefits.

A company looking for an employer

Against this background and with the threat of closure, the majority of workers and their leaders opted to find solutions through political pressure and strikes. In this way they managed to involve the Ministry of Industry of the regional government in the pursuit of contracts for the construction of ships and agitated for the return to the shipyard of their former co-workers

¹⁰ Franco banned the UGT after his victory in the Spanish Civil War until his death in 1975. The union emerged from underground during the democratic transition after Franco's death, as did the CCOO. The UGT and CCOO, between them, constitute the major avenues for workers' representation in today's Spain.

who had been declared redundant in 1985 and had not been offered alternative jobs. The demand for fulfilment of this promise originated a new round of conflicts in the 1987 Christmas period and again in the spring of 1989. After five years of strife and industrial restructuring, workers continued to insist on the return of some of the workforce who had been made redundant in 1985, refusing to accept any solution which did not include this. The progressive downsizing initiated by the company through early retirement was thus offset, despite the endemic lack of activity. In 1990, Naval Gijón had around 600 workers, but its financial situation was desperate. The bulk of the workforce and their representatives concentrated in the following years on avoiding the closure of the company. The shipyard's survival in the first half of the 1990s was aided by a series of seven of fifteen sophisticated Norwegian-designed 105M factory vessels for the Russian Far East Fleet being built by Naval Gijón; the other eight were built at the Factorias Vulcano yard in Vigo. Naval Gijón handed over *Sozidanie*, the fourth in the series in June 1992.¹¹ However, the continuance of shipbuilding owed more to the political mediation of the Asturian government than the passivity displayed by the directors of the company, given the stance of one of the shareholders (Duro Felguera) that it intended to disassociate itself from the sector.

When finally, in December 1996, Duro Felguera got rid of its shares in Naval Gijón, the reaction of the workers was intense, and resulted in demonstrations demanding the payment of previous commitments. This included a spectacular action that, in January 1997, occupied the attention of the media: an attack of Luddite proportions in which a large group of masked workers destroyed computers and furniture in a workshop belonging to Duro Felguera. This action did not prevent the workers garnering several thousand demonstrators only weeks later, revealing their remarkable ability to combine radical tactics with massive demonstrations around a common goal: the survival of the shipyard and jobs.

Somewhat incredibly, a shipowner, Victoriano Sayalero, purchased the 50 per cent shareholding which had belonged to Duro Felguera at the symbolic price of one peseta. The new owner was seen by the workers of Naval Gijón as a mere figurehead who enabled Duro Felguera to ignore their responsibilities. As a result, his first visit to Naval Gijón facilities was also his last: held against his will and threatened, he decided to give his shares to the other owner of the shipyard, the business group of the Orejas family, owner of the former Marítima del Musel shipyard at the time Naval Gijón was created.

11 *World Fishing*, 42:4 (April 1993), 26.

A short spring

The consolidation of management in one owner led to an active search for workload. Soon – and, to a great extent, as a result of the radical attitude of workers – the shipyard entered on a previously unexplored path: business management focused on the indispensable investments that would overcome obsolescence accumulated over more than twenty years, and labour relations driven towards co-operation around a shared objective of reaching viability. To ensure this change of course a new manager of the shipyard, the engineer Galo Baizán, was appointed. Baizán represented a new style of leadership. His entry on the scene could not have been more expressive: he publicly acknowledged in a newspaper interview that the shipyard could not stay open without the co-operation of the workforce. In line with this analysis, relations between the company and unions experienced a full turnaround. Up to then, all the dialogue had rested on the privileged treatment that the company gave to the more moderate UGT, closing all channels of dialogue with the more radical CSI and restricting contacts with its ally, the CCOO. Even when agreements were evident as a result of strikes and other actions, the right to approve them was reserved for the UGT, and UGT affiliates enjoyed more favourable treatment in the day-to-day running of the shipyard.

Suddenly, previous management-union and intra-union relationships were inverted and the new shipyard management opted to find understanding with those who held more conflicting attitudes than those who until then had been privileged by moderation. This openness to dialogue with those workers who had relied strongly on strikes and other actions inaugurated a period which could be considered as a trial of co-management. Over more than three years, all the important decisions related to conditions of work, the hiring of workers, and the sub-contracting of ancillary companies were the result of previous consultation and agreement with the trade unions, whose decisions in turn were agreed by workers' assemblies.

When the orderbook finally guaranteed full employment, the discourse that the workers had long sustained about the social returns provided by the shipyard translated into the decision to reduce overtime to a minimum to ensure that new jobs were created. In this way, newbuilds of vessels created 230 new jobs with terms and conditions that were identical to those of the permanent workforce. Performing tasks within the shipyard that had previously been outsourced limited such outsourcing to external phases of the production process and, under union supervision, contractors were monitored and urged to respect the labour rights of their workers.

This exceptional situation of harmony in labour relations and abundant workload at Naval Gijón generated both direct and indirect employment in the wider economy of the city and also provided the means for young workers to acquire trade qualifications. Permanent workers taught courses in which new entrants acquired the necessary skills of shipyard work, ensuring social integration of newcomers in a direct way. This change of industrial climate was aided by public funds which sometimes skirted the restrictions of EEC employment regulations, and was largely attributable to a willingness to consolidate social peace after the political pressure exerted by long years of demonstrations.

The new industrial harmony allowed the introduction of technological modernisation which enabled construction of more complex vessels than hitherto. After long years of paralysis, the association between the path of radical struggle of workers of Naval Gijón and its survival as a company was accepted by managers, political spokespeople, and media, within an environment which denoted an ostensible improvement of the social image of shipyard workforce who were converted from a permanent source of disturbances to an engine of industrial activity.

The change for the better in the situation of the shipyard also reinforced the professional pride of the workforce and their self-image. In a series of open days in 1996, the company attempted to show the local populace new investment in the shipyard, the favourable climate for expansion of output, and the positive effect this would have on the local economy. In these open days, managerial staff and middle management largely remained in the background, giving prominence to the workers. During the four open days, close to 5,000 people visited the facilities, with workers acting as improvised guides. They showed the newly acquired mechanical, welding, and pipe-bending equipment in the shipyard and also presented a kind of exhibition of photographs and "weapons" (slingshots, ball bearings, rockets, balaclavas, and so forth) used in their various strikes and demonstrations. The implicit message was to link new investment to the workers' struggles, which was not questioned by owners or managers. This message had some purchase as two years later, a local cultural institution decided to reward Naval Gijón workers for their history of struggle and organised a ceremony that was attended by representatives of the company.

By this stage there were broad expectations of reducing accumulated debt and stabilising a company hitherto at permanent risk of closing. Apart from the absence of labour conflicts, several factors contributed to this: investments amounting to 1.76 mn pesetas (more than €10.5 mn) were instituted in the 1995-1998 period, including two extensions of the dry dock to reach

130 m in length to enable the construction of larger ships. In addition, the company had a backlog of orders worth 45,000 mn pesetas (€270 mn). These levels of capital investment enabled the shipyard to build vessels of larger size and technological complexity, concentrating on factory ships, container carriers, and chemical tankers, and targeting foreign markets (mainly German and Norwegian shipowners).

The beginning of the end

This apparent overcoming of the seemingly endemic labour problems of Naval Gijón did not last: a bitter conflict occurred suddenly in early 2000. The trigger was an announcement by the company of the dismissal of ninety casual workers. Immediately, all activity was paralysed, and a strike began. For the permanent workforce, more than 200 new direct jobs that had been created in the years of industrial harmony were not only a source of pride, but also a promise of continuity of employment in the shipyard. The workforce saw the entry of younger colleagues as part of the necessary generational renewal. The links between fixed and temporary workers (sometimes reinforced by ties of kinship, neighbourhood, or militancy) had been cultivated through a conscious strategy to actively defend the homogeneity of working conditions. After several years of permanence, casual workers had increased the influence of the most combative union, the CSI, and had assimilated many of the veterans' tactics. The announcement of layoffs signalled an outbreak of hostilities and led workers to occupy the shipyard leading to heavy fighting with police. In the first and last days of the strike, which lasted from 10 February to 14 March, clashes extended from morning to night.¹²

Concentrations of support and a large demonstration that took place at the end of February, as well as mediation by members of regional and national governments, were not enough to reach a deal. After a month, the pressure produced by such a hard and prolonged conflict resulted in an open division between the unions, which also affected alliances and strategies that had been held since the years of the industrial restructuring. Both the CCOO and UGT leadership were in favour of accepting an agreement renouncing the defence of temporary jobs, while the CSI was left alone in its stance of continuing the strike. An assembly of more than 500 workers discussed both alternatives for 8 hours until a vote decided,

12 Vega Garcia, "Cerrando el círculo".

by a narrow margin, to end the strike, with the explicit threat of definitive closure weighing upon them. The defeat suffered by workers in the conflict against the dismissal of casual workers marked the inexorable decline of the shipyard, which would continue for nine more years.

In 2003, the Orejas industrial group gave up their ownership of the shipyard. Their shares passed into the hands of various managers, the majority of shares going to the yard manager, Galo Baizán. In 2004 he left. Shares were transferred to a new owner, the Dike Global SL Company of Madrid. By then, the management of the company had been assumed by PYMAR.¹³ In a critical situation, with closure of the shipyard looming, this appeared to be the only possibility of survival as an emergency solution. In response to the continuing uncertainty a new phase of radical demonstrations took place throughout 2004 with the double aim of pressure to obtain workload and to neutralise any urban plan that would allow non-industrial use for the shipyard site. The overcoming of this stance led to a further reduction in the workforce, leaving only 170 workers, and left in addition a source of lasting social tension stemming from the arrest and imprisonment of two trade unionists of CSI because of their participation in protests.

PYMAR ran Naval Gijón through appointed administrators in a period of mounting debts and losses while allegedly seeking a buyer for the shipyard. Meanwhile, debts continued to mount with an option being discussed of selling its ownership of the land containing the shipyard. Such a sell-off could reclassify the land for residential use, and generate substantial capital gains for new owners. Indeed, the surrounding neighbourhood experienced, with the closure of other shipyards and industries, an urban transformation in which the price of property appreciated throughout the area.¹⁴ Given this possible scenario, the workforce intensified their complaints about the lack

13 PYMAR is a public limited company established in 1985 by small and medium-sized private Spanish shipyards to protect the interests of private shipbuilding in Spain and throughout Europe. It carries out its work in close collaboration with the state government and the autonomous regions. At one point PYMAR brought together as many as twenty-four private shipyards, which compete with each other but also hold common strategic positions. It is a governing body of the sector which co-ordinates and promotes the decisions adopted by mutual agreement of its members for the benefit of one of the longest-standing industries in Spain. With the aim of achieving an improvement in its shipyards' competitiveness, it has access to key mechanisms which are extremely important to the shipping sector. These include the Shipbuilding Guarantee Fund, which is aimed at facilitating the implementation of shipbuilding projects in Spain. Among PYMAR's activities are the provision of technical, legal, and financial/tax consultancy services to help shipyards bring their construction projects to fruition.

14 Alonso, "Astilleros varados".

of willingness to continue shipbuilding and what seemed to them to be the existence of a hidden purpose of closure to benefit property speculators.

The criminalisation of the two main leaders of the CSI took place against a background of reducing the workforce through early retirement; for the first time, such reductions were accepted as mandatory by the other two unions (UGT and CCOO). The forced departure from the shipyard for mere reasons of age and without acquiescence of some trade unionists who opposed the agreements, and who rejected the early retirements as a path which could only lead to closure, weighed increasingly on the minds of the older workers. On the other hand, some of the older workers felt that the plan put an end to the uncertainty suffered for such a long time by means of a definitive exit from the labour market with an acceptable level of compensation. Those who were members of the CSI tended to be younger workers and had a greater interest in the continuity of work in the shipyard. The combination of this generational factor with the charisma and authority exerted by some CSI leaders allowed this union, traditionally confined to manual workers and with no presence in offices, to recruit among technical staff, administration, and even managerial staff, whose relative youth made them appreciate the determination with which CSI rejected any prospect of closure.¹⁵

This process of reductions in staff and increased indebtedness, leading to closure, was accompanied by a wave of new demonstrations which retained considerable social support and captured the attention of institutions and the news media.

The arrest of two members of the CSI accused of public disorder as a result of the 2005 demonstrations became a thorny problem which resounded for years, highlighting political, judicial, and police contradictions. Two years later, they were sentenced to three years in prison, while a persistent social mobilisation expressed support through demonstrations, and signs of solidarity under many different forms. A song and two documentary films composed the sound and audiovisual chronicle of a campaign which gave rise to the creation in the city of a citizen platform against authoritarian repression. Their imprisonment in the summer of 2007 provoked a reaction that led, just nineteen days later, to releasing the men from prison and then to a partial pardon.¹⁶

15 Testimonies of Zaza González-Llanos and Alejandro Alonso, engineers at Naval Gijón, Archivo de Fuentes Orales para la Historia Social de Asturias (AFOHSA), serie Culturas del Trabajo.

16 The story of the imprisonment of these union activists has been told in two 2007 documentary films: Alejandro Zapico, *El astillero (disculpen las molestias)*, and Ruth Arias, *Cándido y Morala, ni un paso atrás*.

Table 10.2 Naval Gijón's workforce

Year	Workers
1985	742
1987	745
1990	595
1994	582
2000	349
2003	183
2005	109
2009	96

Source: Company and union documents

In 2007 the shipyard had just 101 permanent workers, although it generated hundreds of indirect jobs. The situation had already resulted in suffocating debt, resulting from failure to comply with all of the targets set in the action plan for the period 2004-2006, with the exception of early retirements. The promise of investment amounting to €9 mn, to keep the shipyard viable, was not realised, and the company's approach consisted of a closure plan. This possibility was accepted by two trade unions (UGT and CCOO) and by the regional government, but was rejected by the CSI. For the first time, the minister of industry of the Asturian government spoke out openly in favour of closure of the shipyard, with arguments expressed in terms of profitability and punishing the obstinacy of some workers in defence of their jobs.

Although the end of shipbuilding activity was initially set for 2008, Naval Gijón lasted until the middle of 2009, with workers continuing to sustain actions several years later. Throughout November 2008, workers were on strike which, as usual, was accompanied by demonstrations in the street (fire barricades, traffic stoppages, and clashes) until the workforce finally accepted on 4 December an agreement which, for the first time, did not guarantee coverage for all workers. Only workers aged fifty-three years or older could access early retirement, while forty-two younger workers were promised relocation to the neighbouring shipyard Juliana. This proved to be no more than a delay, as the Juliana shipyard ceased activity only six months later.

Even when the agreement to close the shipyard had been signed, conflict reappeared in its last weeks of activity. Action by sixty workers for twenty-two days, accompanied by daily demonstrations, demanded guarantees

of compliance with the commitments acquired with the pensioners.¹⁷ This matter was ultimately resolved and workers abandoned the action. Naval Gijón closed its gates and ceased all activity on 31 May 2009. In the following months, its facilities were dismantled, and cranes and gates that surrounded the dry dock were scrapped. The speed that administrators of property exhibited in this scrapping and the passive attitude shown by the authorities seemed to indicate a desire to erase as soon as possible the most visible vestiges of an uncomfortable memory starring an extraordinarily confrontational collective of workers. The potential redevelopment of the shipyard has not been thus far confirmed. The deep economic crisis, one of whose main dimensions in the Spanish case is the bursting of the housing bubble and consequent paralysis in the building sector, has put on hold the future destiny of the facilities and the ground of the shipyard.

17 Another documentary film reflects this last conflict: Jaime Santos and Vanesa Castano, *Prejubilandia, una verdad incómoda* (2009).

11 Labour relations in a Portuguese shipyard

The case of Setenave

Jorge Fontes

Introduction

In the years following the Second World War, Portugal remained an authoritarian regime and a colonial power. Economically, it continued to be a mainly rural economy and a peripheral country in the European context. From the 1960s, however, Portugal joined several international organisations such as the European Free Trade Association in 1960, the International Monetary Fund (IMF) and the World Bank in 1961, and the General Agreement on Tariffs and Trade in 1962. This reaching out to supra-national bodies helped to create the conditions for the development of Portuguese industry, in association with banks and other financial institutions through great monopolies. The gross domestic product (GDP) average annual growth rate was 6.9 per cent between 1960 and 1973, and for the first time in Portuguese history the secondary sector equalled the primary in terms of manpower.¹

Seven major business groups dominated the Portuguese economy in the period of the *Estado Novo* dictatorship. At the top was the *Companhia União Fabril* (CUF) group, which included about 186 companies, from textiles to fertilisers, metal products to shipping, trade to property, insurance to finance, supermarkets to petrochemicals, and shipbuilding to computer science; it was responsible for about 10 per cent of GDP and employed around 100,000 people. In association with foreign capital it developed the Portuguese shipbuilding industry, initially with the successful case of ship repairers Lisnave, followed by the more ambitious project of a new gigantic shipyard specialising in shipbuilding, Setenave.

The conditions for the formation of Setenave seemed encouraging. The closure of the Suez Canal in 1967 and shipowners' subsequent preference for the Cape route (the canal remained closed until June 1975), the need to reduce costs with freights paid abroad, the success of Lisnave, the boom in

1 Rocha, "Crescimento económico em Portugal nos anos de 1960-73", 621.

orders to shipyards for mega-oil tankers and Organization of the Petroleum Exporting Countries' full embargo on Portugal in retaliation for the use of the Lajes base in the Yom Kippur War of October 1973 all accelerated the need for the construction of a new large shipyard, facilitated by the non-adherence of Portugal to the Organisation for Economic Co-operation and Development (OECD) agreement of 1969 establishing the full liberalisation of the sector. An ambitious plan was on the march: Cabinda in Angola produced oil, Setenave built the ships, and the Soponata shipowner of CUF would transport the oil to be refined in Portuguese factories.²

However, a growing dissatisfaction with a colonial war fought on three different fronts resulted in a military coup by middle-ranking officers on 25 April 1974. It was a thunderous fall, with hardly any resistance, of Europe's longest dictatorship in the twentieth century and the most durable of the classic colonial empires – opening the floodgates for the most radical social revolution Europe witnessed in the second half of the past century.

Setenave (Estaleiros Navais de Setúbal) was officially formed on 6 August 1974 at Mitrena in Setúbal to cope with increased demand, both for ship repairing and shipbuilding. It commenced operations on 16 June 1975, with the arrival of the vessel *Montemuro* in the shipyard amid the aforementioned social revolution (which nationalised the shipyard) and amid the continuing effects of the world economic crisis of 1973-1974, which strongly affected the shipping industry. Consequently, the severe downturn in demand in orders of new ships, especially in Setenave's projected area of expertise (oil supertankers), the discovery of oil in the North Sea, the downfall of the national merchant navy after decolonisation, and the new international division of labour with the productive relocation to sectors more profitable to the accumulation of capital, as well as Setenave's ruinous deal with international shipowners in Portuguese currency (the *escudo*) exposed the early operations of the shipyard to the grim realities of international competition.³

In this less than propitious market situation Setenave would try to diversify its productive range and its market, but would always struggle with chronic problems of financial asphyxia. The constant devaluation of the *escudo* (increasing the costs of material and equipment acquisition), bureaucratic slowness in financing operations (delaying contracts and causing cancellations from shipowners), a financing significantly under

2 Available at <http://www.esquerda.net/dossier/o-caso-da-lisnave> (accessed 14 September 2013).

3 Grupo de Trabalho ad hoc, "A indústria naval em Portugal", 12.

international standards, and the lack of payment on time of wages and invoices together created a scenario of chronic instability.⁴

Successive governments, although recognising Setenave's strategic importance and repeatedly promising new orders, by neglecting to put in place an integrated plan for the whole industry (when all the banks, shipping companies and the majority of the shipyards were nationalised) left Setenave in a difficult economic situation.

Notwithstanding the financial troubles, the reduction in freight and external dependence, the balance in trade and transactions, and employment had positive effects on the shipbuilding industry. In 1984, shipbuilding represented about 3 per cent of employment in the intermediate goods industries and 6 per cent of industrial GDP, a sector with a "per capita" product superior to the industry average by about 40 to 50 per cent. The national value added, since there are virtually no producers of equipment or other materials for shipbuilding, was almost exclusively dependent on the greater or less volume of manpower utilised (which varies between 30 and 50 per cent of the value of ships built in Portugal) because the materials of Portuguese origin represent only 10-25 per cent of that measure. In ship repairing (including sub-contractors) the national value added ranged from 75 to 90 per cent. By 1987, the Portuguese shipbuilding and -repair industry represented about 4.3 per cent of employment and 4.8 per cent of the gross added value in manufacturing industry. Setenave, with its locational advantages, was second in Europe in docked tonnage and number of repaired ships (above 30,000 tons) and third worldwide in docked tonnage.⁵

The social struggles of 1982-1984, the joining of the European Economic Community (EEC) in 1986, and the election of a neo-liberal government in 1987 (paving the way for private capital and denationalisation of the Portuguese economy) created the conditions that led in 1989 to Setenave handing over its facilities in Mitrena to a private company, Solisnor, a consortium between Lisnave, Soponata, and a Norwegian company.⁶ Solisnor would manage the Mitrena facilities for five years after which the concession was passed to Lisnave, which closed its own shipyard on the south bank of the Tagus and focused solely on Mitrena, re-orienting it to ship repair, modernising its facilities from 1997, and adding three Panamax-size dry docks at the turn of the millennium.

4 Comissão Coordenadora das Comissões de Trabalhadores da Indústria Naval, 7º *Encontro de Trabalhadores da Indústria Naval*, 16.

5 Federação dos Sindicatos de Metalurgia, Metalomecânica e Minas de Portugal, *Indústria naval faz falta a Portugal*, 11.

6 Barber International, Wilhelmsen, and Platou.

Setenave shipyard

Setenave was the largest Portuguese shipyard that undertook both shipbuilding and repair. It was a gigantic project put in motion by the association of the most powerful Portuguese monopolist group with foreign capital.

From the beginning, Setenave functioned almost like a subsidiary factory of Swedish shipyards, building ship hulls and block sections of oil tankers that were towed to Sweden in order to be completed. In this international division of labour, Setenave provided a cheap and flexible labour force and Swedish yards retained overall control including design.⁷

The shipyard was initially projected to build very large crude carriers (VLCCs) but the contraction of the world market post-OPEC forced a change in strategy. A decision to readapt the shipyard towards ship repair was crucial to the economic survival of the enterprise; it repaired not only VLCCs but also other types of ships and oil platforms, and even assisting shipyards in the former Portuguese colonies.⁸ According to my estimate more than 1,200 repairs were undertaken in the shipyard between 1975 and 1995 (Table 11.1).

The shipyard was built in Mitrena, 40 km south of Lisbon and 12 km from Setúbal. The Tagus estuary has a dimension of 10 km in length with the narrowest point being 1.5 km wide. The average depth of the waters varies between 8 m and 12 m. The Tróia peninsula and the mountain range of Arrábida form a natural protection against winds and tides. The temperature of the waters ranges from 10 °C in the winter to 25 °C in the summer. Weather conditions (with little precipitation) are very good for shipbuilding and ship repairing, allowing longer periods of work.

Mitrena shipyard has a total area of 3,000,000 m², of which 1,000,000 m² were reclaimed from the river, with facilities being divided between shipbuilding and ship repair. The area set aside for shipbuilding has an area of 350,000 m² in a U shape. The construction dock was 420 m in length and 75 m in width equipped with a gantry crane of 500 tons' lift capacity and cranes of 100 tons' and 15 tons' lift capacity. The ship repairing arm could repair ships up to 700,000 dwt (the world's biggest tanker at that time was 550,000 dwt and was docked in Lisnave). Setenave was equipped with two

7 Federação dos Sindicatos da Metalurgia, Metalomecânica e Minas de Portugal, *Indústria naval faz falta a Portugal*, 12.

8 Informação Setenave, no. 252, 27 August 1981, "Manter e desenvolver a cooperação Setenave Moçambique", 1.

Table 11.1 Ships repaired in Setenave and Solisnor, 1975-1995

Year	Number of ships repaired
1975	11
1976	66
1977	97
1978	97
1979	82
1980	68
1981	40
1982	n.d.
1983	57
1984	96
1985	102
1986	106
1987	106
1988	82
1989	6
1990	89
1991	87
1992	n.d.
1993	n.d.
1994	n.d.
1995	n.d.

Source: Author's calculations from government, industrial, and union publications ; Conceição, *Setenave*

docks of 420 m x 75 m and 350 m x 55 m, three piers, one tube workshop, one mechanical workshop, and one hull-fabrication hall. The shipyard was equipped with one building platform with the capacity to build up to 700,000 dwt served by a huge gantry crane, and two repair dry docks (700,000 dwt and 300,000 dwt). Setenave had a maximum capacity to repair fourteen ships simultaneously, and also to build four or five ships provided that dates of delivery were staggered.⁹

In terms of construction Setenave built seven oil tankers (376,000 dwt, 323,000 dwt, 316,000 dwt, 159,878 dwt, 159,719 dwt, 152,000 dwt, 88,980 dwt), three bulk carriers (38,300 dwt), floating docks, hulls for reefer ships, and deck cargo barges, and undertook jumboisation of ships by adding prow and cargo tanks to oil tankers.

9 Moisés, *Setenave e Lisnave*, 20.

Setenave: the workers

The workers had the following characteristics: they came from geographically dispersed areas, although the majority were recruited in the rural south, and they were young with an above-average education (National Employment Centre and industrial courses) but with little training (the more qualified were recruited in Lisnave and the CUF group). Other sources of recruitment were former soldiers in the colonial war and Portuguese emigrants working in European metalwork factories and shipyards. These recruits were a perfect prototype of the new Portuguese working class that arose in the 1960s amid the “rural ocean”: concentrated on both banks of Tagus River, recently urban, and yet with strong ties to the rural areas, highly concentrated, in new modern factories, young and inexperienced in the old traditions of the Portuguese workers’ movement, and bereft of almost any kind of labour rights and union and/or political legal representation.¹⁰

By 1975, shipyard workers had finally achieved paid holidays, wage increases, and automatic promotions, among other labour rights. In 1977, night-shift working was introduced at Setenave, leading to more employment and allowing the utilisation of the shipyard 24 hours a day, 6 days a week.

In the late 1980s, the working week was 44 hours per week; with a day shift from 8.25 a.m. to 3.45 p.m. from Monday to Friday, and a night shift from 5.30 p.m. to 2.40 a.m. In general, workers preferred the night shift because it paid 25 per cent on top of the normal wage. On Saturdays they were paid three times the normal hourly rate of pay and would have a day off for every fourth Saturday worked, while on Sundays they were paid at twice the hourly rate of pay but obtained an immediate day off on the following Monday. Later on, a new shift was introduced in which work would take place from Tuesday to Saturday in order to reduce overtime. Setenave wages were in general twice the minimum wage, but not very good in comparison with Lisnave shipyard rates or those in similar metalworking establishments.¹¹

The legal framework of industrial relations inside the shipyard was the Collective Vertical Contract of the Metalworkers (CCTVM), which covered all workers in metalworking trades. The CCTVM stipulated precisely the function of each worker and had a chart of minimum wages applicable to each trade. This professional description was, however, an obstacle to the multi-tasking

10 Rosa *et al.*, *Sistemas de trabalho*, 182.

11 Interview with Miguel Moisés (Workers’ Commission Setenave), 1 June 2009.

and labour flexibility desired by the company management and because of that, and contrary to most enterprises, there never was a so-called Collective Agreement specific to the company. Nevertheless, on an annual basis a process of negotiation took place between the workers and management concerning wages and conditions of employment. These negotiations and associated “claims” were better for the workers than the restricted terms of the CCTVM. Indeed, in cases of discrepancy between the CCTVM and the annual agreement, the most favourable to the worker was applied.¹²

Labour protest in a revolutionary context

The coup of 25 April 1974 took place while Setenave was under construction. In an enterprise without autonomous structures of labour organisation, the workers eventually recruited from Lisnave and CUF shipyards were the most experienced, carrying the traditions of struggle against the CIE (Enterprise Internal Commissions) and of the emblematic strike of 1969 in Lisnave that resulted in hundreds of dismissals. The first major mobilisation of workers at Setenave occurred in May 1974, when workers gathered spontaneously near the building of the Training School and constituted an ad hoc negotiating commission. A set of demands was presented to the management, with an ultimatum of ten days and thereafter immediate start of a strike of unlimited duration, with a General Assembly of the Workers operating at all times. The main demands were: reduction of the working hours to 40 hours a week, no work on Saturday, more holidays, limitation of overtime, less time until retirement, limitation of extra hours, and abolishment of the third shift, control of the disciplinary processes and promotions, a substantial rise in the minimum wage, and a simplification of wage scales. Some demands fully met were: profit sharing, paid holidays, freezing of higher wages, compensation for workplace accidents, and the establishment of a set of political and labour rights within the shipyards.¹³

On 27 May 1974 the first Workers’ Commission of Setenave (CTS) was elected. However, a General Assembly dismissed the previous committee and elected another, which was strongly anti-capitalist. The second CTS (July 1974 to May 1975) and the third (May to December 1975) would be politically led by those who had been on the far left throughout the revolution. Only after the failed communist-led coup of 25 November 1975 against

¹² *Ibid.*

¹³ Pires de Lima *et al.*, “A acção operária na Lisnave”, 853-854.

the transition to democracy would the PCP (Portuguese Communist Party) direct the CTS (as well as all other workers' representative bodies); in Lisnave, however, the Workers' Committee (WC) was led by the socialists in 1986.¹⁴

During the Portuguese revolution the CTS focused its claims on anti-capitalist and egalitarian issues, and struggled to harmonise different categories of workers and to reduce wage scales, to freeze higher wages, to block subcontractors, to abolish fixed-term and probationary contracts, and to reduce the privileges of senior staff. In particular, the third CTS (May to December 1975) integrated the mobilisation of Mitrena workers in the wider context of the revolutionary dynamic; tried to co-ordinate with other committees of workers, residents, and soldiers; and attempted to establish alternative forms of "people power" within the framework of a new socialist society.¹⁵

Evolution of workers' struggles

The second CTS was elected on 11 July 1974 with 849 votes. Only one programme was presented in the elections. It established "Base Commissions" for each area of activity.¹⁶

The main opposition to the CTS was led by the PCP under the rubric "Movement for the Constitution of a New WC". In March 1975 they gained a critical advantage in the Portuguese shipbuilding industry with the dismissal of the "Group to Reduce the Wage Scale" (linked with the far left) in Lisnave. Also in March, the big controversies in the shipyard were related to the hostility of the CTS to the visit of representatives of the Movement of the Armed Forces (MFA) and the proposal, approved in the Workers' General Assembly, of reducing the wage scale from eleven categories to just three. However, the defeat of that position in Lisnave undermined the efforts of a similar solution in Setenave.¹⁷

The third CTS was elected in May 1975, near the peak of the revolutionary period. Earlier, on 11 March 1975, a failed far-right coup caused the radicalisation of all social activity. The banks and major enterprises were nationalised (except foreign capital) and in key factories self-management and workers' control were widespread. At the same time, in the conservative and religious

14 Fernandes, "As relações sociais de trabalho na Lisnave", vol. I, 125.

15 Comunicado Comissão de Trabalhadores da Setenave 10.7.7, Archive Centro de Documentação 25 de Abril in Coimbra.

16 Comunicado Comissão de Trabalhadores da Setenave 18.7.7, Archive Centro de Documentação 25 de Abril in Coimbra.

17 Pires de Lima *et al.*, "A acção operária na Lisnave", 870.

north, counter-revolutionary forces supported far-right terrorist groups who began to destroy the headquarters of the Communist Party and far-left organisations. In the south, the industrial belts of Lisbon and Setúbal were controlled by workers' commissions that began to centralise themselves in Soviet style with the active complicity of low-ranking soldiers who started to organise their own commissions in the army. In all of this political activity, Portugal remained on the edge of a civil war.¹⁸

The new CTS developed active intervention in the general struggles of the Portuguese working class, in an attempt to co-ordinate and centralise all workers' commissions (WCs) to include their aim of the socialist transformation of the society. For instance, it took part in the "Committee of Struggle" of Setúbal in co-ordination with other enterprises, residents' commissions, and soldiers' commissions.¹⁹ In response, the company management issued a "Letter to the Workers of Setenave" on 6 October 1975, characterising the situation as a "catastrophe": "the abandonment of the work place is frequent, productivity is low, dead times are huge, authority of those in charge is questioned, discipline has deteriorated, the enterprise is 'invaded' by political conflicts, the indifference of the workers and tensions and disputes grow". The document closes with a subtle threat of dismissal of the directors, engineers, and managers and calls for a platform of understanding with the workers' organisations because the situation was "untenable".²⁰

The very experienced management tried to communicate with the workers over the heads of their delegates, blaming the WCs for the "disorganisation" of the shipyard and the lack of orders, accusing them of being against the government,²¹ and playing on the workers' divisions (far left versus PCP).

In a Workers' General Assembly on 16 October 1975 the speakers supported "the dictatorship of the proletariat", and the assembly approved with acclamation "the development of the unity of the soldiers, seamen, farmers, and workers towards socialism and reject all measures from the 6th Government that intend to suppress the voice of the oppressed and the exploited".²² It also approved the process of election of another WC that would complement a Workers' Control Programme.

18 Varela, *História do povo na Revolução portuguesa*.

19 Dows *et al.*, *Os Moradores à Conquista da Cidade*, 201.

20 Letter to the workers of Setenave, 6 October 1975: Archive Centro de Documentação 25 de Abril in Coimbra.

21 The provisional governments tried to regulate and institutionalise workers' control with state participation.

22 Minute of the General Assembly of Workers of 16 October 1975, Archive Centro de Documentação 25 de Abril in Coimbra.

To what extent was “workers’ control” expressed in Setenave? They had very high levels of information, for instance, on wages, control without resistance of tasks, meetings, services, staff, production, the financial state of the company, and likely level of profits, etc. They had the strength to refuse proposals from management and to impose many of their own.²³ It was in this context that workers began to discuss an official programme of workers’ control for establishing functions of the WC. However in the midst of this process, the 25 November 1975 coup took place and elections for the Workers’ Control Programme only occurred in December. Five different programmes of workers’ control were presented. Programme E (PCP) won with 862 votes, followed by Programme B (Maoists, 260 votes), Programme D (Maoists with the Socialist Party, 240 votes), Programme A (far left, 142 votes), and Programme F (Trotskyists, 18 votes). The total votes cast numbered 1,914; 402 were invalid and 2,093 workers (more than half the workforce) did not participate.²⁴

The winning Workers’ Control Programme “Unite-Organise-Control” divided the shipyard into five geographical sectors that elected their representatives in the approximate proportion of one representative to every one hundred workers. A Workers’ Control representative could not also be a union delegate, and any representative to the WC could be recalled at any time by the Workers’ General Assembly.²⁵

The highest-level body of the WC communicated with the WC Assembly via thirty-four representatives. The assembly elected the secretariat and the subcommittees. The organisations had the following roles:

- Secretariat (seven representatives): centralise WC activities, chair the Workers’ General Assembly, and represent the workers to management.
- Sub-committee for liaison with union delegates (three representatives): contribute to obtain a correct balance between the specific interests of the different professional groups and the collective interests of the workers as a whole.
- Sub-committee for the liaison with rank-and-file organisations (three representatives): liaison with others workers’ committees, soldiers, and resident committees.
- Education committee (three representatives): to activate programmes for cultural and technical development of the workers in order to prepare them for building a future socialist society.

23 Rosa *et al.*, *Sistemas de trabalho*, 490.

24 Informação Setenave no. 57, 22 December 1975, *Controlo Operário*, 2.

25 SRTUIU, “Workers’ Control in Shipbuilding/Shiprepairing”, 5.

- Information sub-committee (three representatives): to produce communiqués and pamphlets.
- Sub-committee for liaison with sectors (five representatives, one for each sector): to provide links with the sectors.
- Sub-committee for the Workers' Control Commission (with ten members), worked on the following principles:
 - a To co-ordinate the activities concerning workers' control; to analyse all the irregularities reported to it.
 - b To request from the administration any documents or management reports; some of these elements should be submitted regularly to the sub-committee, so that the workers knew the main activities of the shipyard at all times.
 - c To detect which activities may be subject to economic sabotage and to ask the workers to reinforce their vigilance on them.
 - d To obtain from management the services of specialists to help the sub-committee to interpret documents referred to in b). These specialists may also be requested to give evidence or information.
 - e To demand from the administration that all detected irregularities are corrected.
 - f To attempt the integration of Setenave into a planned economy by linking its objectives with those of the same and similar industries.
 - g To ensure a correct investment policy, protecting both the workers and the national interest.
 - h To demand that all the existing or prospective contracts be revealed to the sub-committees.
 - i To guide all possible activities that may contribute to the improvement of the workers' knowledge of the activities of the management of Setenave. The aim is that workers should view the exercise of workers' control as a necessary practice heading for a new kind of production relations.

The document analyses the political context but does not mention the 25 November 1975 coup,²⁶ and positions the fight against fascism and for a future socialist society as the main aims of the Portuguese working class. However, the term "socialism" never appears in the specific workers' control

²⁶ The PCP saw the revolution as ongoing and Portugal as developing into a special kind of democracy, with non-capitalist sectors of the state, that is, nationalised industries.

project or attributions. Here the priority is given to “national independence”, namely:

- a Reconversion of the shipyard.
- b To buy Portuguese goods whenever possible.
- c To press for the immediate inclusion of shipbuilding materials in the range of products of national steelworks.
- d The acquisition of national technology.
- e The search for a large market, by the inclusion of countries that were not traditional clients.

The non-PCP vote got 44.2 per cent. The partisan fragmentation is a reflection of internal disputes. The second most popular among these groups were the Maoists. They wanted the CTS to be political, non-partisan, “class”-oriented, and revocable at any time. The main tasks were seen as the anti-fascist and anti-imperialist struggle, to ensure and organise the defence of the workplace, organise workers’ control against unemployment, and against fascist and imperialist sabotage. The goal was to centralise commissions of all shipyards and of all metal mechanical enterprises and to establish the total centralisation of all WCs in Portugal.

The immediate goals of workers’ control were:

- a Control over all orders;
- b Control over raw materials and equipment;
- c Reconversion; and
- d Financial situation and enterprise spending.

According to Programme D (240 votes, Maoists and Socialist Party) orders and contracts should be channelled to national needs and raw materials and equipment bought in Portugal whenever possible. All accounts ledgers were to be controlled by the WC. Workers’ control was to act in admissions, recruitment, training, security, and hygiene.

To supporters of Programme A (142 votes, far left) the workers’ organisation was to be democratic, autonomous, and not elected by lists. The political mobilisation should be framed in the alliance with the MFA. Its immediate tasks were: to exercise workers’ control over planning, commerce, finances, repair, and construction and to expel saboteurs.

Finally Programme F (Trotskyists, with only 18 votes) proposed a struggle against unemployment and inflation. Workers were to organise pickets in self-defence.

Setenave and “democratic normalisation”

Notwithstanding the defeat of the so-called military left in the coup of 25 November 1975, a set of labour objectives was crystallised, a network of democratising public services was established, and the economy was heavily nationalised. It is in this context that the elections for the new CTS in January 1976 offered victory to the PCP list with 45 per cent of the votes cast, as against 13.5 per cent for the Maoists and 12.4 per cent for the Maoists and Socialists combined. Communists also held the majority of shop steward positions and leadership of the company’s most important union, the metalworkers (Table 11.2).

Most political interventions could be characterised as “national developmentalism”. Priorities became, on the one hand, the continuation of the nationalisation of the company within the “state enterprise sector”, the “non-capitalist sectors” that would serve as a barrier against the advancement of the forces of reaction, and allow – through a rational articulation of the productive sectors – independence and national development, as well as the improvement of the living conditions of workers; and, on the other, the economic and financial viability of the company.

The “claims ’80” in 1980 emerged in a context where the purchasing power of workers’ wages had fallen to levels significantly below those of Lisnave and many other metallurgical enterprises of the district of Setúbal. Therefore, wage demands were at the centre of negotiations, a process that would end with an average percentage increase of 11.8 per cent. Also in this year the CTS were forced to apply a new legislative rule, which introduced the D’Hondt method into workplace elections, a system criticised by both the PCP and the Maoists.²⁷ The elections marked the beginning of a trend of stability in the CTS’s composition. The PCP (“unitary list”) got the largest share of the vote and elected an average of seven mandated delegates; followed by the Socialists with around 20 per cent and two seats, and the Maoists ranging between 15.8 per cent and two seats in 1980, and 12 per cent and one seat in 1986. The PCP unitary list easily exceeded the votes of the other factions and, elected the secretariat of the WC, which undertook negotiations directly with management.

The year 1981 marked a turning point in labour relations in the shipyard. Claims gradually moved from being qualitative in character (workers’ control, co-management, etc.) to a more quantitative dimension (salary

27 The D’Hondt method is a highest average method for allocating seats in party-list proportional representation.

Table 11.2 Workers' Commission elections, 1976-1994

	1977	1979	1980	1982	1984	1986	1988	1990	1992	1994
Potential voters	5733	6300	6130	6413	5734	4836	4749	2607	2507	2363
Votes	3900	4329	4102	4004	3521	3588	3398	1815	1833	1695
%	68.0%	68.7%	66.9%	62.4%	61.4%	74.2%	71.6%	69.6%	73.1%	71.7%
Abstentions	1833	1971	2028	2409	2231	1248	1351	792	674	668
%	32.0%	31.3%	33.1%	37.6%	38.6%	25.8%	28.4%	30.4%	26.8%	28.3%
Blank votes	180	318	61	99	148	57	51	24	54	14
%	4.6%	7.3%	1.5%	2.5%	4.2%	1.6%	1.5%	1.3%	3%	0.8%
Null votes	57	133	32	49	185	34	38	31	19	15
%	1.5%	3.1%	0.8%	1.2%	5.3%	1%	1.1%	1.7%	1%	0.9%
PCP	1845	2732	2248	2231	2251	2170	2317	1321	1338	1488
%	47.3%	63.1%	54.8%	55.7%	63.9%	60.5%	68.2%	72.8%	73.0%	87.8%
Number elected	18	18	7	7	8	8	8	9	9	10
UDP	795	1146 (coalition with Other (far left))	649	616	553	449	Coalition with PCP	Coalition with PCP	Coalition with PCP	Coalition with PCP
%	20.4%	26.5%	15.8%	15.4%	15.7%	12.5%	Coalition with PCP	Coalition with PCP	Coalition with PCP	Coalition with PCP
Number elected	0	0	2	2	2	1	Coalition with PCP	Coalition with PCP	Coalition with PCP	Coalition with PCP
PS	968	-	883	879	-	705	992	439	422	178
%	24.8%	-	21.5%	22%	-	19.6%	29.2%	24.2%	23%	10.5%
Number elected	0	-	2	2	-	2	3	2	2	1

	1977	1979	1980	1982	1984	1986	1988	1990	1992	1994
PSD	-	-	-	-	384	173	-	Coalition with PS	Coalition with PS	Coalition with PS
%	-	-	-	-	10,9%	4,8%	-	-	-	-
Number elected	-	-	-	-	1	0	-	-	-	-
Other (far left)	55	(with UDP)	229	130	-	-	-	-	-	-
%	1,4	-	5,6	3,2	-	-	-	-	-	-
Number elected	0	-	0	0	-	-	-	-	-	-

Source: Author's calculations from industrial, union, political, and general publications

increases, bonuses, etc.), and a deterioration of labour gains was seen. However, there was some stability in the company, made possible by a certain climate of optimism about its viability and the establishment of channels of communication with management; this was considered positive by the WC, whose members were more critical of government than of its own leadership.

Early in December 1980, the company was declared to be in difficulties by the government. In January 1981 the degaussing station (one of the most profitable sectors) was handed over to Lisnave (a private company), the chairman of the company was removed, and salary arrears began.

In this period the social context was the stormiest since the revolution. The International Monetary Fund intervened in Portugal in 1977 and again in 1983; a state constitutional revision of 1982 had eroded previous labour gains. In 1982, the CGTP (General Confederation of the Portuguese Workers) declared the first two general strikes in Portugal since 1934 (on 12 February and 11 May). A drama over the issue of wage arrears began (leading to some reported cases of hunger and even some suicides), and a letter from José Mello of Lisnave to the prime minister proposing a lock-out of thousands of workers in the shipbuilding industry ignited workers' tempers.²⁸

The "social pact"

In 1979, the shipbuilding and -repair industry provided 28,000 direct jobs, more than 5,000 in sub-contracting arrangements, and some 100,000 Portuguese depended indirectly on this activity, making the Lisbon-Setúbal region the largest repair centre worldwide. In 1984 it accounted for about 3 per cent of total employment in manufacturing and 6 per cent of industrial GDP. The sector had a product "per capita" superior than the industry average by about 40 to 50 per cent and, with the two main yards (Lisnave and Setenave) geared to the international market, allowed significant foreign exchange inflows.²⁹ To complete the picture, most shipyards, shipping companies, and banks were nationalised, which would facilitate, at least theoretically, joint synergies, obviate financial credit bottlenecks, and create a policy of state subsidies that could at least compete with the OECD countries.

Setenave sought to respond to the crisis by introducing innovative methods such as jumboising (lengthening the ship), but it was the incident of the tanker *Setebello* (S-106) that would mark the subsequent period. Due to

28 Rosa et al., *Sistemas de trabalho*, 519.

29 Grupo de Trabalho ad hoc, "A indústria naval em Portugal", 8.

delays in its delivery, the shipowner Thyssen wanted to cancel the contract. In January 1983, workers were expecting to receive their December salary and holiday allowance, despite the spectre of the shipyard's closure, now reported in the media. Given this uncertain background, at the end of the month a historic agreement on labour relations was signed. For the first time in a public company in Portugal workers accepted a loss of rights in exchange for economic viability.³⁰

The government committed itself to ensuring the continued functioning of the shipyard until the completion of S-106 until August 1983, and the workers agreed in assembly, after intense controversy, to the government holding back 6 per cent of their salary as well as bonus payments until the ship was finished, and they relinquished the right to strike (except when called out nationally). The CTS agreed these measures as "a form of responsible and patriotic commitment" and "as a challenge to consciously ensure the viability of the company." The *Setebello* underwent sea trials in August, workers left the industry by the hundreds with programmes of "voluntary redundancies", privatisation was postponed, and the company would survive, agonisingly, more than half a dozen years.³¹

The newspaper *Expresso* labelled this agreement a "social pact". Indeed, in a context of acute economic crisis, the political actors and the media started to discuss with increasing intensity the need for a "social dialogue" able to institutionalise and regulate labour relations, which had reached a degree of radicalism unprecedented since the revolutionary period. In the shipbuilding industry Lisnave was militarily occupied in June 1983 to liberate the ship *Doris*, which had been held by workers with wage arrears, and a demonstration of shipyard workers in February 1984 on the 25th of April Bridge was violently repressed by police. In the aftermath of the *Doris* affair and the subsequent redundancies (which affected several union activists); in Lisnave the socialists became the majority party in the WC in 1986. A year later the CGTP finally entered into "social dialogue" after three years of absence. In Setenave, 2,000 workers left between 1980 and 1987, and more than 1,300 did so in 1988. That year the PCP and the Maoists started competing on joint lists, and the Socialists never received more than 30 per cent of the votes.³²

30 *Expresso*, nr 535, 14, "Pacto Social viabiliza construção do 'S-106'".

31 O trabalhador dos estaleiros navais, Ano I, no. 2, January 1983, "Setenave: o plano do governo ruiu como um castelo de cartas", 5.

32 Comissão Coordenadora das Comissões de Trabalhadores da Indústria Naval, Grupo Trabalho Informação, *Dossier Imprensa*, January 1983, 66.

A new era?

In 1988 under a new neo-liberal government a new management team was nominated with the promise of creating a “cultural revolution”. Sectors of the shipyard such as canteens, security, and cleaning were privatised, the kindergarten was closed, and 2,000 workers were threatened with dismissal; at the same time the project of privatisation advanced. Unsurprisingly, the workers demonstrated and were able to partially transform the initial proposal into around 700 “voluntary redundancies”.³³

Under the provisions of the EEC VII Directive on Shipbuilding, subsidies could be granted only if there were a reduction of shipbuilding capacity. Thereafter, Lisnave co-opted the Mitrena shipyard. It formed a consortium with Soponata (which was in national ownership) and Norwegian Barber International to form Solisnor, which gained control of Mitrena shipyard in 1989. The agreement made by the state with Solisnor established the construction of ships for the national merchant fleet. However, just two years later, Lisnave proposed a plan to merge the two shipyards, including the state’s assumption of Lisnave’s liabilities linked to the current value of its facilities, and the closure of new construction work.³⁴

The plan later settled with workers’ organisations stipulated, among other measures, “voluntary redundancies” of 800 workers, and a programme of early retirements at age 55 or more until December 1996. However, the plan had to be approved in two Workers’ General Assemblies, in Lisnave and Setenave. On 15 July 1994 workers in Lisnave agreed to the plan, but it was rejected in Mitrena. Thereafter, the workers’ organisations had hundreds of meetings in Setenave and the plan was finally approved.³⁵

In 1996, Lisnave replaced Solisnor in charge of Mitrena shipyard and in the second half of 1997 put in place a restructuring plan that concentrated on ship repair.³⁶ This focus was confirmed in 2000 when the Lisnave shipyard in Margueira was closed. That flexibility of labour was pursued was indicative of the company’s strategy. With the average age of employees being high, Lisnave instigated a youth training programme. In response to opposition from trade unions, Lisnave formed a new company in 2009 to hire all future

33 Fernandes, “As relações sociais de trabalho na Lisnave”, vol. II, 52.

34 Público, *Lisnave avança com carteira cheia*, 86.

35 The agreement was signed 4 August 1994: *O Pórtico CT Solisnor*, April 95, no. 175, 2.

36 Lisnave Estaleiros Navais SA Management Report and Accounts, 2013. Since the Restructuring Plan of 1997 to the reporting year of 2013, Lisnave has undertaken the repair and/or maintenance of 2,047 ships, from more than fifty countries, resulting in sales of €1.78 bn.

employees, Lisnave Naval Services, LDA.³⁷ Although Lisnave experienced difficult trading conditions at Mitrena after the world financial crisis of 2008 and the slow recovery of global trade thereafter, at the time of writing, it has positive financial results; and employs about 300 workers on direct contracts and many thousands more in sub-contracting.³⁸

Conclusion

In an authoritarian regime, a revolutionary situation, or a liberal democracy, and in the context of a private or nationalised enterprise, in offensive or defensive claims, the shipbuilding and -repair industry, and Setenave in particular, served as a nerve centre. Throughout, a specific configuration of the balance of power between social classes was built, test-tube solutions for social engineering were created, and it served as a carrier element, flag, and reference point for the movement, behaviour, mood, and action of a significant section of working-class people.

Setenave was also the test bed for a new form of “post-revolutionary” industrial relations institutionalism. The deal to “rescue” Setenave in 1983 was the first piece of the puzzle of social dialogue in Portugal, translated in the signature of the first social pacts, after serious defeats of the labour movement, particularly in the shipbuilding industry, which began to be dismantled in the context of accession to the EEC, the denationalisation of the economy, and the eventual transfer of the industrial and productive sectors into private hands.

We can ask if the result of the Portuguese revolution of 1974-1975 as set out in the 1976 Constitution was perhaps the only true “social pact” throughout the Portuguese twentieth century;³⁹ and, if the subsequent retreat of labour achievements in the context of assistance from the IMF, the accession to the EEC, or the opening of banks to private capital and the dismantling of the “state business sector” are not the accumulation of the economic, legal, political, and social conditions necessary for the victory of the neo-liberal project in Portugal. The reality of the so-called social pacts was that they were an accumulation of strategic defeats of the labour movement; as such they established a new framework for seemingly permanently precarious labour relations and resulted in the almost total collapse of an industry.

37 *Ibid.*, 26.

38 *Ibid.*, 29, at 31 December 2013, the total direct workforce at Mitrena stood at 294 with an average age of 54.

39 Varela, “Ruptura e pacto social em Portugal”.

12 Work in the Portuguese shipyards of Lisnave

From the right to work to precariousness of employment¹

Raquel Varela and Ana Rajado

Introduction

For nearly three decades, the workers from Lisnave's Lisbon shipyards staged some of the most important social conflicts in Portugal. From 1967 to 1984, Lisnave was the locus of Portugal's highest concentration of workers (at its peak it had 9,000 permanent employees), and a model in the relationships between private economic groups and the state. The history of Lisnave's modern growth mirrors trends in the world market for ships, particularly the growth in size and scale of oil tankers consequent upon the closure of the Suez Canal in 1967, the OPEC oil crises of 1973-1974, the recession thereafter, and subsequent restructuring of the shipbuilding industry by relocation of the bulk of shipbuilding production to East Asian countries.²

Lisnave was a model of workers' organisation which had a profound effect on Portuguese society as a whole. In 1974, in one of the major conflicts of the revolution, 7,000 workers marched in the streets of the capital, Lisbon, against the Popular Front government. It was also in these shipyards during the early 1980s that the first company agreement that helped consolidate the social pact in Portugal was signed. However, by the 1990s, the model of restructuring applied in Lisnave saw both a massive replacement of workers who had been on standard terms and conditions of employment (guaranteed working week, agreed wages and conditions, pensions, etc.) with those on more precarious short-term contracts, and increased use of sub-contractors.

¹ We would like to thank theoretical physicist Renato Guedes and economist Luís Felipe Pires for help given in the construction of the database and its analysis.

² For this production shift, see Todd, *Industrial Dislocation*, and Todd, "Going East".

Lisnave shipyards: the current situation

With an ideal geographical location (Atlantic Ocean, Mediterranean Sea), central to the trade routes between the South and North Atlantic, and favourable weather conditions enabling outdoor work, Lisnave currently operates in Mitrena, Setúbal, on a site of 1,500,000 m². The yard has three large dry docks, two of which are straddled with a 500-ton gantry crane and which are capable of docking the largest ships afloat, and three Panamax-size dry docks. In addition to this, there are nine repair berths and a large marine-engineering facility. In mid-1997 the company implemented a restructuring plan in order to meet future trends in ship repair and conversion, including the construction of the three Panamax-size dry docks. Reconstruction and general upgrading of the yard were completed in late 2000 and a cost-containment policy for human resources was implemented with all activity focused at Mitrena.

As of December 2013 the shareholder structure of Lisnave was as follows: Navivessel Estudos e Projectos Navais, SA, 72.83 per cent; Thyssenkrupp Industrial Solutions AG, 20 per cent; Párpública, SA, 2.97 per cent; other shareholders, 4.20 per cent.³

Lisnave's business was severely affected by the crisis in the international economy from 2009 onwards. Nevertheless, in part due to the fall in wage costs the company was able to mitigate the effect of depressed market conditions. Changes to the labour laws of 1 August 2012 allowed for a reduction in compensation for overtime, now established as an extra 25 per cent during the first working hour, 37.5 per cent in the subsequent hours, and 50 per cent on weekends and holidays. Since 2009 the trend of net profits has been downward, but profits increased again in 2013.⁴ That year, Lisnave repaired 107 ships, of which 106 were foreign-owned, and 103 were dry-docked, with the repair of tankers and bulk carriers predominating. This is equivalent to a total turnover of about €81 min, a slight increase over the previous year (101 ships).⁵ However, it should be noted that, although the number of vessels has increased, there was a smaller amount of work per vessel. Still, in its market area (ships above 30,000 dwt), the company stands out as the fifth-largest in the world and largest in Europe. Since the restructuring of the company in mid-1997, Lisnave has undertaken repairs and/or maintenance of 2,047 ships from more than 50 countries, resulting in sales of €1.78 bn.⁶

3 Lisnave Estaleiros Navais SA Management Report and Accounts 2013, 15.

4 *Ibid.*, Statement of Profit and Loss, 2009-2013, 33.

5 *Ibid.*, 30.

6 *Ibid.*, 12.

With regard to its workforce, Lisnave's main objective, as part of its wide cost-containment policy, is to replace older workers, who have more labour rights, with younger, more precarious workers. The company's strategy in labour relations is clear: to rejuvenate its workforce by the introduction of more flexible working conditions and contracts to ensure its continued survival. However, the company's proposed collective-bargaining agreement has been repeatedly rejected by workforce representatives. Against this background, between 2006 and 2009 Lisnave drew up a youth training programme. This was in part an acknowledgement that the average age of its workforce was high and to bring in a new hiring regime. To this end, with the co-operation of its major shareholder, Navivessel, Lisnave incorporated a new company with objectives similar to its own, which would hire all future employees. The new company, Lisnaveyards - Naval Services, Ltd, operated from February 2009.

Lisnave has recruited most of the young people who successfully passed out of the first training programme organised by Lisnaveyards. Compared to the 2012 personnel indicators, the number of Lisnave employees fell slightly and, as of the end of 2013, the total number of Lisnave directly employed workers stood at 294, the average age increasing to 54,⁷ with approximately 2,300 precarious workers. However, it should be noted that in the current situation and with the successive amendments to the labour laws, direct workers' employment is increasingly precarious. Lisnave's activities are divided into two shifts: one from 08:00 to 16:30, and another from 16:00 to 00:00, with the majority of workers in the first shift.

In 2013, for the eighth consecutive year, Lisnave proceeded to return on the capital invested by shareholders of the company, posting a net profit of €6,979,646 mn, of which €6 mn was allotted to shareholder dividend and the remainder to retained earnings.⁸

From the Rocha Shipyards to Lisnave, 1937-1974

In 1937, the CUF group (Union Production Company), the most influential economic group of the *Estado Novo* ("new state"), chaired by Alfredo da Silva, and protected by the Law of Industrial Conditioning,⁹ won the concession

7 *Ibid.*, 29.

8 *Ibid.*, 40.

9 For the development of this subject see, for example, Brandão de Brito, *A industrialização portuguesa no pós-guerra*.

for the naval shipyard of the Port Authority of Lisbon, and founded the Rocha Shipyards on the north bank of the Tagus River. The Law of Industrial Conditioning (1931) limited domestic competition in particular industrial sectors, and required prior authorisation by government if an entrepreneur intended to start a business in the conditioned areas. This measure served, in practice, to protect from competition a sector of the domestic bourgeoisie linked to the government, guaranteeing them a monopoly of certain sectors of the economy. For shipping and shipbuilding, the Tagus River has exceptional locational advantages.¹⁰ Its shipyards and shipping lanes are protected by the largest estuary in Western Europe, with 300-350 km² of water (depending on the tides).

When the shipyards were founded in 1937, Portugal was a dictatorship. During the 1930s anarchist influence in the labour movement had declined; communist influence had duly increased and was reorganised in 1940-1941, in line with the VII Congress of the Communist International.¹¹ Antonio de Oliveira Salazar had come to power as prime minister (effectively dictator) in 1932. Since the *coup d'état* of 1926 against the Republican government, workers' organisations had been suppressed.¹² The insurrectionary general strike of 18 January 1934, with its epicentre in Marinha Grande, a glass-making village in central Portugal, was crushed and brutally repressed – its leaders were the first prisoners in the newly opened Tarrafal's concentration camp, built in the African archipelago of Cape Verde.¹³

The victory of the Nationalist forces in the Spanish Civil War (1936-1939) served to consolidate the authoritarian regime in Portugal. The Rocha Shipyards thrived up to and during the Second World War, becoming the main ship repair yard for the Portuguese fleet. However, in the summer of 1943, against a background of the high price of food and rationing since the beginning of the war, a wave of strikes broke out in Lisbon. Some 50,000 workers took part in closing down dozens of factories on both banks of the Tagus. Demonstrations of workers and their families multiplied in other

10 Saiote and Espírito Santo, "A construção naval no Grupo CUF", 25.

11 Sena Junior, "Frentes Populares".

12 Originally, Salazar's regime was based on an alliance of financial-colonial and agricultural capital. The policies of the *Estado Novo* were designed to reduce class struggle at home and opposition in the colonies. The price of agricultural goods was maintained by the state at a very low level, thus progressively ruining the smaller landowners. Simultaneously, trade unions were replaced by official *sindicatos*. The industrial bourgeoisie also had to toe the line, being obliged to organise on a corporative basis. There was a ban on all public meetings and strikes. No opposition was tolerated in what was effectively a police state.

13 Antunes, "No tempo em que os homens usavam chapéus", 12.

cities. According to João Madeira, state repression was brutal and widespread, and many factories were taken under military control. Against this backdrop, from the *Fundição* and the *Caldeiraria* of the Rocha shipyards, 1,625 workers went on strike, and 851 of them were arrested by the GNR (National Republican Guard).¹⁴ Repression continued throughout the war.

In 1947, the workers of CUF and Parry & Son shipyards went on strike, refusing to repair the ship *Lourenço Marques* which was to carry Portuguese soldiers to Angola. In April, in solidarity, the PCP (Portuguese Communist Party) cell directed the workers in Rocha Shipyards to refuse to repair the same ship. Consequently, management called in PIDE, the Salazar regime's political police, which radicalised the situation, linking it with the Naval Construction's workers ongoing strike on the Tagus docks, with the workers taking shelter in the workshops and roofs of some buildings – a situation that could be resolved only by the departure of the police from the shipyard.¹⁵

Despite these isolated challenges, Salazar remained firmly in power and retained the support of the military, police, and other organs of state. In this he was substantially aided by the relative prosperity of the bourgeoisie who supported the *Estado Novo*, and by international support in the context of the Cold War. Thereafter, labour disputes in the Rocha Shipyards were relatively scarce for almost fifteen years.

The industrialisation of the Portuguese economy had gradually resulted in a larger concentration of the Portuguese working class on both banks of the Tagus, in Lisbon, and in Setúbal, which reflected changes in the composition of the workforce. The rural labour force had decreased from 44 per cent in 1960, to 28 per cent by 1973, while the industrial workforce had increased from 29 per cent to 36 per cent in the same period.¹⁶ According to Eloy Clemente, the proportion of industrial production in Portuguese gross domestic product increased from 37 per cent in 1960 to 51 per cent in 1973. Moreover, the manufacturing sector tripled its added value, especially in the most dynamic sector, metals, and in construction.¹⁷ In 1970, three-quarters of the active population were employed and over two-thirds of industrial workers (67.4 per cent) were employed in manufacturing units with more than twenty people. Maria de Lourdes Santos *et al.* claim that there was an increase in the working class, between 1950 and 1970, from 768,000 to

14 Madeira, "O arsenal e os movimentos populares e operários".

15 *Ibid.*

16 Clemente, "Problemas y ritmos de la modernización económica peninsular", 203.

17 *Ibid.*, 203-204.

1,020,000, all this in a framework of emigration of manpower to the richer countries of Western Europe (1.5 million people left Portugal between 1950 and 1970).¹⁸ During the 1960s the proportion of women employed increased substantially in industry, agriculture, and services.¹⁹

The formation of Lisnave

On 11 September 1961, the Rocha Shipyard company adopted the name Lisnave - Estaleiros Navais de Lisboa; thereafter, it expanded on the south bank of the Tagus. Formed with mainly Portuguese but also with Dutch and Swedish capital, with Manuel de Mello (Alfredo da Silva's grandson) as chairman of the Board of Directors, Lisnave had orders of a military nature from 1963 to 1967, within the framework of the commitments of the Portuguese regime as part of NATO. Nevertheless, the company's output, particularly in ship repair, also gained added importance because of the colonial war, which had begun in 1961, against the peoples of Angola, Mozambique, and Guinea Bissau. However, Lisnave lacked the capacity at this point to build four corvettes for the Portuguese navy. These orders were granted to Bazán-Ferrol, in Galicia, the most important military shipyard in Spain.²⁰

Thereafter, Lisnave increasingly specialised in ship repair, focusing less on new construction. The growth in orders and the prospects for development of the ship repair industry led to the construction of a new Lisnave shipyard, this time across the river. On 23 June 1967, the president of the Republic, Américo Tomaz, inaugurated the new shipyards at Margueira, on the south bank of the river, designed for large ships. They were named Lisnave, Shipyards of Lisbon. The opening took place with the entry of the vessel *Índia* into dock No. 11, one of the largest in the world, with a capacity for vessels of 300,000 dwt. On that day, José Manuel de Mello was awarded the Grand Cross of Merit Industrial. Representatives of major oil companies and foreign shipowners attended the inauguration.²¹

The Suez Canal was closed that same year, necessitating the re-routing of crude oil tankers around the Cape of Good Hope and through to the Atlantic Ocean. The closure and its impact led to an exponential growth

18 Santos, Lima, and Ferreira. *O 25 de Abril e as lutas sociais nas empresas*.

19 Barreto and Preto, *Portugal 1960/1995: indicadores sociais*, 17.

20 Alén, "El Ferrol y la Bazán".

21 *Diário de Notícias*, 24 June 1967.

in size of these vessels to reap economies of scale and to a consequent increase in tanker construction.²² Lisnave was ideally located to service this growing market segment's need for ship repair. In response to this market opportunity, the company attempted to create framing mechanisms and to control its workforce politically. In 1967, the company created an Internal Commission (CIE), through which it was envisaged workers should offer suggestions and contribute, in general, to the company's progress. However, later testimonies and interviews collected show that workers were inherently suspicious of the CIE, which reproduced the failed scheme of vertical unions (corporate) created by the *Estado Novo*. It failed because they were unable to gather enough members from a sceptical workforce.²³ Moreover, workers suspected that the information from this commission would somehow be conveyed to PIDE/DGS, the political police, which quickly proved to be the case when a strike in 1969 broke out.²⁴

In an interview, a Lisnave worker recounted that his section had decided to elect a deaf-mute worker as a workers' representative to the CIE,²⁵ a way of showing their contempt for this structure, which was considered incapable of listening to workers. On 12 and 13 November 1969, there was a strike in the Lisnave shipyards of Margueira (south bank) and Rocha (north bank), in the midst of the economic crisis and the political jolt that swept Europe in the social and political upheavals of 1968 and 1969, with important repercussions in Portugal. Indeed, 1969 was the year with the largest number of recorded strikes since the Second World War;²⁶ this year would also be instrumental during the revolutionary period. The reasons for this particular strike are still controversial. From the PCP perspective – the only structure with a cohesive organisation, although it was still operating underground – the protest arose over wages which, despite being higher than the national average, were still below the European average. The PCP claimed that its activists had organised the strike but rejected the idea of a walkout that included political claims. The sources analysed by Paulo Oliveira and Paulo Fernandes show, however, that the strike itself had political roots, as three of its claims were the

22 Faria, *Lisnave*.

23 Valente, "O Movimento Operário e Sindical".

24 Faria, *Lisnave*.

25 Interview with Fernando Figueira, Lisnave Margueira worker, Jan. 2009.

26 In 1968, 15 strikes were recorded in Portugal and 100 in 1969. The sectors where strikes happened are metallurgy, manufacturing, and transport. For further development of this theme, see Patriarca, "Greves".

Table 12.1 Number of workers at Lisnave 1967-1997

Year	Number of workers
1967	4,719
1968	4,552
1969	4,522
1970	4,948
1971	6,703
1972	7,103
1973	7,715
1974	8,200
1975	8,463
1976	9,803 [peak]
1977	9,673
1978	9,593
1979	8,518
1980	8,533
1981	7,996
1982	7,140
1983	6,718
1984	6,582
1985	4,552
1986	4,511
1987	4,164
1988	4,099
1989	3,815
1990	3,712
1991	3,719
1992	3,623
1993	3,472
1994	2,129
1995	1,923
1996	1,768
1997	1,768

Source: Faria, *Lisnave*

end of the colonial war, Portugal's exit from NATO, and opening trade with Eastern Europe.²⁷ The state's response to the strike was to send in riot police to suppress the workers and prevent them from entering the shipyards; they would later be reinstated at the shipyard's entrance, one by one. The leaders of the strike were dismissed. A few months later, the administration raised the wages of dockyard workers, but the suspicion

27 Oliveira and Fernandes, "A Lisnave no início da década de 70".

created by the repression in 1969 remained, and following the 25th of April 1974 coup – which led to the fall of the dictatorship – a new opportunity awaited the Lisnave workers.

Earlier in 1969, the directors of Lisnave had decided to build dock No. 13, with a capacity to receive vessels up to 1 mn dwt. On construction, it became the largest dry dock in the world. Lisnave had a workforce of 4,719 in 1967 and, at its peak of production, in 1976, 9,803 workers were employed; 21 per cent of the world fleet of tankers above 70,000 dwt used Lisnave at the end of 1969. The number of employees grew, as shown in Table 12.1, until Lisnave became the locus of the largest concentration of workers in Portugal.

Mitrena shipyard

A new site opened in 1973, at Mitrena in Setúbal – Estaleiros Navais de Setúbal Setenave – initially geared for shipbuilding, with the state as the major shareholder. Other shareholders were CUF, Lisnave, Banco de Fomento, and the CGD bank. However, a military *coup d'état* carried out by the Armed Forces Movement (MFA) on 25 April 1974 ended the *Estado Novo*, the longest dictatorship in Europe. The new regime pushed through a rapid programme of decolonisation. Over the next few years, Guinea-Bissau, Mozambique, the Cape Verde Islands, São Tomé and Príncipe, and Angola all became independent.

Immediately, and in defiance of a radio appeal broadcast by the military asking people to stay at home, thousands of people left their homes, shouting: “Death to fascism”. The prison doors of Caxias and Peniche opened up in order to set free all political prisoners; PIDE was dismantled, the headquarters of the regime’s newspaper *A Época* was attacked, and censorship was abolished. In the aftermath of the coup, between May and June 1974, more than 2 million workers, nearly half the working population of the country, participated in strikes, occupations of companies, and demonstrations. Lisnave workers organised to demand better working conditions, above all, an increase in “sanitation” of the former regime’s supporters.²⁸ In an administration accused of repressing the 1969 strike, one figure in particular, the deputy manager Perestrello, an engineer, was accused by

28 “Sanitation” was a term that was born in popular slang at the beginning of the revolution, to describe the processes of stripping those directors linked to the *Estado Novo* – as well as entrepreneurs and employers of occupied businesses – of positions of political responsibility.

workers of having released a list of twenty-four names of strikers in 1969 to the political police.²⁹

The first strike at Lisnave took place in May 1974. Workers demanded a minimum wage of 7,000 escudos with production bonuses and a 40-hour working week with Saturdays off, vacation entitlement of 6 weeks, retirement at age 55, full and free medication, extra sickness benefits, and the right to assembly within the company and during working hours. In addition, a profit-sharing scheme was mooted (the government approved a minimum wage of less than half of that proposed, but was unable to impose this on the metalworkers' union). The workers' demand ended with an allusion to the 1969 strike. Lisnave workers demanded the "immediate readmission of all comrades fired during the last strike, [who would be] entitled to all social benefits from the moment of [their] redundancies".³⁰

By the summer of 1974, the company administration attempted to compromise on some of the workers' demands (sick pay, thirteenth month's pay, and holidays, making a counterproposal with salary increases)³¹ but refused to sack Deputy Manager Engineer Perestrello. Tension was heightened in Lisnave following a peak of nationwide strikes, which occurred in the final days of August 1974 and September 1974. On 7 September, a plenary meeting in Lisnave with 2,000 workers attending ratified the decision to convene a demonstration that led the steelworkers of Lisnave to the centre of Lisbon, to the Ministry of Labour in Praça de Londres. On 11 September, the government, through the Ministry of Internal Affairs, banned the demonstration that same day, fearing that demonstrations and strikes would spread to other companies. By the morning of 12 September, a MFA delegation was sent out to convince the workers to postpone the demonstration to a Saturday. In vain, as Fátima Patriarca recalls, workers had evolved from a dialogue position to a position of strength where the claims were not to be argued: the demonstration would take place and it would be an act of force against the establishment. The workers gathered inside the shipyard, and ratified the demonstration on the 12th, with only twenty-five votes against:

At 5:20 pm we set off in demonstration and in the middle of the yard we encountered a Rifle Corps and three chaimites [armoured vehicles] blocking the way. We stopped there and started yelling: "Soldiers are sons

29 "Lisnave", in Santos, Lima, and Ferreira, *O 25 de Abril e as lutas sociais nas empresas*, vol. II, 45-46.

30 *Ibid.*

31 *Ibid.*, 55-58.

of the people" [...] at that time soldiers began to cry and the Commander, after this, ordered an open passage.³²

With the passage open, a six-hour demonstration followed – one of the most famous in Portuguese history – including marching along the main avenues of Lisbon, a stop for a minute's silence in solidarity with Chile, and a stop at the Ministry of Labour. The workers' communication, distributed to the population, is an example of the democratic struggle transforming into a socialist one, as Patriarca stated: "The fight for sanitation surpasses its anti-fascist character and is now also being set in anti-capitalist terms."³³ Below are some excerpts from the communication that Lisnave workers distributed to the population during the demonstration:

We remind you of all the announcements from the Administration, an outrageous provocation to the workers' dignity, disguised as "Justice", "Understanding", "Economic Chaos", "National Economy" [...] When there is initiative and organised struggle of the oppressed classes, reaction recoils [...] We are not with the Government when it promulgates anti-worker laws, restricting the workers' struggle against capitalist exploitation. We will actively fight the Strike Law because it is a deep blow to the workers' liberties.

We reject the right that employers have to drag thousands of workers into poverty because the lock-out is against the workers and protects capitalists.³⁴

Lisnave workers maintained a position of strength, achieving virtually all claims – placing them, in terms of wage and working conditions, above the national average, with the government anxious to prevent the spread of conflict. It is significant that the welfare costs of the company, in millions of escudos, rose from PTE \$910,400 in 1973 to PTE \$1,518,700 in 1975 to PTE \$2,109,500 in 1976,³⁵ which represented not only an absolute increase in the number of employees but also an extension of the net social wage. During the revolution of 1974 and 1975 there was an overall increase of 18 per cent of payroll on income from wealth in Portugal,³⁶ and a large

32 Patriarca, "Operários portugueses na revolução", 722.

33 *Ibid.*, 709.

34 "Dos operários da Lisnave à população", Lisnave workers communiqué, 11 September 1974, in Santos, *O 25 de Abril e as lutas sociais nas empresas*, 110-112.

35 Oliveira and Fernandes, "A Lisnave no início da década de 70", 255.

36 During the 1974-1975 revolution, there was a general wage increase due to strikes and other protests. See Varela, "A eugeniização da força de trabalho".

number of workers who had previously been in a precarious situation were hired by the company.³⁷

Lisnave: the 1981-1984 crises and the social pact

We proposed, as an explanatory hypothesis in another work,³⁸ that the social pact born in Portugal in the revolutionary period of 1974-1975 and enshrined in the 1976 Constitution – which consolidated a large welfare state with the right to work and wages that rose above the minimum needed to maintain the biological reproduction of the labour force – remained in force because of the intense political bickering inherited from the revolution. There were ten governments in ten years, between 1976 and 1985, which gave rise to difficulties in governing and stabilising the political situation in order to ensure production under the capitalist system, although there were fewer difficulties than in 1974-1975.

There was, however, a major change in the midst of the economic crisis of 1981-1984 and, by a combination of factors the result of this crisis was not victory for the workers, as in 1974-1975, but defeat. A reconfiguration of the Portuguese workforce emerged from this crisis, and in this the shipyards of Lisnave played a central role.

Accordingly, a conflict developed within the company, which would last for years, the most critical period being from 1982 to 1986; the end result was the restructuring of the company from 1992 to 1996. This was a conflict that from the workers' side had defensive characteristics, and they primarily aimed at the conservation of employment. Marinús Pires de Lima states that:

The strategies of social management of manpower in Lisnave seek to respond to the specific conditions of the economic crisis: about 2,700 early retirements, attempts to suspend employment contracts, proposals for more than 2,000 voluntary terminations of contract, and the collective dismissal of close to 600 workers.³⁹

The hardest blow to these workers was a policy of wage arrears that the administration used to demoralise workers. Fernando Figueira, a Lisnave worker at this point, told the authors “that there were families who sent

37 Oliveira and Fernandes, “A Lisnave no início da década de 70”, 256.

38 Varela, “Ruptura e pacto social em Portugal.”

39 Lima, “Transformações das relações de trabalho e ação operária nas indústrias navais”, 541.

children to their grandparents because they no longer had means to sustain the education and even the survival of the children".⁴⁰

Workers responded differently to the fierce labour dispute unfolding in this period within Lisnave, opposing the trend driven by the UDP (Maoist) faction, which proposed direct action and a permanent model of discussion and action among workers; and a trend led by CGTP, close to the PCP, which advocated the control of discussion and information to conduct negotiations with management. In the end, a trend led by UGT (Social Democrat) gradually gained ground, according to Pires de Lima, because workers saw greater proximity to power with this trend and, conversely, because the actual militancy of workers tended to decrease during this period, following a general decline of workers' mobilisation in the post-revolutionary period. Despite this, however, Lisnave workers were protagonists of radical struggle, including measures such as the kidnapping and detention, for several days, of directors and administrators in the shipyard (September and October of 1982), a blockade of ships, and measures that led to a police occupation of the site in 1983. Although kidnapping is a criminal act under Portuguese law, no criminal sanctions followed for those who carried it out.

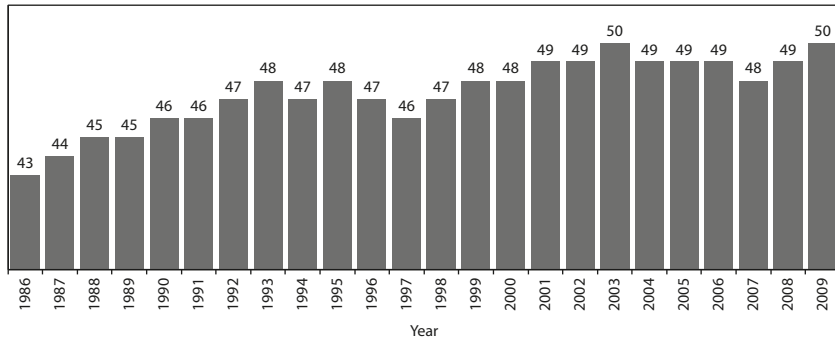
Thereafter, the workers' response to the administration's anti-crisis measures tended to subside. In this context, surprisingly, given Lisnave's previous history of radicalism, the UGT won a majority at the workers' council in 1986. Far from having guaranteed Lisnave's viability, however, the restructuring and finally the near-disappearance of the company were seemingly irreversible from this date.⁴¹

The single enterprise agreement, which provided for a social peace clause, was signed in 1986 after negotiations with the UGT workers' council. In exchange for the administration's regulation of their wages in arrears, "social contracts" were also signed, in which workers undertook not to strike and to renounce holidays in exchange for the promise of work constructing a supertanker, which in the end turned out to be cancelled. There were 700 voluntary terminations with prompt compensation by the company administration immediately after the agreement.

This was the first substantial political union defeat at Lisnave and one that led to the widespread casualisation of the workforce. Once stabilised,

40 Interview with Fernando Figueira, a worker from Lisnave Margueira, January 2009.

41 UDP: União Democrática Popular (a Maoist organisation); CGTP: Confederação Geral dos Trabalhadores Portugueses (the main union confederation, strongly linked with the Communist Party); UGC: União Geral dos Trabalhadores (the second-largest union confederation, connected with the liberal and social democratic sectors).

Figure 12.1 Average age level (calculation) by year, 1986-2008

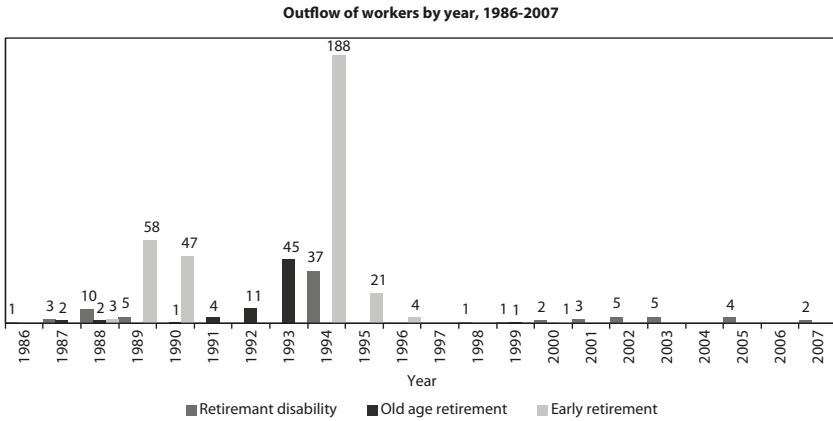
Source: Balanço Social da Lisnave

the company's restructuring programme was then set in motion between 1992 and 1995. It was carried out by ensuring ample rights to those who remained in the company, as well as 100 per cent of salary for the next ten years to those who agreed to leave, plus compensation – guaranteed to about 5,000 workers. This model – using the Workers' Fund to undermine these same workers – applied to all sectors of the Portuguese working class from 1990 and 2013. Unions were strong enough to ensure that their full-time members complied with these generous terms in their entirety, but accepted, in exchange, the casualisation and sub-contracting of new workers – which, in the medium term, eroded the reforms because the precarious position of casualised workers meant that employers failed to deduct as much for social security, which eventually decapitalises a social allocation system. From 1997 (see Figure 12.10) the number of permanent workers decreased while sub-contracting increased exponentially. Today, there are some 2,300 employees working at Lisnave, of whom 2,000 are temporary and therefore in precarious employment.

The early retirement and sub-contracting policy increased the average age of workers from 43 in 1986 to 50 by 2007 (Figure 12.1). Permanent workers opting for early retirement stands out as a prime factor in the increasing casualisation of the Lisnave workforce (Figure 12.2). There are two less pronounced peaks in 1989 and 1990 and a large peak in 1994 when 188 workers went to early retirement – in addition to the hundreds of voluntary terminations – which together caused an overload to the social security fund.

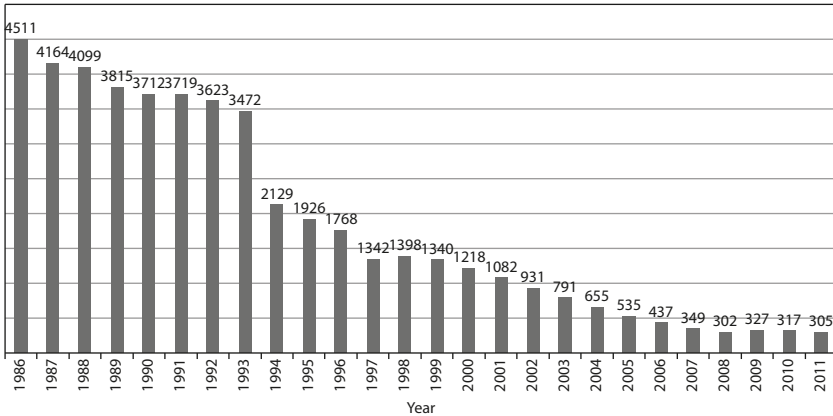
In Figure 12.3, it can be seen that the average number of workers per year dropped by 53 per cent from 1986 to 1994, and from there dropped by 86 per cent by 2008.

Figure 12.2 Outflow of workers by year, 1986-2007 (retirement because of disability, old age, or early retirement)



Source: Balanço Social da Lisnave

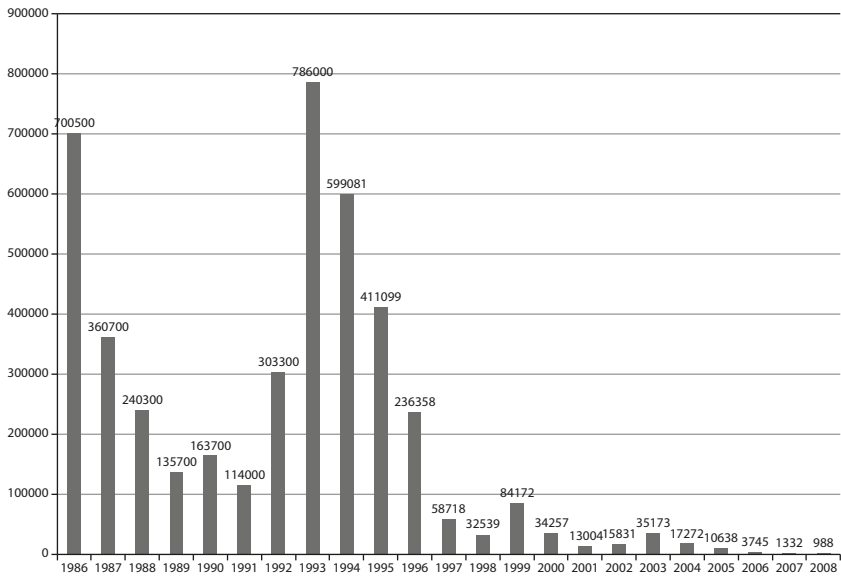
Figure 12.3 Average number of workers by year, 1986-2008



Source: Balanço Social da Lisnave

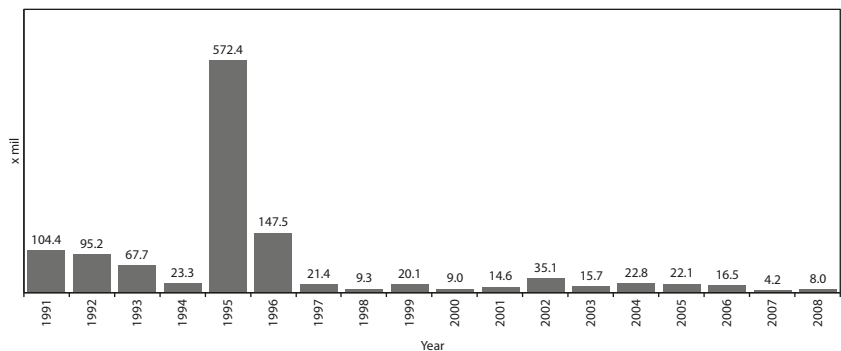
One of the impacts of job precariousness was a decrease in non-worked hours motivated by internal unemployment. Until 1997, the year of the last restructuring, when there were no orders, this risk was assumed or covert by the social security system under vocational training programmes (see Figure 12.5); or directly by the company in so-called internal unemployment (Figure 12.4). We perceive two peaks in the mid-1980s and early 1990s which relate to the two periods of restructuring. Later there would be a sharp

Figure 12.4 Man-hours not worked due to internal unemployment, 1986-2008



Source: Balanço Social da Lisnave

Figure 12.5 Hours not worked on production (vocational training), 1991-2008

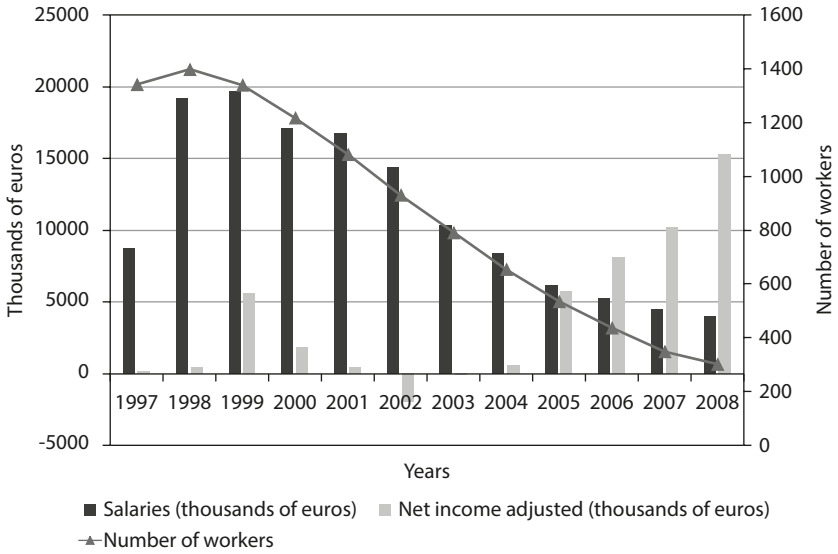


Source: Balanço Social da Lisnave

decline, which means that the company – not decreasing production – outsourced costs.

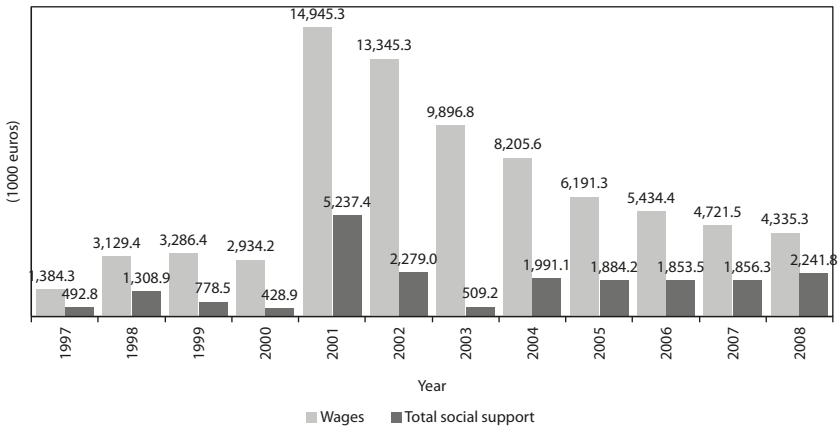
In Figure 12.5 there is a decrease in the number of man-hours not worked for vocational training in 1991, 1992, 1993, and 1994. In 1995, however, at the point of the company’s restructuring, there is a peak of 572,355 hours – corresponding to an externalisation of costs with workers provided for

Figure 12.6 Profits, salaries and number of workers, 1997-2008



Source: Balanço Social da Lisnave

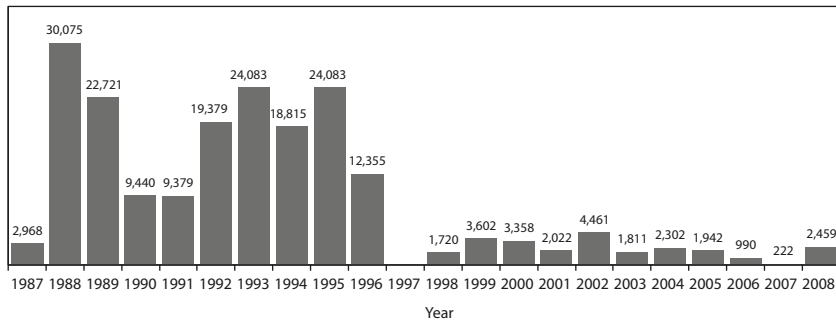
Figure 12.7 Wages and total social support, 1997-2008



Source: Balanço Social da Lisnave

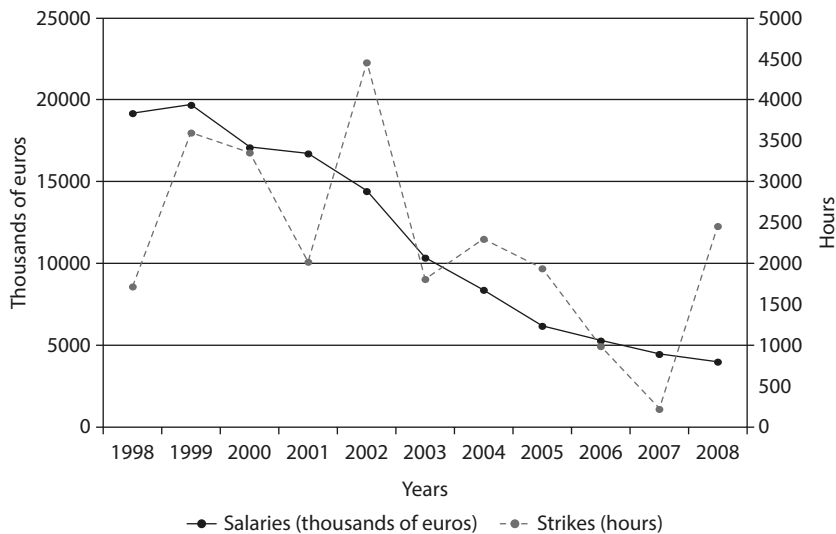
by the social security fund, which mainly funded vocational training, and the European Social Fund. From the moment that the company was restructured, however, the number of hours remains relatively constant,

Figure 12.8 Man-hours not worked per strike, 1987-2008



Source: Balanço Social da Lisnave

Figure 12.9 Salaries and strikes, 1997-2008

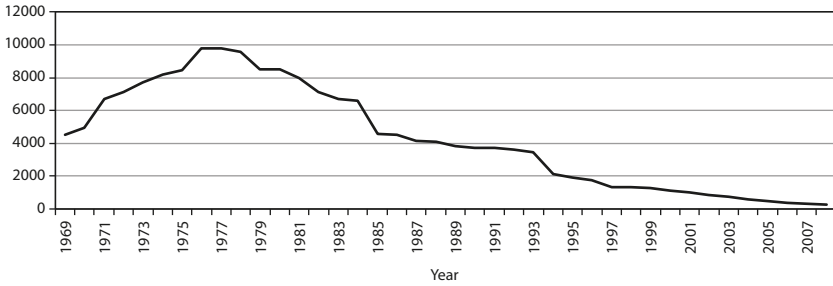


Source: Balanço Social da Lisnave

with a slight increase in 2002, caused by a cyclical crisis that had an impact on the number of orders in Lisnave.

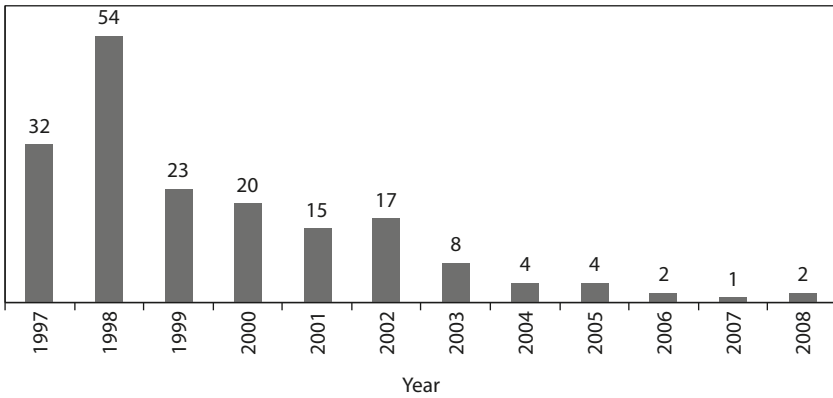
Casualisation and labour flexibility have resulted in wages falling (see Figures 12.6 and 12.7). With regard to wages (euros in constant 2005 deflated prices), we note that there was an increase until 1999. From that point onwards, there is a steady fall that corresponds with the international economic crisis in 2008. Profits, however, reach two peaks: one in

Figure 12.10 Total number of permanent workers, 1969-2007



Source: Balanço Social da Lisnave

Figure 12.11 Fixed-term contracts, 1997-2008



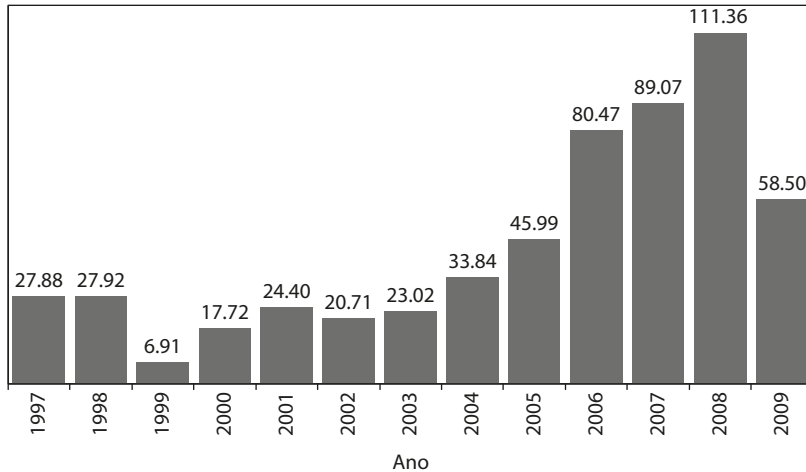
Source: Balanço Social da Lisnave

1999 and another in 2008. From 1999 to 2004 there is a decline in profits, but then there is a recovery until 2008. The increased use of flexibility of labour in the shipyards is accompanied by increased profits and decreased payrolls.

We can observe a similar pattern in Figure 12.7 regarding direct wages and salary in the form of the company's social support. There is a peak between 2001 and 2002, and from there both wages and social support drop to 2008, but remain above the period 1997-2008.

There seems to be, in this case, a correlation but not necessarily a cause-and-effect relationship between the reduction in the number of strikes and reductions in wages (see Figures 12.8 and 12.9).

There is also a clear increase in strikes in the two periods of restructuring of the company in late 1980 and in the first half of the 1990s. In 1997 – the

Figure 12.12 Hourly productivity, 1997-2008

Source: Balanço Social da Lisnave

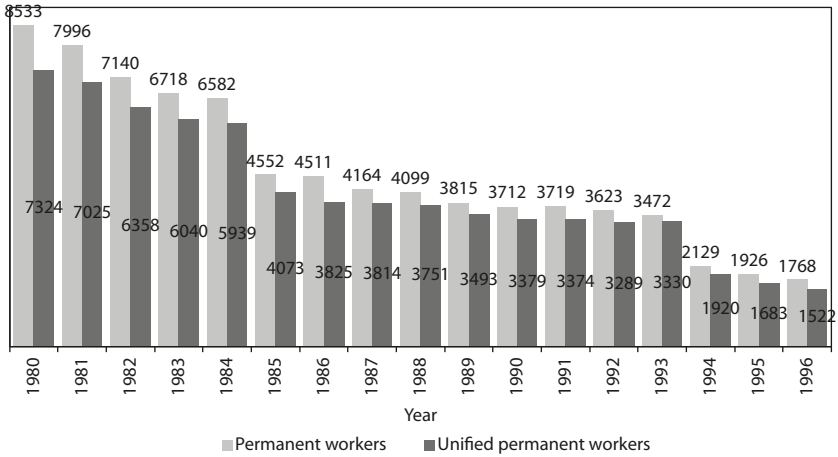
beginning of operation of the new company with precarious workers – there is a significant decrease in the number of strikes: i.e., labour flexibility has not been accompanied by strike action by workers. We can also add that there is a relationship between the number of hours of strike and wage developments. We conclude that the number of strikes influences wages but it is not solely due to the existence, or not, of precariousness. Precarious workers could and did go on strike, as they did before 25 April 1974 and during the dictatorial regime, but from 1997 onwards the number of man-hours lost to strikes declined dramatically.

Lisnave is, to this day, the fifth-largest ship repair yard in the world, and its workers perform three types of jobs: the cleaning of tank vessels that come from Asia and unload in the ports of Rotterdam, Antwerp, and others in Northern Europe), damage repairs on or periodic inspections of vessels, and major repairs or conversions. Its continued operation is primarily due to two factors: geographic location, and low wages and poor conditions of employment.

By analysing Lisnave's number of permanent workers (Figure 12.10) we clearly observe two phases: a phase before the 25 April 1974 revolution, and another after it. As a result of the intense workers' struggle, there is a large increase in permanent workers from 1969 to its peak in 1976. After that we see a sharp and constant decline in total numbers employed.

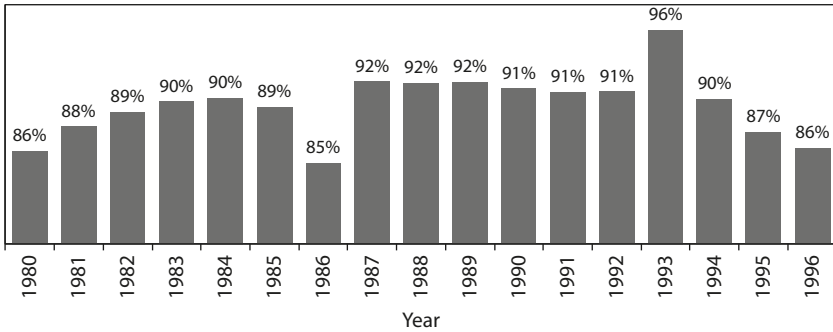
In 2007, the total number of workers with a permanent contract, 300 (Figure 12.10), sharply contrasts to the figure of almost 10,000 in the mid-1970s. On the

Figure 12.13 Permanent workers and unionised permanent workers, 1980-1996



Source: Balanço Social da Lisnave

Figure 12.14 Percentage of unionised workers, 1980-1996



Source: Balanço Social da Lisnave

other hand, fixed-term contracts (Figure 12.11) peaked in 1998, registered a sharp decline in 1999, and a subsequent decline with only two slight increases in 2002 and 2008, coinciding with the productive periods immediately prior to the period of cyclical deflationary economic crises. The number of permanent workers with ties to Lisnave has increasingly been reduced. However, as already noted, there is a fairly large number of sub-contracted workers in undertakings outside Lisnave, or who, although a part of Lisnave, are not from the parent company. There were about 2,000 sub-contracted workers in 2012.

Fewer workers and fewer fixed-term contracts does not mean that workers were less productive (Figure 12.12). After stagnation in 1997 and 1998,

and a drastic decline in 1999, we see an increase in productivity to 2002 and a marked increase from 2004 (when the level increases above that of 1997-1998) to 2008. Figure 12.12 was constructed by dividing the gross value added in 2005 prices by the number of hours worked. This is explained not by greater productive efficiency or technological development – nothing has changed during this time at a technological level and at the level of productive rationalisation – but by an increase in productivity that occurs simultaneously with a drastic reduction in the unit cost of labour (CUT).⁴²

There is a direct relationship between the reduction in the absolute number of workers in the company and the number of unionised workers (Figures 12.13 and 12.14). Moreover, this process has resulted in a reduction in the number of unionised workers. We have argued that these facts are not the cause but the consequence of precariousness, because those who signed voluntary termination and pre-retirement agreements were the unions themselves when they still had some strength – in 1997 – resulting in almost 5,000 workers retiring at 55 and receiving full pay plus compensation.

Conclusions

This study of Lisnave workers is a contribution to further research in this sector of the Portuguese working class connected to heavy industry, influenced over the years by different political groups, often in conflict with each other (Maoist, communist, socialist) and marked by distinct forms of labour organisation (vertically integrated unions, industry trade unions independent of the state, workers' committees).

Lisnave served as a model of organisation of the workers with a knock-on effect for the whole of Portuguese society – either when their workers led struggles against the dictatorship until 1974 and then by “people power” in the revolutionary years of 1974-1975, or when they negotiated the social pact in the 1980s. It is precisely because the process of heavy industrialisation in Portugal took place in the early 1960s that the first Lisnave workers were young men; this remained roughly the same between 1960 and 1990, which adds possibilities for research, to the extent that we can study the evolution of a set of workers from these shipyards which remains relatively unchanged, in very different political, economic, and social times.

42 Relatório do Orçamento de Estado 2013, “The State Budget Report 2013”, <http://www.dgo.pt/Paginas/default.aspx>.

In this chapter we have sought to historicise this process of organisation and struggle of the workers of Lisnave who staged some of the most important victories and simultaneously suffered some of the most significant defeats of the Portuguese labour movement of recent decades. Among the main conclusions we point out that the volume of accumulated capital from 1974-1975 was partially allocated – from the time of the 1981-1984 crisis – to fund and regulate labour market flexibility, using unemployment and precariousness subsidised by the social security funds (social security was simultaneously used to finance various types of capital) against the workers.

The state has played a central role in this historical reconfiguration of the labour market in Portugal. Increasingly interventionist, the state had taken a central role in reversing the trend of decline in profit rate by transferring the social wage – the wage necessary for the maintenance and training of the workforce – to fund to profit/income or interest. The state is managing and executing policies of labour flexibility and welfare programmes that mitigate social instability resulting from labour unrest, with the decapitalisation of Social Security as a counterpart.

We have argued that five conditions had to be met in order for this process to happen:

- 1 Defeat of the most important sector of the organised labour movement setting an example for all other sectors of the working classes and middle classes – three years of wage arrears in Lisnave led to the defeat of the workers who signed the first firm commitment ever made in Portugal in those terms (of “social peace”); this had a symbolic effect of constraining other sectors, similar to what happened with the defeat of the miners during the government of Margaret Thatcher in Britain, of air traffic controllers in the USA, Fiat workers in Turin, and, later, oil workers in Brazil, as Alan Stoleroff⁴³ and Bo Stråth,⁴⁴ among others, have noted.
- 2 Close linkage between a strongly supported trade unionism in negotiation and not in confrontation – although the trade union can be more or less compliant, depending if the major player is UGT or CGTP – and, with the strong links that this unionism has to the democratic regime, and co-operation with the state, seen not as an opponent, but as an umpire for which proposals were targeted, rather than for businesses,

43 Stoleroff, “All’s Fair in Love and (Class) War”.

44 Stråth, *La política de desindustrialización*.

as was characteristic of the period of the revolution.⁴⁵ The main unions of that time, accepting the need to emerge from the crisis while keeping the same model of capitalist accumulation, also agreed that the way out of the crisis would be to grant massive direct aid to companies, on the one hand, and on the other, by indirect aid through transfer to the state of part of the costs of the workforce (by early retirement or exemptions from social security contributions).

- 3 Improvement of living standards and consumption levels of the middle and working classes. This improvement came about and was actually perceived, although we consider that it is not due to real wage increases but, among other factors, increasing low-interest credit for house purchases (which today is extremely difficult and restrains wages, which have fallen precipitously).
- 4 Changes in the international geo-political arena, following the fall of the Berlin Wall and the end of the USSR. We believe it is not the end of the USSR that determined the erosion of social rights – an argument often made – because this erosion has occurred via union negotiations. This argument is accurate to the extent that the end of the USSR was met with hopelessness by those (especially in countries such as Portugal where there were strong communist parties) who believed that “somewhere in the East” there was a more egalitarian society.⁴⁶
- 5 The use of the social security fund to manage precariousness and unemployment, thus creating social protection, following the guidelines of the World Bank, preventing social disruption as a result of extreme poverty, inequality, or social regression. Such use was negotiated on a case-by-case basis and in most cases was accepted by the unions in the form of early retirement and compensation. In exchange, either the rights acquired are maintained for those who already were entitled to them, or new workers are not hired, or those who do get hired are in a precarious situation, which implies a substantial reduction in social security contributions. What occurs is a close link between management of the workforce, social security funds, and the increasing establishment of welfare measures to mitigate the effects of social conflict arising from a situation of unemployment stated as being cyclical yet growing (unemployment benefits, support for layoffs,

45 Lima, “Transformações das relações de trabalho e ação operária nas indústrias navais”, 541; Stoleroff, ‘Sindicalismo e relações industriais em Portugal’, 160.

46 See the interview with Valério Arcary, “Os limites da estabilidade social”.

vocational training, welfare, social insertion income, unemployment social allowance, partial unemployment allowance).

From a business perspective, however, the story of Lisnave is largely one of missed opportunity. It was a small and relatively insignificant shipyard until the late 1960s when, with the aid of the Dutch RSV Group and Swedish shipbuilders Kockums and Eriksberg, the firm was transformed and a new yard built on the south side of the Tagus at Margueira in 1967 and another at Mitrena in 1973. The economic and political disarray arising from the 1974 revolution, in tandem with the imposition of labour laws banning reductions in the workforce, had a deleterious effect on the yard's international competitiveness in new construction. This position was made worse by the shipping recession after the OPEC price hike shocks of 1973-1974, strikes, and the consequent drop in demand for ship repair and conversion work. By the mid- to late 1980s the yard performed better in the ship repair sector, aided by currency devaluation and an overhaul of labour practices. Today, only the Mitrena yard at Setúbal remains, with six dry docks and nine ship repair berths dedicated to ship repair and conversion. The yard is evidently a going concern whose management have attempted to shift the industrial relations paradigm wholly in its favour by vastly reducing its direct workforce and in the main embracing precarious employment as a means to remain internationally competitive in a largely unpredictable market for its services. The company clearly sees a continuing transition to more flexible labour contracts as the basis for its future prosperity.

13 The Gdańsk Shipyard

Production regime and workers' conflicts in the 1970s and 1980s in the People's Republic of Poland*

Sarah Graber Majchrzak

Introduction

This chapter analyses the development and the specifics of the Polish shipbuilding industry in the second half of the twentieth century. The main focus is on the production regime¹ and workers' conflicts in the Gdańsk Shipyard² in the 1970s and 1980s. The extant literature on the Polish shipbuilding industry after 1945 is quite limited, and focuses mainly on the structural and economic history of the sector.³ The topics of workers, workers' culture, and labour relations are almost absent.⁴ Given this, this chapter attempts to complete what is up to now an unfinished jigsaw puzzle as well as tracing the yard's troubles through to the present day.

* The following chapter represents my research results from 2012/2013. Actual and detailed results will be published in my PhD thesis: *Im gleichen Boot trotz „Eisernen Vorhangs“? Produktionsregime in der westdeutschen und polnischen Schiffbauindustrie in den 1970er Jahren*, forthcoming 2018.

1 I understand the term “production regime” as the assembly or interaction of labour organisation, labour relations, and the political and ideological framework of the enterprise. See Burawoy, *The Politics of Production*.

2 After the Second World War the shipyard was called Gdańsk Shipyard. From 1967 to 1989 the name of the shipyard changed to the Lenin Shipyard (Stocznia Gdańska im. Lenina). Today, the shipyard is called the Gdańsk Shipyard SA (Stocznia Gdańska SA).

3 For the period 1945-70, see Wojciechowski, *Gdańsk Shipyard*, and Harbron, *Communist Ships and Shipping*. A short economic overview can be found in Dudziak, *Rys historyczny polskiego przemysłu okrętowego*. Jeliński, *Międzynarodowa specjalizacja w przemyśle okrętowym*, focuses on economic and technical issues in the shipbuilding industry. Jarecki, *Stocznia Gdańska im. Lenina*, deals with the political and economical history of the Lenin Shipyard from 1945 to 1980. For the period from 1989 onwards there are some studies concerning the transformation of enterprises from a state socialist system to an economic market system; see, for example, Kon, *Stocznia Gdańska a przemiany ustrojowe w Polsce*, and Dragicevic, *The Political Economy of Shipbuilding in Post Socialist Transition*. There is no literature about the history of the Polish shipbuilding industry in general, or on the Gdańsk Shipyard specifically for the 1980s.

4 An exception is the large body of literature on the topic of the Solidarity (Solidarność) union. This literature is only partly useful for this article as the main focus lies on the history of political opposition in Poland, and not on workers' issues at enterprise level.

The shipbuilding industry, in general, is strongly connected with politics and the state.⁵ This is a truism of the Polish shipbuilding industry and of the Lenin Shipyard in Gdańsk in particular. One can say that the history of the Lenin Shipyard in part also reflects the history of the country. It begins when the shipyard stood as a symbol of rapid and successful reconstruction of the country after the Second World War. In the 1960s, Poland occupied sixth place in the world shipbuilding market. This continued until December 1970, when an outbreak of protests at the Lenin Shipyard triggered a general transformation of the country. With the subsequent change of government, the country's fortunes changed dramatically: Poland turned towards the West, and an extensive investment policy and modernisation of the shipyard and of the country resulted in a brief economic boom. The workers in the shipbuilding industry were the source of change in August 1980, when the *Solidarność* labour movement was founded at the Lenin Shipyard. The events ushered in the demise of state socialism in Poland and sparked the transformation of Poland towards a capitalist economy in 1989.

In the 1980s, the state of the Polish shipbuilding industry reflected the poor situation in the country, when the Lenin Shipyard and the Polish economy were compromised by a large burden of accumulated debt. The state intended to alleviate this debt by concentrating on an export-led economy. When the Lenin Shipyard faced bankruptcy in 1988, it was symptomatic of the end of the Polish People's Republic. Shortly thereafter there began a series of unofficial talks between the opposition and government that led to round-table negotiations on the future of the country.

Once it was saved from bankruptcy, the 1990s development of the Lenin Shipyard reflected the difficult social and economic situation in the country after the introduction of the capitalist economic system. The shipyard thereafter went through a series of changes in production and control resulting in privatisation and a loss of jobs for many workers. Contemporaneously, the historically important trade union *Solidarność* has become almost meaningless.

5 The entanglement between the shipbuilding industry and the Polish state is due among other things to the shipbuilding industry being seen as a part of the defence industry, the importance of ships for the state as a merchant power, and shipbuilding as an industry of synthesis, which helps to develop other industrial branches in the country.

The history of the shipbuilding industry in Poland, 1945-1970

The shipbuilding industry in Poland is concentrated in the Gdańsk, Gdynia, and Szczecin coastal regions of the Baltic Sea. During the Second World War, a large number of the shipyards on the Baltic coast were destroyed. Only a few days after the liberation of Gdańsk, Szczecin, and Gdynia by the Soviet army, the newly founded Association of Shipbuilding Industry (Zjednoczenie Przemysłu Okrętowego) started rebuilding the shipyards. The biggest challenges it faced were the lack both of qualified workers and of construction material. During the war, more than 6 million Poles died, and Polish industry was almost totally destroyed. In the immediate post-war years, the shipyards concentrated mainly on ship repair and a little construction work. They repaired metal bridges and small fishing boats, and performed all kinds of machine construction work, such as assembly of tractors and even cars.⁶

Up to June 1946 the question of the economic organisation of the shipbuilding industry was broadly discussed in Poland. Finally, the Polish Ministry of Sea Affairs decided to put the shipyards under state control. The shipyards were officially declared state-owned on 14 June 1946 and were integrated in the Polish economic planning system. They were subsumed under the Association of Shipyards, the ZPS (Zjednoczenie Stoczni Polskich).⁷ In 1948, ZPS comprised four large shipyards: Gdańsk Shipyard, Gdynia Shipyard, Northern Shipyard at Ostrów in Gdańsk, and Szczecin Shipyard. There were about 9,000 shipyard employees altogether in the four large shipyards.⁸ In the same year the Gdańsk Shipyard launched the first post-war ship completely built in Poland: a bulk carrier, *Sołdek*, with a length of 87 m.⁹ Although most ships were riveted because of the lack of welding material, they constructed the ship by way of a primitive block-construction method.

After a phase of rebuilding plant and equipment, the shipbuilding sector quickly developed into an important export-oriented industry. Through licensing and expert contracts with Italian, French, and Belgian shipyards, Polish shipyard workers were brought up to speed in shipbuilding technology by industry specialists. Concurrently, Poland developed a training system for the shipbuilding industry, which led to a high level of skills in the

6 Wojciechowski, *Gdańsk Shipyard*, 16; see also Jarecki, *Stocznia Gdańska im. Lenina*, 16.

7 Wojciechowski, *Gdańsk Shipyard*, 11.

8 Dudziak, *Rys historyczny polskiego przemysłu okrętowego*, 18.

9 The ship was named after the "best" worker, Stanisław Sołdek.

workforce in subsequent years. At the end of the 1950s, a phase of accelerated industrialisation was introduced in Poland. There was considerable investment, primarily in heavy industry, including the steel and shipbuilding industries. As a consequence of these investments, the shipbuilding sector developed into the second-largest shipbuilding industry of the Eastern bloc, following the Soviet Union.

COMECON

COMECON (the Council for Mutual Economic Assistance) was founded in January 1949 by the Soviet Union and, as well as the USSR, its membership consisted of five Soviet satellite countries: Bulgaria, Czechoslovakia, Hungary, Poland, and Romania. Like its Polish counterpart, the Soviet shipbuilding industry was in a poor condition after 1945. Because of the size of the task of rebuilding and equipping its own shipyards, the USSR ordered a large number of fishing vessels and bulk carriers in Poland, to be delivered before 1955. This order was a huge challenge to the Polish shipbuilding industry. Due to the amount of orders, output had to be increased three times in relation to that of 1947, and the shipyard had to change from short-series production to the construction of ships in long series.¹⁰ The prices paid by the Soviet Union for the ships were much less than world market prices. The Canadian historian John D. Harbron has termed the relationship between the Soviet Union and its satellite state up to 1956 “colonial”. The Soviet Union saw Poland primarily as a source of raw material.¹¹ The positive consequences of the orders were that the Polish shipbuilding infrastructure and the production process improved. The target of the Six-Year Plan (1950-1955) for the entire Polish shipbuilding industry proposed an increase in output to 575,00 dwt up to 1955. Both workers and management criticised this target, stating that it was impossible to fulfil and at the same time finish the rebuilding of the shipyards. Up to the end of 1956 the output of the shipyards grew “only” to 300,000 dwt.¹²

The consequences of COMECON in Poland were criticised not only within the shipbuilding industry but within the Polish workforce generally, and by Polish intellectuals. This was one of the reasons for the protest that broke out in 1956 in the machine factory Cegielski Poznań in the west of

¹⁰ Wojciechowski, *Gdańsk Shipyard*, 27.

¹¹ Harbron, *Communist Ships and Shipping*, 12.

¹² *Ibid.*, 16.

Poland. Not long before this, the Cegielski factory had begun to manufacture diesel engines under licence by Sulzer of Winterthur, Switzerland, and was also under pressure because of the large Soviet order for the shipbuilding industry. The main reasons for the protests were the rise in quotas, poor working conditions, and a general frustration about politics and society.¹³

In 1956, COMECON was reformed. In consequence, the economic and political relationship between Poland and the Soviet Union changed significantly. It was no longer a semi-mercantile relationship, but more of a co-operative system between the two states. After the reforms of 1956, the industrial specialisation of each country in the Eastern bloc was redefined. The centres of the shipbuilding industry were to be in Poland and the German Democratic Republic. An additional contract between the Soviet Union and Poland did not allow Poland to build any warships. The contract also included new orders for the Polish shipbuilding industry with much improved terms. Indeed, the Soviet Union paid for the ships in convertible currency. This allowed the Polish shipbuilding industry to buy material in Western countries for fitting out ships – not just the ships which were exported to the USSR, but also ships for its own fleet. Ultimately, however, the Polish shipbuilding industry was dependent on orders from the Soviet Union. There were other advantages accruing from Soviet ship orders: investments in the shipbuilding industry grew, and the big orders from the Soviet Union kept a significant amount of workers employed; they also gave younger shipbuilding workers a future in their trades, and managers the possibility of introducing scale economies in series production of ships. Until the end of the 1950s riveting remained the main method of metal joining in the shipyards, and the construction lines were quite simple. In the 1960s, however, labour processes in the Polish shipbuilding industry improved. The qualifications of the workforce were higher because of the generally good system of education that began just after the Second World War, and the big orders from the Soviet Union allowed construction in long cycles in which Polish shipbuilding specialists gained valuable experience.¹⁴

From 1955 to 1960 the proportion of the value of exports of the Polish shipbuilding industry to the total national export value grew from 3.5 per cent to 6.5 per cent. After the coal industry, shipbuilding became the second-most important export industry in Poland.¹⁵ In 1960 the Gdańsk Shipyard was fifth in the global ranking of shipbuilders with an output of

13 Borodziej, *Geschichte Polens im 20. Jahrhundert*, 298.

14 Harbron, *Communist Ships and Shipping*, 21.

15 Dudziak, *Rys historyczny polskiego przemysłu okrętowego*, 22.

around 174,200 dwt. (or 152,640 grt).¹⁶ Although the vast majority of Polish shipbuilding output went to the Soviet Union, Brazil and China were also customers.

Originally, the Gdańsk Shipyard mainly built fishing and cargo vessels of all kinds, and the size of ships launched was generally small by international comparisons. Although Daniel Ludwig's National Bulk Carriers shipyard at Kure (Japan) had built a 103,000-dwt oil tanker, *Universe Apollo*, in 1959, ships completed by the Gdańsk Shipyard were generally less than 19,000 dwt.¹⁷ In the mid-1960s, however, the shipyard built its first tankers using a two-block structure (stern-bow). Although the tankers were acceptable by international classification society standards, Gdańsk did not build this type of ship again until the 1980s.¹⁸

While heavy industry grew steadily in the People's Republic of Poland at the beginning of the 1960s, agriculture, infrastructure, the energy sector, and the consumer industries were severely neglected. By the end of the 1960s, in consequence, many consumer goods had become scarce, and standards of living had decreased dramatically. The queues in shops were getting longer, and the general feeling of the population of Poland had grown gloomier, spreading a feeling of hopelessness throughout the country.¹⁹ At this stage, after a quite successful period, the shipbuilding industry began to face up to its limiting factors: slipways and cranes were too small to build ships of a modern standard, and much of the plant and equipment were very old and no longer in good working order.

The economic system of state socialist Poland

Production regime

The specific political and ideological conditions under which the shipbuilding industry in Poland developed after the Second World War is worth reflecting on further. How was the Polish economy organised? What was the relationship between shipyards and state? And what were the relationships between management and workers?

16 Wojciechowski, *Gdańsk Shipyard*, 43.

17 Todd, *Industrial Dislocation*, 13.

18 It is not yet clear why they did not build any more tankers in the 1960s and 1970s. The production capacity may have been too small to compete in the global tanker market.

19 See on this point Eisler, *Grudzień 1970*, 46.

In the People's Republic of Poland the means of production was the property of the state. Thus, firms did not have to compete for profit with other firms as in a market economy, but had to bargain with the state for the level of inputs (resources, materials, investments, workforce, etc.) and output (products). The management of firms negotiated with the state planning office about the process and outcome of the year plan. The aims of the management, unlike their capitalist counterparts, were to minimise output and maximise the inputs. To obtain plans that were advantageous, firms tried to hide their real production capacity and demand good investment rates. The constant appetite for resources and a minimal level of output led to an economy of short supply, in which all firms competed for materials, technologies, and workforce. Accordingly, firms could never be sure about the level of resources they would be allocated. While management in a capitalist market economy cannot be sure of selling their products on the open market, the management in a state socialist economy cannot be sure if they will get the necessary means to keep production running.²⁰ The permanent deficits of material, resources, and workforce were probably the main factors that influenced the labour process as well as labour relations in the Polish shipbuilding industry.

Labour relations

The Polish United Workers' Party (PUWP, Polska Zjednoczona Partia Robotnicza, PZPR) was the Communist Party, which governed the People's Republic of Poland from 1948 to 1989. Because the means of production was the property of the state, the power over the distribution of the surplus was in the same hands as the power over political decisions: thus economic power was inextricably linked with political power.²¹ At the level of the individual firm, there was interdependence between the management and a PUWP functionary, as the firm was subordinated to the local party power. Indeed, in some cases, the secretary of the local party was often employed by the firm.²² The position of the firm's director was not primarily dependent on economic success, but more on his integration in the party hierarchy. The career of white-collar workers in the firm strongly depended on their

20 Burawoy and Krotow, "Der Übergang vom Sozialismus zum Kapitalismus in der früheren Sowjetunion", 514.

21 One of the best analyses of the Polish state socialist system remains the 1965 "Open Letter to the Party" from Jacek Kuron and Karol Modzewlewski. See Kuron and Modzewlewski, *Monopolsozialismus. Offener Brief an die Polnische Vereinigte Arbeiterpartei*, 11.

22 *Ibid.*, 15.

affiliation to the party. Management bargained with the political cadres about the strategy and output of the firm and, as a result, about their own privileges. The closer the relationship the management had to the party functionary, the easier it was to obtain resources for the enterprise. Marc Weinstein formulated the position of the management in Poland from the 1970s onwards as follows:

The ability to meet or exceed production targets, however, was not related to the managers' technical expertise, but rather to the ability to secure scarce resources. This, in turn, was a function of political influence, lobbying efforts, and the size of their firm. Successful bargaining for resources led to a spiral of growth. The larger the investment share managers could bargain, the more raw material they could acquire, the more workers they could hire, and the more resources for which they could bargain.²³

While the denial of independent work representation was limited to employee interests, the logic of the production regime was the basis for a certain shop-floor power of the workers. Here two factors need to be mentioned: a permanent workforce shortage and an irregular workflow due to supply shortages.

The logic of the production regime as generally practised continuously demanded new labour: the more people could be employed by a firm, the easier it was to fulfil the planned targets. The salary of management depended on the number of workers in the firm and was often tied to the firm's wage fund: as more people were employed, the firm's wage fund grew. Thus, management had increasing incentives to employ as many workers as possible. Due to this there was a continuous shortage of labour force in the Polish industry. Another reason for the shortage of labour was the relatively low technical standard of equipment in Polish industry.²⁴ The shortage of labour was also one of the most important topics in the relationship between shipyards and state, as I will explain.

Because of firms' propensity to employ as many workers as possible, blue-collar workers gained a certain power on the shop floor. If the workers were unsatisfied with the workplace, they could easily get another job elsewhere. Management, incentivised by numbers employed, had little choice but to enter again and again in bargaining processes with their workers.

23 Weinstein, "The Remaking of the Polish Industrial Relations System", 94.

24 Tatur, *Arbeitersituation and Arbeiterschaft in Polen*, 36.

These bargaining processes concerned, for example, production labour standards, or bonus payments.²⁵ The second point that gave the workers a certain power was a result of the labour supply shortage. The labour process was permanently unstable, and required continuous improvisation by the workforce as well as a willingness on their part to make adjustments to deal with the irregular workflow. However, the labour process was difficult to control, which gave the blue-collar workers more bargaining power.

In what was a hierarchical bureaucratic system, management accumulated resources to win workers' support to fulfil planned targets, and demanded from the workers at least minimal co-operation to secure the plan's fulfilment, while the workers asked management to secure their living standards and to make workplace conditions bearable or better. The management largely left the production sphere to workers and compensated for their insufficient control over production by the bargaining process with the state. As a consequence, in Polish firms, labour standards were quite lax. Management accepted absenteeism, or gave workers the opportunity to use workplace facilities for their own needs.²⁶ Weinstein summarised the situation in Polish enterprises in the 1970s as follows:

On the one hand, Polish workers were denied the fundamental right to self-organization and independent representation in the workplace. On the other hand, the economic, institutional and ideological structures of state socialism created essential labour market and political conditions in which blue collar workers had some measure of implicit power. The authority that workers derived from these conditions was not sufficient to satisfy their aspirations for [an] independent voice in firms and improved standard of living, but it was powerful enough to provide employees some bargaining power to influences wages and working conditions in many industrial enterprises.²⁷

However, labour relations in the 1980s became more complex.

25 Weinstein, "The Remaking of the Polish Industrial Relations System", 96.

26 *Ibid.*, 97.

27 *Ibid.*, 129.

The history of the Lenin Shipyard in 1970s and 1980s

The first wave of protests

In December 1970, workers at the Lenin Shipyard in Gdańsk and at several other shipyards went on strike, participated in mass demonstrations, and organised “sit-in” strikes. The trigger for the protests was the announcement of general price increases, particularly for meat, from Władysław Gomułka’s government, announced just before Christmas. However, the reasons for the protests were more deeply rooted: working conditions in the shipyards had worsened, and due to a limitation of overtime hours in the same year the workforce of the shipyards suffered a drop in pay of about one-third. The protests began in the morning of 14 December in the Lenin Shipyard.²⁸ At 11 a.m. the workers decided to go to the local political headquarters to speak with the First Party Secretary of the region. In the afternoon there were also several clashes between workers and the police. The demonstrations spread to the whole coastal region and continued for several days. Strike committees of several shipyards wrote a list of twenty-one demands. Their numerous demands included a withdrawal of the price increases, decrease in the amount of work required to be done in a unit of time, increase in income, the introduction of a five-day week, extension of maternity leave, the resignation of the central union committee (Centralna Rada Związków Zawodowych), the right to strike, a reduction in the influence of the bureaucrats (*nomenklatura*) at the shipyards, and much more.²⁹ The state reacted immediately with strong show of repression, and police and army fired on the workers. More than 40 people died and over 1,000 were injured.³⁰

The protests of December 1970 ushered in a change in the leadership of the Polish government, as Edward Gierek took over from Gomułka. The strikes went on until the end of January. Gierek visited the strikers in the shipyard and talked with them for several hours. He strongly criticised the way Gomułka had repressed their protest, promised better pay and living conditions for the workers at the shipyard, and initiated economic reforms. His strategy was to get support from the workers for his political stance. At the end of the discussion in which the workers expressed their claims, he asked them if they would help him to bring the country forward and

28 Hübner, “Die polnische Krise 1970/71”, 29.

29 *Ibid.*, 37.

30 *Ibid.*, 36.

the workers answered: “Yes, we will help you.”³¹ Under the slogan “We are building a second Poland”, the new government banked on modernising the country and increasing individual consumption. At the same time, some of the workers who were responsible for the strike were dismissed.³²

Interrupted modernisation

The process of modernising the Polish economy was to be pursued by importing capital and technology from capitalist countries. The conscious act of turning away from a single-minded economic orientation towards the Eastern bloc, towards further integration of Poland into the global market, had the intention of modernising the Polish economy by importing technical know-how, enabling qualitative economic growth, and making businesses more efficient. At the same time it brought moderate liberalisation at every social level. The level of consumption grew, and working conditions improved. *Inter alia*, the average income increased, workers got twelve free Saturdays per annum, and maternity leave was extended three-fold.³³ For a short time, the country experienced a period of boom.

During this period, state investment in the Polish shipbuilding industry was of the highest priority. This was firstly due to the fact that Gierek wanted to restore social harmony in the shipyards and win back the confidence of the workers; on the other hand, shipbuilding was an important industry which, if exports were prioritised, could bring much-needed foreign exchange into the country.³⁴ With foreign exchange, Poland would be able to buy in Western technology, plant, and equipment. From 1971, the export structure of the Lenin Shipyard changed significantly. Ships were no longer built solely for the Soviet Union, but also for Norway, Germany, the Netherlands, Britain, Colombia, Canada, and Iran, among other countries.³⁵ After 1974 a major modernisation programme aimed to introduce the latest technologies at the Lenin Shipyard. This programme focused

31 Gierek’s question and the answer from the workers is very famous in Poland because for the first time in Polish history a political event was staged in the new mass medium of television; see Borodziej, *Geschichte Polens im 20. Jahrhundert*, 341f.

32 In the summer of 1971, see Singer, *The Road to Gdańsk*, 181.

33 Borodziej, *Geschichte Polens im 20. Jahrhundert*, 345.

34 Archiwum Państwowe Gdańsk (hereafter APG), 1291/9768: 74, Konferencja Samorządu Robotniczego, Stocznia Gdańskiej im. Lenina, 29 maja 1974, speech by technical director of the Lenin Shipyard, Klemens Gniech, 4.

35 See the ship reference list of Stocznia Gdańsk SA 1945-2013: <http://www.Gdańskshipyard.pl/reference-list.html> (accessed 31 March 2014).

on the construction of new types of ships, a significant increase in labour productivity, greater exports to Western countries, and an improvement in the living and working conditions of the shipyard's workers. The most important improvements were the introduction of machines such as automatic plate-cutting machines and modern welding equipment and machines, and the construction of bigger slipways and cranes, allowing construction of larger blocks for hull construction. However, as a result of the persistence of the historically unstable labour process, rationalisation remained difficult. These difficulties were displayed in the Lenin Shipyard, especially the attempt to introduce modern production techniques such as CAM (computer aided manufacturing) and CNC (computerised numerically controlled) machines. By the end of the 1980s only some parts of engineering and general production were automated. As regards the design and technology of hull construction, the Gdańsk Shipyard reached a certain level in computerisation. The biggest deficits in technology were seen in the internal ship system and the management system. An engineer at Gdynia Shipyard commented on the technological state of Polish shipyards at the end of the 1980s:

The work invested in computerization during the first half of the 1970s has not been updated to this day. As a result, in many instances, computers prolong instead of shorten our preliminary production cycles. The goal was a comprehensive computerization of engineering work, but this has not been accomplished since the mid-1970s! [...] We still exist in the stage of conceptualization and experiments with certain specific pilot solutions. As for the integral concept, it is still absent.³⁶

He concluded that the level of technology used in the Polish shipbuilding industry fell some fifteen years behind world level.³⁷ Another fact that made the rationalisation of ship production in the Lenin Shipyard difficult was its product range: from the 1970s onwards the shipyard built many different types of ships (among them a lot of prototypes) in short production circles. This made it nearly impossible to introduce a rational labour process.

Two years after the beginning of the modernisation of the Lenin Shipyard, and before the plan of modernisation could reach its stated goals, investment was drastically reduced and dried up altogether in 1978. The by then drastic economic situation in Poland was probably the main reason why the modernisation measures were not fully carried out at the Lenin

36 "Developments in Polish Marine Technology", 98.

37 *Ibid.*, 100.

Table 13.1 Gdańsk Shipyard deliveries, 1960-1990 (selected years)

Jahr	1960	1965	1970	1972	1975	1977	1979	1980	1981	1982	1984	1988	1990
Number of ships * (fully/partly outfitted hull)	28	29	27	31	33	25	20	16	17	14	13	10	6/1
Deliveries*	152.6	167.3	193.6	190.8	261.9	244.9	174.1	142.1	125.9	130.5	-	-	-
Gdańsk Shipyard in 1,000 brt													
Deliveries*	174.2	197.2	180.4	180.5	296.8	276.0	198.3	150.2	128.9	155.4	176.3	65.8	36.3
Gdańsk Shipyard in 1,000 dwt													

Sources: For 1960-1982, see *Rocznik statystyczny gospodarki morskiej*; 1984-1990 author's calculations from the reference list of Stocznia Gdańsk SA (<http://www.gdanskshipyard.pl/reference-list.html>)

Shipyard. In 1979 external debts consumed 75 per cent of the exchange value income of the country. Only one year later it was already 80 per cent.³⁸

While there was a noticeable boom during the first half of the 1970s, during which standards of living increased, from the mid-1970s onwards the economy contracted. One reason for the breakdown was the global economic crisis sparked by the oil price rises of 1973-1974. Therefore, the goods that were produced could not be disposed of abroad as planned: a problem exacerbated by the protectionist measures of the European Economic Community, such as tariffs and restrictions on imports.³⁹ In addition, due to the unequal investment politics in the decades before, fewer and fewer products could be produced in Poland, and more and more goods had to be imported at prices that had skyrocketed because of the oil crisis and the recession.⁴⁰ These factors were particularly difficult for the Polish shipbuilding industry: the shipbuilding production plan consisted of building mainly high-quality ships, with specialised equipment that had to be imported at high prices. The economic disaster was due not only to external factors but also to the internal problems of the Polish planned economy such as barriers to innovation, a corrupt bureaucratic elite, inflexible management, and a general disorganisation prevalent in the economy, all of which contributed to the socio-economic problems of the late 1970s.⁴¹ The modernisation programme stalled and remained unfinished, and productivity in the Lenin Shipyard decreased dramatically (Table 13.1).

Second wave of protests

There are interesting parallel developments between diminishing investment and increasing worker unrest. Local activists established an illegal "Founding Committee of Free Trade Unions" in the shipbuilding industry

38 Borodziej, *Geschichte Polens im 20. Jahrhundert*, 359. The debts grew from USD \$1.2 bn in 1971 to USD \$24.7 bn in 1980; see Altvater, Hübner *et al.*, *Die Armut der Nationen*, 244.

39 Ziemer, *Polens Weg in die Krise*, 250. See also APG 2384/15283: Informacje i oceny dot. [...] przemysł okrętowego i inny sprawy 1977, 24.

40 The growth rate of imports from Western countries increased from 7.7 per cent (1960-1970) to 40.7 per cent (1970-1975), and then decreased to 0.1 per cent (1976-1980); see for example Rode and Jacobson, *Wirtschaftskrieg oder Entspannung*, 291.

41 The internal problems of the Polish planned economy are described in many publication; see, for example, Landau and Tomaszewski, *The Polish Economy in the Twentieth Century*; Poznanski, *Poland's Protracted Transition*; Kozminski, "Market and State in Centrally Planned Economies"; Zielinski, *Economic Reforms in Polish Industry*.

in February 1978,⁴² while investments dropped by almost 70 per cent in the Gdańsk Shipyard.⁴³

In the summer of 1980, strikes across Poland, which were sparked by wage demands and issues of improving working conditions, aimed to reach new collective agreements. In most cases the management agreed to workers' demands. In August a strike began in the Lenin Shipyard. The willingness to act was high on account of several issues: material shortages, production stoppages, wage losses, and politically motivated dismissals of respected workers including Lech Wałęsa. The flashpoint of the first strike was the political dismissal of Anna Walentynowicz, a very politically active crane operator at the shipyard. Primarily the workers demanded:

- 1 The rehiring of Anna Walentynowicz and Lech Wałęsa,
- 2 The establishment of a memorial for the dead of December 1970, and
- 3 A pay increase.

First, the workers bargained over their demands with the director of the shipyard, Klemens Gniech. As in other plants, the director was willing to fulfil these demands quite quickly after some hours of discussion. The strike was already announced as finished when three women stopped the workers from leaving the shipyard, by shouting that they had to go on with the strike to show solidarity with other plants in Gdańsk, which were still on strike.⁴⁴ It was Saturday evening and the workers wanted to go home to their families after three days of occupying the shipyard, but they were persuaded to continue; thus, the strikes in the shipyard went on and spread across the whole country. The protestors set up an inter-plant strike committee. Central to the protest was the Lenin Shipyard.⁴⁵

Because of the collective memory of the events of December 1970, the shipbuilding strikers did not leave the shipyard; thus the political agent had

42 The shipyard requested investments of 761 mn złoty for the year 1978 and received 265 mn złoty (APG 1291/9786: 93, Konferencja samorząd robotniczego Stoczni Gdańskiej im. Lenina 30 stycznia 1979) – five times less than in 1975, when the investments came to 1,059 mn złoty. For the investments rate in 1971-1975, see Jarecki, *Stocznia Gdańska im. Lenina*, 119. In 1980 the investment rate was 178 mn złoty (*ibid.*, 99). See APG 1291/9792: Konferencja samorząd robotniczego Stoczni Gdańskiej im. Lenina 30 stycznia 1980.

43 See statistics in Jarecki, *Stocznia Gdańska im. Lenina*, 132.

44 The three women were Alina Pienkowska, Henryka Krzywonos, and Anna Walentynowicz; see Kühn, *Das Jahrzehnt der Solidarność*, 29.

45 There is a large body of literature about the history of the Solidarność movement; see, for example, Penn, *Solidarity's Secret*; Laba, *The Roots of Solidarity*; Kennedy, *Professionals, Power and Solidarity in Poland*; Ost, *Solidarity and the Politics of Anti-Politics*; Garton Ash, *The Polish Revolution*.

to go to the shipyard to speak with the workers. A committee composed of workers and intellectuals bargained with the government, and its demands became more political and social. The most important demand was to legalise a free, independent trade union. Ultimately, there was a list similar to that of 1970, with twenty-one economic, political, and social demands. The politicians met with the protestors and fulfilled many of the demands. In August 1980, the first independent union, *Solidarność* (Solidarity), was founded. The union was allowed to operate until 13 December 1981, when General Wojciech Jaruzelski proclaimed martial law; most of the union activists were arrested and the union was again banned.⁴⁶

Not only were nearly all Polish workers organised under the auspices of *Solidarność*, but so too were engineers, and all kinds of employees, as well as managers and supervisors. How was this possible in a so-called workers' state such as Poland? Workers appeared in politics not as workers but as citizens, and the "working class" included everyone who was employed in the "workers' state", that is, all people employed in any position. This composition of the "working class" in Poland made the workers paradoxically weak and strong at the same time. The historian David Ost summarised this paradox:

On the one hand, industrial workers felt they had a privileged claim on state policy, and the state felt this way too. When workers went on strike, the state had to listen. Strikes thus could not help but be powerful challenges to the political authorities. They could not help, but be political [...] On the other hand, the political context of proletarian protest robbed it of its working-class character. Workers were unable to fight for their own interests; they always had to fight for "everyone's" interests.⁴⁷

The *Solidarność* union was the first independent union in the Eastern bloc and also the largest mass civil movement. After martial law was introduced in December 1981, the workforce in the Lenin Shipyard announced a strike. Consequently, the Polish army broke up the protest with tanks; several people were injured and one man died. Some of the leaders of the strike were sent to prison, and about 1,500 workers were dismissed. Director Gniech, who was also a member of *Solidarność*, left his job because he did not agree

46 See, for example, Skórzyński and Pernal, *Kalendarium Solidarności 1980-1989*, 86ff; Chmiel and Kaczyńska, *Postulaty 1970-71 i 1980*.

47 Ost, "Polish Labour Before and After Solidarity", 31f.

with the dismissals.⁴⁸ In the following two years there were some smaller protest actions and symbolic strikes in the shipyard. Workers demanded the release of the imprisoned workers and the legalisation of *Solidarność*. The workers also refused to do overtime work and undertook some small acts of sabotage.⁴⁹ Keeping up clandestine activity, the underground committee of *Solidarność*, called "S", edited an underground newspaper for the shipyard.⁵⁰

The 1980s

In 1980, Poland had around USD \$25.5 bn of debt in the West.⁵¹ The entire economy was constrained by the primacy of debt repayment, and bank accounts of enterprises were partly frozen.⁵² By 1982, the almost total collapse of the Polish economy, labour disputes, and the associated dip in production brought the shipbuilding industry to a near standstill. The crisis led to order cancellations, delivery delays, and penalty clauses on contracts at the shipyards. The biggest problems of the shipyards in the 1980s were material and labour shortages. The problem of a lack of material had two main causes: a general scarcity of imported goods, materials, plant, and equipment due to a lack of foreign-exchange earnings, and that 94 per cent of export earnings went towards debt repayments.⁵³ In addition, due to inflationary pressures, the prices for products that were used in shipbuilding increased by more than 300 per cent between 1980 and 1986, while, on the other hand, ship prices on the world ship market dropped dramatically in the 1980s.⁵⁴ This was a very big problem for the Polish shipbuilding industry as a special feature of the industry was that there was strong co-operation with foreign shipyards based on a division of labour. Thus, for example, shipbuilding companies in Spain, Portugal, and Yugoslavia produced hulls that were then fitted out in Polish shipyards.⁵⁵

Another reason for the lack of materials was poor domestic co-operation. Many suppliers preferred to export their products rather than sell them

48 See: http://www.encyklopediasolidarnosci.pl/wiki/index.php?title=T02101_Stocznia_Gda%C5%84ska_im._Lenina (accessed 10 October 2013).

49 See APG 2384/15097: Program modernizacji i rozwój przemysłu okrętowego na lata 1983-1985 i do roku 1990, 10.

50 *Rozwaga i Solidarność. Biuletyn TKZ Stoczni Gdańskiej*.

51 "Baltexpo '88", 42.

52 Gołębiowski, "Polish Shipyards Emerging from Troubles", 27.

53 "Neue Vereinbarung über den Weiterbau der Stena-Fähren in Polen", 50.

54 "Baltexpo '88", 42.

55 "Schiffbau und Maschinenbau in den sozialistischen Ländern", 20.

on the domestic market, as exports to the West were rewarded with tax relief and a foreign-exchange account.⁵⁶ However, supplier and co-operation difficulties also arose as a result of the uncoordinated investment activities of the 1970s, which led to an imbalance in the economy.

The labour shortages in the shipyards, already evident in the 1970s, heightened in the 1980s. The number of employees in the Lenin Shipyard decreased until in 1988 the figure was 9,700, as a consequence of high turnover in the workforce from the end of the 1970s.⁵⁷ While in the West thousands of shipyard workers were laid off, in Poland skilled workers were desperately sought after. By the beginning of 1983, there was a shortage of about 2,500 production workers in the Lenin Shipyard. Thus the shipbuilding industry in Poland in the first half of the 1980s was not short of orders, but of the capacity to fulfil these orders. Late deliveries, huge penalty clauses, and the poor quality of the ships delivered increasingly impugned the reputation of the Polish shipbuilding industry.⁵⁸ Together with the global shipbuilding crisis, this led to a continual decline in orders from the mid-1980s onwards.

In 1983, the minister of the metallurgical industry and machine industry established a research group to examine the political and economic circumstances of the Lenin Shipyard. They came to the conclusion that the economic and political situation of the shipyard was very difficult. In opinion of the experts, the economic reforms that had been introduced since the beginning of the 1980s to decentralise the economy and give the firms more autonomy had further worsened the situation of the shipyards. The economic reforms were based on three factors: autonomy, self-government, and self-financing, which meant that more and more market elements were introduced into the Polish economic system. Because ships are built on medium-term production cycles, shipyards needed advanced stage payments from shipowners to produce at all. A lack of liquidity was apparent at the Lenin Shipyard, and the government announced an aid programme for it in 1984.⁵⁹

This programme put the shipyard in a better position than hitherto but its fundamental problems persisted, and in May 1988 the Department of Industry announced its intention to close the Lenin Shipyard, although the orderbook situation was better than it had been in the mid-1980s and

56 Gołębiowski, "Polish Shipyards Emerging from Troubles", 27.

57 APG 1291/9849: Informacja statystyczna za rok 1989.

58 See "Baltexpo '88", 42.

59 Ustawa 42/84 Rady Ministrów z dnia 19 marca 1984.

better than in other Polish shipyards.⁶⁰ In newspaper articles, the main reason given for this decision was the relatively strong political opposition in the shipyard. Also in 1988, there were smaller strikes in May and again in August, especially from young shipbuilding workers, who demanded better working conditions and better remuneration.⁶¹

In September 1988 the government decided to close the shipyard. The shipyard workers' council took legal action against the decision, first at the district court, which refused the pledge, and then at the voivodship court.⁶² Before the voivodship court took a decision, the American company Johnson & Johnson expressed an interest, and the Bremer Vulkan shipyard in Germany made an offer to buy the Lenin Shipyard.⁶³ At the same time (February-April 1989) the talks between the opposition and the communist government began (round-table negotiations). Thereafter, Poland began the first transition in the Eastern bloc, and the planned economy system was transformed into a capitalist market system. The new government stopped the liquidation process of the Lenin Shipyard and transformed it into a stock corporation.⁶⁴ In 1990 the former Lenin Shipyard continued operations as a corporation under the name Gdańsk Shipyard, with the state holding 60 per cent of the shares in the business, and the workers 40 per cent.

The workers

Composition of the workforce

A large proportion of industrial workers in Poland during the 1950s and 1960s had a peasant background. After the Second World War, many Polish farmers and their families moved into urban centres because they could not make a sufficient living from agriculture. In the 1970s, the Polish workforce began to change in its composition and qualification structure.

60 Informacja o wynikach kontroli działalności organów państwowych oraz władz Stoczni Gdańskiej w okresie od 1988 do upadłości Spółki. For information about the decision of the State Control Commission about the authorities of the Gdańsk Shipyard from 1988 to the company's bankruptcy, see <http://www.nik.gov.pl/kontrola/wyniki-kontroli-nik/kontrola,1354.html> (accessed 10 October 2013), 28.

61 Giełżyński, *Robotnicy '88*.

62 See for example Tagliabue, "Poland Announces December Closing of Lenin Shipyard".

63 Staatsarchiv Bremen (SAB) 7,2121/1 – 3442: Bildung eines Konsortiums mit dem Ziel der Übernahme der Leninwerft (1989-1991).

64 Informacja o wynikach kontroli działalności organów państwowych oraz władz Stoczni Gdańskiej w okresie od 1988 do upadłości Spółki.

The workforce of the 1970s was young and well-educated and came mostly from the proletarian or salaried strata of Polish society. The qualification level of the workforce increased steadily due to the education system, which was inaugurated just after the Second World War. Although on one hand the increasing qualification level in industry led initially to success for Poland, on the other hand it became more and more of a political problem. A substantial amount of the well-educated – particularly young – workers were employed in jobs for which they were underqualified, at the production level. The sociologist Melanie Tatur termed the young qualified workers in the production sphere “worker-technicians” (*Arbeiter-Techniker*).⁶⁵ They did not have sufficient opportunities to rise through the ranks, and this generated a huge sense of frustration among this cohort. The rise in the qualifications of blue-collar workers also raised their consciousness of what had gone wrong in the labour processes. Edward Jarecki, writing about the workforce in the Lenin Shipyard, believed that they increasingly saw the disadvantages of the labour organisation of the company, and at the same time the possibility of improving economic and social mechanisms. The shipyard workers did not want to be passive any longer, and they understood their political power.⁶⁶ This consciousness, among other factors, led to the protest in the Lenin Shipyard in August 1980.

The number of employees in the Lenin Shipyard rose steadily until the mid-1970s. In 1974, 16,295 people worked at the shipyard – the highest employment level in its history. After 1974, employment steadily decreased, with significant reductions in the workforce between 1980 and 1982 due to dismissals after the protest, and again between 1988 and 1990, when the shipyard faced bankruptcy. After the collapse of the state socialist system in 1989 and the economic “shock therapy”, employment in the shipbuilding industry decreased further. The development of employment in the Lenin Shipyard is shown in Table 13.2.

In 2004, Poland had the highest employment of all shipbuilding industries in Europe, with 23,106 employees, however; the average gross wage of Polish shipbuilding workers, at €7,449 per annum, was one of the lowest in Europe.⁶⁷ Precipitated by the privatisation policy of the shipyard of 2006 and the international economic crisis of 2008, between 2007 and 2010 nine out

65 APG 1291: Informacja Statystyczna.

66 Jarecki, *Stocznia Gdańska im. Lenina*, 195.

67 See Ludwig and Tholen, *Schiffbau in Europa*, 97f.

Table 13.2 Number of employees in the Lenin/Gdańsk Shipyard, 1950-1990 (selected years)

Year	1950	1955	1960	1964	1970	1974	1978	1980	1984	1988	1990
Employees	6,131	9,584	10,000	14,844	15,700	16,295	15,506	15,646	12,181	9,719	7,452

Sources: For 1950-1955, see *Morski Rocznik statystyczny* 1960; for 1960, see Harbron, *Communist Ships and Shipping*, 114; for 1964, see APG 1291/9757: 62. Konferencja Samorządu Robotniczego Stocznii Gdańskiej im. Lenina 1970; for 1970-1988, see APG 1291: Stocznia Gdańska Informacja statystyczna: Zatrudnienie wd. wykształcenia i wieku/bez uczniów; for 1990, see Informacja o wynikach kontroli działalności organów Państwowych oraz władz Stocznii Gdańskiej w okresie od 1988 do upadłości Spółki (<http://www.nik.gov.pl/kontrola/wyniki-kontroli-nik/kontrola,1354.html>)

Table 13.3 Women in the shipbuilding and ship repair sector (full-/part-time employment) 1970-2010 (selected years)

	1970	1975	1976	1977	1980	1982	1986	1988	1999	2004	2006	2008	2009	2010
Total employed	58,279	70,833	71,240	70,836	69,173	61,650	43,366	37,783	28,715	28,236	27,050	16,713	21,399	21,399
Of which women	8,698	12,225	11,784	11,590	11,081	9,925	5,346	4,570	2,372	2,399	2,524	1,812	2,557	2,557
Women as a percentage	14.9%	17.3%	16.5%	16.4%	16.0%	16.1%	12.3%	12.1%	8.3%	8.5%	9.3%	10.8%	11.9%	11.9%
Number of women employed part-time	32	101	100	109	-	-	-	-	81	97	137	128	189	189

Source: *Rocznik statystyczny gospodarki morskiej Polski*

of ten shipbuilding workers lost their jobs.⁶⁸ Many left to find employment in Norwegian shipyards, while others are now employed by sub-contracting firms.⁶⁹

It is difficult to be precise about the gender dimension in the Polish shipbuilding workforce in delineating what types of work women and men did, their relationship with colleagues, and wage differentials. In 1970, 11.3 per cent of the workforce of the Lenin Shipyard was female.⁷⁰ Several women worked in the production sphere and some of them did very strenuous jobs, for example, cleaning the hull after welding. For this, the women had to crawl into the small spaces between the plates.⁷¹ Others worked in the isolating hall, where they isolated the tubes and were in contact with asbestos.⁷² The most famous female shipbuilding worker in Poland is Anna Walentynowicz (mentioned earlier), who worked as a welder and crane operator in the Lenin Shipyard. Her dismissal became the focus of the strike in 1980.⁷³ In the shipbuilding industry in general, before 1989 about 15 to 17 per cent of the workforce was female. After the collapse of the state socialist system, the share of female workers slowly decreased, but increased again after the economic crisis of 2008. An interesting point is that most of the women have full-time jobs (Table 13.3).

Working and living conditions

In state socialism, enterprises were more than just a workplace. All social aspects of life functioned through the enterprise. The shipyard management was responsible for health care, housing, leisure and recreational facilities,

68 In 2007, 12,800 people worked in the shipbuilding industry (building new ships); by 2010 the number had decreased to 1,800 (<http://www.forumokretowe.org.pl/eng/pdf/Annual%20Report%202010-2011%20final.pdf>, 74).

69 See http://ec.europa.eu/maritimeaffairs/documentation/studies/documents/poland_employment_trends_en.pdf, 7.

70 APG 1291/9757: 62. Konferencja Samocządu Robotniczego Stoczni Gdańskiej 1970 (Materiały), 91.

71 See the interviews of the historical audio guide project: "Stocznia jest kobietą" (The Shipyard Is Female") at http://metropolitanka.ikm.gda.pl/wp-content/uploads/2013/12/Stocznia_jest_kobieta_audioprzewodnik.mp3

(accessed 31 March 2014).

72 *Ibid.*

73 She is the hero of the movie *Strajk* (2005) directed by Volker Schlöndhoff. The movie shows an unskilled woman who began work in the shipyard, and who went on to become an important political figure.

holiday centres, and much more. The “shipyard was like a village”, said a woman who worked in the Lenin Shipyard in the 1970s and 1980s; it even had its own cinema and hospital.⁷⁴ The enterprise’s overarching responsibility for the entire communal and social life of its workers had consequences for working conditions, and also in terms of labour disputes. For example, the housing shortage of the 1970s had a direct impact on the labour situation in the shipyard. In 1976, every fourth worker in the shipyard was waiting for an apartment, although there had been considerable investment in building new houses at the beginning of the decade. This situation had a direct effect on worker morale, and was one of the reasons for the high labour turnover at the shipyard.⁷⁵ The reasons for the labour shortage lay also in the Polish production regime as mentioned above, in the relatively old state of equipment, poor work organisation, bad working conditions, and significant absenteeism.⁷⁶

The poor work organisation, material shortages, and delays in delivery also had an impact on innovation opportunities. According to a 1970 survey among the engineers and technicians of the shipyard, 75 per cent of working time was needed to ensure the supply of materials, 15 per cent to support ongoing operations, and 10 per cent for the control of formal procedures. There was therefore no time for introducing innovations and improvements into technical processes and work structures.⁷⁷

Concerning the question of overall workers’ incomes in the Polish shipbuilding industry, one has to keep in mind that wages were only a small proportion of the benefits the enterprise offered. If the labour costs are composed only of the income of the workers, the share of labour costs to production costs was about 15 per cent.⁷⁸ At a rough estimate from 1988, the total labour costs with social benefits included in the Lenin Shipyard were fixed to 34 per cent. In comparison with the West German Bremer Vulkan Shipyard’s 22 per cent, this was quite high.⁷⁹

74 “Stocznia jest kobietą” (http://metropolitanka.ikm.gda.pl/wp-content/uploads/2013/12/Stocznia_jest_kobieta_audioprzewodnik.mp3); see also SAB 7,2121/1 – 3442: Bildung eines Konsortiums mit dem Ziel der Übernahme der Leninwerft (1989-1991); Zwischenbericht JVC-Projekt Gdańsk-Shipyard September 1989.

75 Jarecki, *Stocznia Gdańska im. Lenina*, 185f.

76 The general reason lies in the specific of the Polish production regime: on this see the section “The economic system of state socialist Poland”.

77 APG 1291/9757: Konferencja Samorządu Robotniczego Stoczni Gdańskiej im. Lenina 29. września 1970, 21.

78 Tatur, *Arbeitersituation und Arbeiterschaft in Polen*, 36.

79 SAB 7,2121/1 – 3442: Bildung eines Konsortiums mit dem Ziel der Übernahme der Leninwerft (1989-1991).

At the end of the 1960s the income of shipbuilding workers was very low and the workload correspondingly high. This was one of the reasons for the protest that broke out in 1970-1971. After the protests in December 1970, there was a real wage increase, and wages in shipbuilding became among the highest in Polish industry. However, in 1974 the government announced an income reform for all companies. The result of this was an average increase in wages of 75 per cent for blue-collar workers, and 46 per cent for white-collar workers.⁸⁰

The dissimilarities between the different work groups were small in comparison to Western countries. The average monthly income of a blue-collar worker in the shipbuilding industry in 1975 was about 5,541 zloty. With overtime, he/she earned about 6,081 zł. Engineers and technicians earned about 5,879 zł. without overtime. Clerks had the lowest income, at 3,704 zł.⁸¹ The average income in Poland at the same time was about 2,000-3,000 zł. The numbers show that the workers in the shipyard industry were well paid, but this changed at the end of the 1970s.⁸²

With the economic crisis since the end of the 1970s, as well as hidden inflation and a de facto rise in the cost of living, salaries did not keep pace. At the same time the inequality between different working groups rose. In an economy of short supply, as Poland had experienced since 1979, it was not the amount of income that was important, but access to goods and privileges. Here the economic and political cadres were at an advantage. Connections and foreign currency were the main ways to get what was needed, and the political cadres had the best access.⁸³ The black market, where one could buy only with hard currency such as US dollars, was an unofficial but integral part of the Polish economy.⁸⁴

In regard to the working hours in Polish shipyards, one can say that generally they were flexibly organised. In the 1970s in the production sphere of the shipyard there were three shifts: officially the first shift ran from 6.00 a.m. to 2.00 p.m., the second shift from 2.00 p.m. to 10.00 p.m., and the

80 Jarecki, *Stocznia Gdańska im. Lenina*, 184.

81 *Ibid.*, 186.

82 In 1979 the Lenin Shipyard introduced the group wage. The question of whether changing of the income system had a serious influence on the 1980 protest has not yet been analysed.

83 "The manager did not gain access to the semi-legal and illegal markets within the command economy through money, but almost exclusively through their own concrete compensation goods or the promise of granting undue advantages to their exchange partners": Sattler and Boyer: "European Economic Elites Between a New Spirit of Capitalism and the Erosion of State Socialism", 57.

84 See Kochanowski, "Geographie des Schwarzmarktes in der Volksrepublik Polen".

Table 13.4 Working time balance sheet for Lenin Shipyard in hours per 1 blue collar worker per year

	1970	1974	1978	1980	1984	1988	1989
Absolute working hours	1,913	1,896	1,822	1,729	1,685	1,582	1,589
Overtime hours	322	369	401	334	287	402	411
Illness	135	166	197	202	230	231	277
Holiday	167	181	179	176	185	196	218

Source: APG 1291: Informacja Statystyczna

night shift from 10.00 p.m. to 6.00 a.m. The workers had a half-hour break.⁸⁵ The normal working time was 7.5 hours per day. However, the statistics of the shipyard show that overtime hours were quite high (Table 13.4). On average, the workers worked 1.5 hours overtime per day, so daytime work hours were, in reality, about 9 hours, but the working time was not regular. It could be that the workers had to work through two nights or over the whole weekend at the end of the month to finish a ship, or to reach the plan target.⁸⁶ Especially in the 1960s and 1970s the real working time of the shipyard worker was high. In 1980 one of the demands of Solidarity was free Saturdays. This demand was fulfilled. The free Saturdays and other free days were one of the reasons why the explicit working hours in the 1980s declined.

From 1970 to 1989 the average working time decreased from 1,913 hours per worker per year to 1,589 hours (Table 13.4).⁸⁷

From 1984 to 1989 there was only one dayshift, from 7.00 a.m. to 3.00 p.m.⁸⁸ An anonymous survey of the working hours in the shipyard from 1986 shows that working hours were not taken so strictly by the workers. Often the working time were used to “organise” something personal, like standing in queues to buy food, or having a private talk with somebody, which gives rise to the expression “coś załatwić” (to carry out something)

85 “Stocznia jest kobietą” (http://metropolitanka.ikm.gda.pl/wp-content/uploads/2013/12/Stocznia_jest_kobieta_audioprzewodnik.mp3).

86 Burawoy came to a similar result in the case study of an enterprise in the Soviet Union; see Burawoy and Krotow, “Der Übergang vom Sozialismus zum Kapitalismus in der früheren Sowjetunion”, 527.

87 APG 1291: Informacja Statystyczna.

88 “Stocznia jest kobietą” (http://metropolitanka.ikm.gda.pl/wp-content/uploads/2013/12/Stocznia_jest_kobieta_audioprzewodnik.mp3, last accessed 7 September 2016).

that is often found in survey responses. The survey also shows that a lot of the time was wasted by waiting for machines, materials, or tools.⁸⁹

Union, workers' self-organisation, and self-management

In the People's Republic of Poland there were two institutionalised organisations which were designed to represent the interests of the workers: the main Polish union (Centralna Rada Związków Zawodowych) and, from 1984 onwards, Ogólne Polskie Związki Zawodowe (OPZZ) which was subordinated to the PZPR (the ruling Communist Party); and the Conference of the Workers' Self-Management (Konferencja Samorząd Robotnicza, KSR) which was replaced in the 1981 by the Workers' Council (Rada Pracownicza).⁹⁰ The union was responsible for the physical and social welfare of all workers. They were concerned with housing, the social life of the workplace, health care, income, holiday establishments, cultural life, etc. At the beginning of the 1970s the union at the Lenin Shipyard was relatively active and achieved some improvements for the workers. However, the union became increasingly dominated by party members and white-collar workers. By the mid-1970s, the union became much less important and acted more as a regulatory body against, instead of for, the workers, and consequently completely lost the confidence of the workers.⁹¹

Between 1971 and 1973, the KSR also had some influence in the management of the shipyard. The conference took place three to four times a year. It was responsible for the improvement of the labour process and the organisation of the enterprise and of labour conditions, and the allocation of bonuses. After 1973, similarly to the union, the KSR increasingly became a formal institution without any influence rather than a real representation of the workforce. The quasi-absence of a body representing the workers was one of the main causes for the demand of founding an independent union, after the strikes in the Lenin Shipyard and elsewhere in 1980. After the prohibition of *Solidarność* in 1981, the government tried to intensify the work of the so-called official workers' self-organisation bodies, the workers' council, and the official state union in the enterprises. After the passage of the law on workers' self-management in state enterprises in September 1981, they gained more decision-making power in at least some

89 APG 2384/11250: *Mój dzień pracy*. Ankieta anonimowa w stoczni: Czas zmarnowany.

90 See the 1981 law "O samorządzie załogi przedsiębiorstwa państwowego w PRLu".

91 Jarecki, *Stocznia Gdańska im. Lenina*, 199.

enterprises.⁹² The political leaders attempted many times to make these bodies more attractive and to have them accepted by the workforce. The hope of the government was, if the self-organisation bodies participated in the management of the enterprises in actuality – and not just formally – it would be easier to get support from the workers for “difficult decisions”.⁹³ At the same time the government increased attempts to acquire more influence in these bodies. The calculations of the political leadership did not always work, however. While the activity of most workers’ self-organisation bodies in the enterprises increased, the influence of the Communist Party on them was limited. The workers’ council went its own way and was heavily influenced by critical intellectuals or workers; for example, they took part in an unofficial nationwide meeting of workers’ self-organisation bodies in 1986, which was at first banned by the government, and then allowed after the initiators took legal action against this prohibition.⁹⁴

The Gdańsk Shipyard and Polish shipbuilding industry to the present

The “shock therapy” of 1989 destroyed many of the social gains that workers had achieved during state socialism in Poland. Recreational facilities and vacation centres were sold and the health system was privatised, while hyperinflation massively depressed wages. The *Solidarność* union supported market reform, privatisation, and the interest of the companies, and saw this as the basis of its workplace activity.⁹⁵ In comparison to the analyses of Simon Johnson and Gary Loveman, the situation in the Gdańsk was somehow different.⁹⁶ The shipyard tried, with the director Hans Szyc

92 Muźiel, “Wirtschaftsreformen in Polen”, 134.

93 See APG 2384/11292: Narady aktywnu samorząd robotniczego, Spis przesebiorstw w których działa samorząd robotniczy, 242.

94 APG 2384/11292: Narady aktywnu samorząd robotniczego, Spis przesebiorstw w których działa samorząd robotniczy, 253.

95 “The union’s previous role as provider of diverse goods and services, including housing, vacations, and summer camps, decreased rapidly as such activities were spun off from the firm and commodified”: Ost, *The Defeat of Solidarity*, 149. Ost gives many examples of how *Solidarność* representatives defended the interests of capital (*ibid.*, 155).

96 The economic analysis of the history of the Gdańsk Shipyard from 1990 to 1993 of Johnson and Loveman differs completely from other literature about the transition process of Polish companies in this time. It has to be researched further whether the Gdańsk Shipyard was an exception and, if so, why. It probably has to do with the political role of the shipyard; see Johnson and Loveman, *Starting over in Eastern Europe*, 67-103.

a member of *Solidarność*, to adapt to the new economic system as a state company. Johnson and Loveman argue that Szyc was not willing to deal with the requirements of the capitalist free market. He tried to maintain the social infrastructure for workers and failed to modernise the production process.⁹⁷ Szyc preferred to hire more workers instead of investing in new technical equipment.⁹⁸ The workforce rose from 7,452 in 1990 to 8,955 in 1993 (Table 13.5). Additionally the loss of the Soviet market resulted in staggering financial setbacks in the Gdańsk Shipyard. The Soviet Union placed its last order in 1988, but was unable to pay for it.⁹⁹ Despite these facts the Gdańsk Shipyard's production grew steadily (up to 2004; Table 13.5). But the result of the management policy, the new economic situation, and an extended wage tax by the government was an increasing pile of debts. The troubles of the shipyard became clear at the end of 1995.

In 1996, the Gdańsk Shipyard went bankrupt. It was the first of the big state-owned industries to go bankrupt after 1989. The workers protested in different ways: between December 1995 and August 1996 (when the bankruptcy was announced officially) nearly 2,000 workers left the shipyard (see Table 13.6). In the same time the absenteeism of workers during normal working time doubled in comparison to the preceding years, and there were several short strikes.¹⁰⁰ The shipyard workers demanded a restructuring plan for the shipyard from the government.¹⁰¹ In comparison to the power of the workforce in 1981, the protest seemed defensive and individual. *Solidarność* was not willing to act and lost its organising power due to its policy in the preceding years.¹⁰²

After the bankruptcy procedure was completed, a new company was created, and the Gdańsk Shipyard was purchased by the second major shipyard in Poland, the Gdynia Shipyard SA, a shareholder company with the state as the main shareholder.¹⁰³ From this point, the production of the shipyard included mainly container ships, bulk carriers and sections, and blocks and hulls for the mother company and other firms.¹⁰⁴

97 *Ibid.*, 77.

98 *Ibid.*, 76.

99 *Ibid.*, 70.

100 Informacja o wynikach kontroli działalności organów państwowych oraz władz Stoczni Gdańskiej w okresie od 1988 do upadłości Spółki.

101 See http://articles.latimes.com/1996-06-13/news/mn-14448_1_shipyard-workers-strike.

102 Even *Solidarność* founder Lech Wałęsa said the bankruptcy decision "cannot be questioned on economic grounds". And the leader of the *Solidarność* at that time said, that "there is no alternative to the bankruptcy": <http://www.apnewsarchive.com/1996/Gdansk-Shipyard-Strike-to-Protest-Closing/id-c656e702d2263abde493c9ee10a5b7bb> (accessed: 11 April 2014).

103 See http://ec.europa.eu/competition/publications/cpn/2009_3_13.pdf (accessed 8 April 2014).

104 ???

Table 13.5 Deliveries, Gdańsk Shipyard, 1975-2012 (selected years)

Year	1975	1988	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Deliveries Gdańsk Shipyard in 100 dwt	2,973.5	658.4	363	772.1	856	1315	736	1107	1516.1	714	784	592.88	94.72	68.5
Number of ships (fully/partly outfitted hull)	33	10	(7/1)	8	7	4	(4/1)	11	5	2	2	(6/5)	(2/2)	(1/1)

Source: Author's calculation from the reference list of Stocznia Gdańsk SA (<http://www.gdanskshipyard.pl/reference-list.html>)

Table 13.6 Number of employees in the Gdańsk Shipyard 1990-2012 (selected years)

Year	1990	1993	1995	1996 (31.08.)	2000	2006	2008	2013
Total employed	7,452	8,955	7,407	5,614	3,500	2,900	2,235	2,100

Source: For 1990-1996, see Informacja o wynikach kontroli działalności organów Państwowych oraz władz Stoczni Gdańskiej w okresie od 1988 do upadłości Spółki (Warsaw, 1997). For the year 2000, see "The Shipbuilding and Ship Repair Sectors in the Candidate Countries: Poland, Estonia, the Czech Republic, Hungary, and Slovenia: Final Report", <http://www.entreprise-europe-sud-ouest.fr/sfx/assets/documents/uploaded/general/rapport-shipbuilding.pdf> (accessed 10 April 2014). For 2006-2008, see http://ec.europa.eu/competition/publications/cpn/2009_3_13.pdf (accessed 31 March 2014). For 2013, see http://www.emship.ulg.ac.be/Documents/PRES_SAB/Gdansk%20Shipyard.pdf (accessed 10 April 2014)

In 2006 Gdynia Shipyard SA sold its share to the State Development Agency. The Polish government decided to privatise and restructure the shipyard also because of pressure from the European Union.¹⁰⁵ The site of the shipyard had already been reduced one year before to a fifth of its former territory, and now a private firm would reduce the production capacity again and carry out further job cuts.¹⁰⁶ In 2008, ISD Polska, a subsidiary of Ukrainian steel producer Donbas, which was already a minority shareholder, became a majority shareholder in the Gdańsk Shipyard. The workers of the Gdańsk Shipyard faced the same fate that many of their colleagues had suffered at the beginning of the 1990s, when privatisation was at its apex and resulted in job losses, declining working conditions and pay, and general uncertainty.

In 2013, about 2,100 people worked in the Gdańsk Shipyard, less than a third of the workforce of 1990. Two-thirds have fallen victim to privatisation and restructuring.

According to the information on the home webpage of the Gdańsk Shipyard, it specialises in shipbuilding, steel construction, and wind energy. They build offshore and research vessels, large steel constructions, high-altitude assemblies, and pipe systems.¹⁰⁷ Since the summer of 2013, however, the Gdańsk Shipyard is once again threatened by bankruptcy. The workers did not receive their salaries and protested against this. Since then hundreds of workers have been laid off. *Solidarność* together with the shipyard worked out a redundancy payment scheme for those who left the shipyard voluntarily. In February 2014 the shipyard had to present a new business plan to the State Industry Development Agency (*Agencja Rozwoju Przemysłu, ARP*), and the state would decide whether to give further financial support to the shipyard. The Norwegian group Kleven is interested in investing in the shipyard.¹⁰⁸

Polish shipbuilding industry after 1990

The Polish shipbuilding industry was, at the end of the 1990s, once again successful. The industry profits from low working costs and labour conditions in comparison to West European standards. In 2000, Poland was in fifth

105 See below.

106 See http://ec.europa.eu/competition/publications/cpn/2009_3_13.pdf.

107 See http://www.emship.ulg.ac.be/Documents/PRES_SAB/Gdansk%20Shipyard.pdf (accessed 10 April 2014).

108 See <http://biznes.trojmiasto.pl/Gdancscy-stoczniowcy-odejda-z-pracy-dobrowolnie-n76694.html> (accessed 11 April 2014).

place in the world shipbuilding league table, behind South Korea, Japan, China, and Germany, with 2.3 per cent of worldwide ship production.¹⁰⁹ In 2004 the industry employed around 28,700 people in the shipbuilding and ship-repair sector.¹¹⁰ Another 50,000 to 60,000 employees worked in the marine-equipment supply industry.¹¹¹ In 2004 there were only four major shipyards in Poland with more than 1,000 employees¹¹² and one large ship-repair yard.¹¹³ From 1990 onwards, the Polish shipbuilding industry produced car ferries, bulk carriers, container vessels, and yachts, and in more recent times it has also participated in the offshore and wind energy market.

After 2004, two major factors also contributed to the slow demise of the Polish shipbuilding industry: Poland's accession to the European Union in 2004 and the global economic crisis of 2008 (Table 13.7).

Until 2005 the Polish shipbuilding industry could compete in the global shipbuilding market and was therefore a real competitor to the shipbuilding industries of Germany and the Netherlands. This situation changed from 2005 onwards and experienced a radical turn in 2008 when the EU Commission on 6 November 2008 concluded that state aid granted to the shipyards in Gdynia and Szczecin “[had risen] to disproportionate distortions of competition within the single market, in breach of EC treaty state aid rules and must be repaid”.¹¹⁴ Under EC rules, Poland was obligated to pay back state subsidies for its shipyards from recent years. Contemporaneously, the looming global economic crisis, which began in the United States in 2008, hit the Polish shipbuilding industry hard. Due to this and the ending of state subsidies, the Gdynia and the Szczecin Shipyards were closed and all their machinery was sold off. This process is continuing.¹¹⁵

109 See http://ec.europa.eu/maritimeaffairs/documentation/studies/documents/poland_employment_trends_en.pdf (accessed 11 April 2014).

110 The data differ widely depending on the source. I refer in this chapter mainly to the official Polish statistical yearbook, Główny Urząd Statystyczny, *Rocznik statystyczny gospodarki morskiej*.

111 See http://ec.europa.eu/maritimeaffairs/documentation/studies/documents/poland_employment_trends_en.pdf (accessed 11 April 2014).

112 Shipyard Gdynia; Szczecin New Shipyard; Shipyard Gdańsk; Northern Shipyard.

113 Szczecin Repair Shipyard.

114 See <http://www.globalsecurity.org/military/world/europe/pl-shipbuilding.htm> (accessed 29 August 2012).

115 The shipyards in Gdynia went into bankruptcy 2009, and the Szczecin New Shipyard followed in 2011. In 2009, the Polish share of worldwide ship production decreased to 0.1 per cent.

Table 13.7 Deliveries, Polish shipbuilding industry, 1975-2012 (selected years)

Year	1975	1988	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Deliveries, Polish shipbuilding industry in 100 dwt	10,205	2,240	1,340	4,310	7,810	9,300	9,140	7,220	5,910	5,457	6,272	3,380	-	-
Number of ships, Polish shipbuilding industry	83	35	35	30	28	39	37	34	30	25	24	20	24	15

Source: Rocznik statystyczny gospodarki morskiej

14 The shipbuilding industry in Galați (Romania) under communism, 1948-1989

Constantin Ardeleanu

Introduction

Located on the maritime Danube (the 100-mile section of the river accessible to sea-going ships), the port city of Galați enjoys a favourable geographical position for developing significant shipbuilding installations. The only large fluvial outlet of the historical province of Moldavia, Galați lies on the left bank of the Danube, between two of its largest tributaries, the Siret and the Prut Rivers, which separate Moldavia from the neighbouring regions of Wallachia and Bessarabia respectively. Commerce in Galați increased gradually from the seventeenth century, when the port was visited by maritime ships wanting to convey the rich agro-pastoral resources of the Danubian principalities to the market of Constantinople. In the same period, historical sources refer to shipbuilding in a local shipyard, supplied with cheap and high-quality timber transported as rafts from the deep forests of the Carpathians down Moldavia's network of rivers. Shipbuilding and ship repairing were the most lucrative industrial activities in Galați throughout the late eighteenth and the nineteenth centuries, although construction techniques remained highly traditional and antiquated.

From a state-controlled enterprise, shipbuilding became, in the second quarter of the nineteenth century, a private venture, with dozens of shipwrights working in this flourishing profession. Several decades later, the Navy Arsenal was established at Galați (1862), entrusted with the task of repairing Romania's incipient military fleet. However, the modern history of the shipyard in Galați starts in 1893, when George Fernic founded a new industrial establishment, provided with state-of-the-art equipment and foreign know-how.

During the interwar years, it became one of the largest industrial organisations in Romania, with about 1,000 employees and a large total engine capacity. The Galați Shipyard was greatly affected by Romania's involvement in the Second World War. Between 1940 and 1944, Romania was a close ally of Nazi Germany, so that all Danubian yards served the needs of

the German and Romanian navies. In 1944, when the course of war brought the front line closer to Romania's eastern border, most naval installations were removed upstream along the Danube, to the port of Corabia, and only a smaller part of the industrial equipment and about 350 workers remained in Galați. The shipyard was seriously damaged when the German troops retreated, the destruction of the workshops and installations incurring a notable reduction of the yard's productive capacity. In August 1944, the pro-Nazi government in Bucharest was overthrown in the very period when Romania was occupied by the Soviet armies. In the following months, the naval equipment was returned to Galați and shipbuilders restarted their activity in November 1944, this time serving Soviet military command. Besides repairing Soviet maritime and fluvial ships, the yard resumed the construction of several barges, tugs, and oil tankers.¹ This opened a new phase for the shipbuilding industry in Galați, marked by profound transformations in Romania's political, economic, and social realities following the country's alignment to the communist bloc.

The organisation of Romania's shipbuilding industry under communism

According to the economic agreements concluded with the USSR, several mixed industrial companies, called SovRoms, were established in occupied Romania, with the aim of managing the war reparations that the satellite state was to pay to its almighty liberator. In August 1945 SovRom Transport (SRT), a newly founded shipping company, contracted Galați Shipyard to build six Soviet-designed oil tankers of 2,000 tons, opening the stage in which the Romanian shipbuilding industry switched to Soviet standards. In May 1946 the yard was rented by SRT for thirty years, but the absence of raw materials, the insufficient supply of electricity, and the disastrous situation of staff resulted in the facility's working at about half its capacity.²

A new phase in Romania's economic history began on 11 June 1948 when the communist leadership nationalised the means of production, including

1 Maftai *et al.* (eds), *Șantierul naval Galați*, 45-50; Maftai, "Dezvoltarea industriei navale", 321.

2 Maftai *et al.* (eds), *Șantierul naval Galați*, 50-51; Maftai, "Dezvoltarea industriei navale", 322; balanced historical references to the SovRoms can be found in Moșneagu, *Politica navală postbelică a României*, 261-262, and Cîmpineanu, "Marina comercială română", 213-214.

all “individual enterprises, societies of any type and private industrial, bank, insurance, mining, transport, and telecommunication associations”. The shipyard in Galați was also nationalised, but it remained part of SRT, whereas several other shipbuilding enterprises in Romania worked under the co-ordination of the Ministry of Industry and Trade.³

Based on the doctrine that only larger plants could provide integrated and economically efficient production, similar enterprises were merged into giant industrial units. In 1950 the shipyard and the Navy Arsenal were merged, so as to allow a more systematic and cost-effective use of their industrial infrastructure. The military facility had better-equipped production workshops, but it lacked a proper slipway. The shipyard had modern workshops for building block sections, three good slipways (one of them made of concrete and provided with two electrical cranes of six-ton capacity), machines for working ferrous laminates, and so forth, so that the new unit could improve its productivity and fulfil the tasks assigned from the centre.⁴

In 1952 the shipyard withdrew from SovRom Transport and established a separate company, called SovRom Naval. This operated until 1954, when all mixed enterprises were disbanded, following a political agreement between Romania and the USSR. From that point onward, the shipbuilding industry was co-ordinated from Bucharest by the General Directorate of Industrial Equipment and Naval Constructions, a division within the Ministry of Machine Constructions Industry. A significant administrative change occurred in 1969, from which time Romania’s economic development was co-ordinated by several industrial centrals. Analogous to the production associations of other socialist countries, they were autonomous organisations, created by grouping several similar economic units, and controlled all activities within their fields of expertise. They could set up their own research institutes, supply and selling policies, maintenance and repairing facilities, educational institutions, etc., so as to maximise production by allowing a better division of investments and labour among the component units. The Industrial Central for Naval Constructions, later renamed the Naval Industrial Central, was established in Galați in 1969, and co-ordinated the activity of most shipyards and shipbuilding equipment plants in Romania until 1990. Although these centrals were theoretically created to decentralise planning, investment, and other forms of economic decision-making, their functions remained rather ambiguous and they enjoyed only limited autonomy, mainly in terms

3 Maftai *et al.* (eds), *Șantierul naval Galați*, 53; Maftai, “Dezvoltarea industriei navale”, 322.

4 Maftai *et al.* (eds), *Șantierul naval Galați*, 54; Lăcătuș, “Cercetare tehnologică pentru dezvoltarea Șantierului Naval Galați”, 8.

of monitoring plan fulfilment and of designating production schedules for the plants under their jurisdiction.⁵

On 25 November 1970, the communist leader Nicolae Ceaușescu announced a new programme for developing Romania's shipbuilding industry. Huge investments were directed in these decades towards all shipyards, which were entrusted with the patriotic task of building a national fluvial and maritime fleet, able to diminish the country's dependence on foreign transportation and to contribute to its exports and income of hard currency. An ambitious plan was drawn up, with a clear specialisation of each yard in a strongly centralised industry. The facility in Galați was to build maritime ships of 20,000-25,000 dwt and to gradually increase its capacity to vessels of 38,000-40,000 dwt. Similar duties were assigned to the shipyards in Constanța, Oltenița, Drobeta Turnu Severin, Brăila, Giurgiu, etc., and to the new facilities built from scratch at Tulcea, Mangalia, and Hârșova.⁶

During this period, naval design, research, and development activity was entrusted to several institutions. In 1951 the Institute of Naval Design (IPRONAV) was created in Bucharest, and worked until 1957, when it was dissolved following the decision to set up design sections in several major shipyards. However, in 1966, a new centralised institution was established in Galați, the Institute of Scientific Research and Technological Engineering for Naval Constructions (ICEPRONAV), which received the task of designing ships for the entire Romanian shipbuilding industry. It started with a workforce of 159 and by 1988 had reached 1,388 employees, among whom there were 406 engineers and 310 technicians and designers, most of whom had qualified in local educational institutions. They drafted more than 200 designs, used in Romanian shipyards for building, until 1990, a total of about 1,500 ships and other floating installations.⁷

Throughout the totalitarian era, Galați remained the centre of Romania's shipbuilding industry, supported by four main pillars created or developed in the Danubian port city by the communist leadership: the Naval Industrial Central – the administrative co-ordinating body; ICEPRONAV – responsible for design, research, and development activities; the university – entrusted with the creation of qualified human resources; and the shipyard – involved in the productive activity of constructing and repairing fluvial and maritime vessels.

5 Maftai, *Organizarea și conducerea producției în șantierele navale*, 14; Maftai, *Organizarea și conducerea șantiierelor navale*, 28-30. For general details on the functionality of Romanian centrals, see Bachman (ed.), *Romania*, 142-143.

6 Maftai *et al.* (eds), *Șantierul naval Galați*, 63-64.

7 Maftai, *ICEPRONAV Galați*, 24-34; Alexandru and Aburel, *ICEPRONAV Galați*, 27-28, 59.

Shipbuilding in Galați Shipyard

Starting with the complete overthrow of the democratic regime in 1947, the communist authorities imposed an ambitious programme of industrialisation, which was seen as a way of swiftly achieving both social homogeneity and harmonious economic development throughout the country. In its early phase, industrialisation closely followed the Soviet model, although a more nationalistic approach followed in the late 1950s, as political relations between Bucharest and Moscow gradually cooled. Large amounts of capital (about half of Romania's total investments) were directed towards developing industrial facilities, most of it (80 per cent) going to the heavy and machine construction industry, regarded as the foundation of further economic progress. Between 1950 and 1965 industrial output grew by 6.5 times and that of heavy industry 8.2 times, the share of machine construction industry increasing from 13.3 per cent to 21.2 per cent of the national economy. The pace of industrialisation speeded up following Nicolae Ceaușescu's accession to power in 1965 and the instigation of his policy of removing Soviet tutelage and of securing Romania's energetic and industrial independence.⁸ In order to maintain a rate of growth of more than 10 per cent a year, industry had to be further streamlined and modernised, a goal accomplished with Western funding, technology, and know-how, provided in the 1970s due to Ceaușescu's vocal anti-Soviet political line. This new programme was also related to the Soviet decision to curtail transfers of naval licences, forcing Romania to further invest in developing the national sector of shipbuilding.⁹

According to the initial plan for economic growth, specialised industrial cores were created in order to exploit strategic resources throughout Romania. Considering its geographical position on the maritime Danube and the existing industrial infrastructure, Galați was officially recognised as the centre of Romania's shipbuilding industry, receiving large capital expenditures for developing the productive capacity of the local shipyard.

The first phase of investment started in 1951, aiming to increase the yard's capacity to build maritime ships. The project, drafted by Centromor Proiect Design Institute in Odessa, stipulated that 90 per cent of activity should be directed to shipbuilding and 10 per cent to ship repair. Large amounts of capital were directed towards the acquisition of modern equipment and means of transport. New facilities were built, including a storehouse for

8 Ianoș *et al.*, "Characteristics of the Industrialization Process Around the Moment of Collapse of a Centralized Political System", 163-166.

9 Bachman, *Romania*, 287.

ferrous laminates (3,000 m²), a storehouse for finished goods, a hall for assembling and welding block sections (provided with cranes allowing the execution of sections up to 40 tons), a slipway for ships of 5,000 dwt, a workshop for mechanical, electrical, carpentry, painting, and tapestry works, a fitting-out quay (84 m, provided with a crane of 10 tons' capacity), etc. The shipyard acquired new machines, its total lifting and transport capacity (cranes and gantry cranes) increasing from 156.5 tons in 1950 to 253.5 tons in 1960. Advanced technologies were also introduced, such as electric welding (1950), semi-automatic and automatic welding (1952), modern cutting of sheets and profiles, a new sandblasting procedure, and so forth.¹⁰

During the 1950s, the shipyard built a total of 285 ships (Table 14.1), ranging from simple fishing boats to large barges and tankers. In the second part of the decade, a notable specialisation is obvious, allowing a quantitative increase in production (barges of 1,000 tons, ferry boats of 100 tons, motorboats of 200 tons, tugboats of 1,200 hp). However, the most important technical accomplishment was the construction of two cargo boats of 4,500 dwt, the first large maritime vessels completely designed and manufactured by Romanian specialists. The project for the cargo ship of 3,250/4,500 dwt was drafted by IPRONAV, but it was later adjusted to fit with the technical facilities of Galați Shipyard. The two ships were commenced in 1958, launched in 1959, and delivered in 1960, and their technical features (length – 100.6 m, breadth – 13.90 m, height – 8.10 m, draught – 6.58 m, weight – 2,000 tons) allowed them to carry general cargo, in pallets or bulk, except for heavy minerals.¹¹

In 1958, as the Romanian fleet needed larger ships, the Ministry of the Machine-Building Industry decided to increase the productive capacity of Galați Shipyard. As the existing slipway allowed the construction of vessels of a maximum of 5,000 dwt, the main priority was to erect a larger slipway. The technical survey, completed in 1960, proposed the construction of a new slipway, with a length of 170 m and a maximum breadth of 25 m, provided with cranes of 50 tons, capable of supporting ships of up to 18,000 dwt. Important expenditures were directed to extend the storehouse for ferrous laminates and the workshop for cutting sheets and profiles, as well as for enlarging the fitting-out quay from 84 m to 120 m (provided with a 15-ton

10 Maftai *et al.* (eds), *Șantierul naval Galați*, 67-68, 75-82; Lăcătuș, "Cercetare tehnologică. I", 11-14.

11 Lăcătuș, "Cercetare tehnologică. I", 9-10. For the cargo boat, see Palamiuc, *Nave românești pe meridianele globului*, 7, and the technical details in Alexandru and Aburel, *ICEPRONAV Galați*, 73.

Table 14.1 Shipbuilding in Galați, 1944-1960

No.	Type of ship	1944-50	1951-55	1956-60	Total
Non-propelled fluvial ships					
1	Ergo barge for the Danube	4	-	-	4
2	Barge, 1,000 tons	12	50	52	114
3	Tanker, 35 tons	-	-	1	1
4	Tanker, 600 tons	2	-	-	2
5	Tanker, 1,000 tons	2	-	-	2
6	Tanker, 2,000 tons	10	4	-	14
7	Ferry boat, 100 tons	-	31	13	44
8	Scow, 80 tons	9	5	-	14
9	Tiltable lighter	-	1	-	1
Self-propelled fluvial ships					
10	Motorboat, KD 35	-	-	11	11
11	Study motorboat, 150 hp	-	-	2	2
12	Tugboat, 160 hp	2	-	-	2
13	Tugboat, 200 hp	2	3	-	5
14	Tugboat, 400 hp	4	4	-	8
15	Tugboat, 2 X 300 hp	7	1	-	8
16	Motorboat, 2,000 tons	-	-	14	14
Technical ships					
17	Floating dock, 600 tons	1	-	-	1
18	Drill pontoon	-	1	-	1
19	Pumping station	-	1	-	1
Small maritime ships					
20	Wooden fishing boats	29	15	-	44
21	Metal fishing boats	-	22	-	22
22	Tugboats, 900 hp	-	-	2	2
23	Tugboats, 1,200 hp	-	10	25	35
24	Various ships (mine-sweeping vessels, etc.)	-	2	13	15
Large maritime ships					
25	Cargo boat, 4,500 dwt	-	-	2	2
TOTAL		84	150	135	369

Source: Lăcătuș, "Cercetare tehnologică. I", 9-10

capacity crane). A workshop for assembling and welding block sections, fitting-out workshops, two acetylene stations, and several other storehouses were also built from scratch.¹²

12 Maftai *et al.* (eds), *Șantierul naval Galați*, 69-70; Lăcătuș and Călina, "Cercetare tehnologică II", 17-22.

The number of cranes increased from twenty-six in 1950 to seventy-one in 1970, and the lifting capacity reached almost 1,000 tons. Raw materials and component parts were transported within the site with electro-cars, lifts, tractors, plant locomotives, trailers, and mechanised wagons (Table 14.2). The value of capital assets increased by 4.45 times during the period 1950-1972, and the number of machines and welders by 62.7 per cent. New technologies were implemented, such as oxy-fuel cutting, new sandblasting and passivation of sheets and profiles, welding in protected dioxide medium, argon arc welding, plasma welding and cutting, gravitational welding, air arc cutting, etc. Propellers and larger pieces of non-ferrous metal were manufactured in a new foundry, provided with modern technological aggregates and installations, the most important of which were ten crucible furnaces with a capacity of 2,500 kg each. Not least, the shipyard increased its capacity to build block sections of up to 100 tons.¹³

In order to outfit the new vessels with Romanian equipment, the Mechanical Plant in Galați changed its industrial profile in 1961 and became the Naval Mechanical Plant, specialising in manufacturing shipbuilding equipment such as a large diversity of deck mechanisms, winches, capstans, mechanic caps, electro pumps, armour, electrical boards, etc.¹⁴ It organised its production on the basis of orders coming from all Romanian shipyards, and in 1969 it was also subordinated to the Industrial Naval Central.

These investments, most of them completed by 1965, allowed a new increase in the quantity and quality of industrial output. The number of non-propelled simple ships greatly decreased (only nine such ships were completed), whereas the construction of maritime vessels entered a new phase. Thirty motor boats of 2,000 tons each were built for export to the Soviet Union, but most ships were delivered to Romania's navigation companies (Table 14.3). The most representative ship is the ore carrier of 12,500 dwt (maximum length – 151.5 m, maximum breadth – 19.7 m, height – 10.7 m, speed – 15 knots, five electro-hydraulic cranes of 5 tons each for loading and unloading cargo), which was built starting in 1965.¹⁵

During this stage, ship repair amounted to only 0.3 per cent of the shipyard's activity, which was even lower than the previous decade. The shipyard in Galați was the largest in Romania, contributing about a third of the country's shipbuilding industry. Its production increased by 2.3 times in

13 Maftai *et al.* (eds), *Șantierul naval Galați*, 69-82; Lăcătuș and Călina, "Cercetare tehnologică II", 22-23.

14 Maftai *et al.* (eds), *Șantierul naval Galați*, 57.

15 Lăcătuș and Călina, "Cercetare tehnologică II", 23-24.

Table 14.2 Technical facilities in Galați Shipyard, 1950-1970

	1950	1960	1970
Cranes and bridges (number)	26	32	71
Total lifting power (tons)	156,5	253,5	932,6
Machines and welding machines (number)	1,063	1,276	1,508
Total power (kw)	6,883	8,300	20,120
Electro-cars (number)	-	31	59

Source: Maftai et al. (eds), *Șantierul naval Galați*, 70; Lăcătuș and Călina, "Cercetare tehnologică II", 22-23

Table 14.3 Shipbuilding in Galați, 1961-1970

No.	Type of ship	1961-65	1966-70	Total
Non-propelled fluvial ships				
1	Barge for fruit, 1,000 tons	5	-	5
2	Barge block for fruit, 1,700 tons	4	-	4
Propelled fluvial ships				
3	Motorboat, 2,000 tons	30	-	30
Technical ships				
4	Floating pile hammer	2	-	2
5	Block for floating pile hammer	1	-	1
6	Floating pile hammer for the Iron Gates	2	-	2
Propelled maritime ships				
7	Cargo boat, 4,500 dwt, project 262	13	15	28
8	Cargo boat, 4,200 dwt, project 351	5	-	5
9	Cargo boat, 4,800 tons, project 382	-	2	2
10	Cargo boat, 3,400 tons, project 357	3	2	5
11	Timber cargo boat, 3,800 tons, project 450B	-	22	22
12	Ore carrier, 12,500 dwt, project 354	-	4	4
Total		65	45	110

Source: Lăcătuș and Călina, "Cercetare tehnologică II", 23

1970 as compared to 1965, more than the average growth rate of the national industry (1.75 times) and of the shipbuilding industry (2.0 times). If in 1965 the yard held 32 per cent of Romania's total ship production, it reached 37 per cent by 1970, as compared to 18 per cent for Oltenița, 12 per cent for Drobeta Turnu Severin, 10 per cent for Brăila, and 9 per cent for Constanța.¹⁶

Romania's shipbuilding exports increased by 2.57 times between 1965 and 1970, whereas the exports of the shipyard in Galați grew by only 1.99

16 Maftai et al. (eds), *Șantierul naval Galați*, 60-62.

times.¹⁷ Most products were exported to other member nations of the Council for Mutual Economic Assistance (COMECON) or to states from the Non-Aligned Movement: USSR, China, Poland, India, Vietnam, Bulgaria, Egypt, etc.¹⁸ In 1970, for example, more than 59 per cent of the production of the Galați Shipyard was exported to shipping corporations such as India Ltd Bombay, the Mogul Line Ltd Bombay, Naviera SA Panama, Merchant Marine Greece, Marine Société Anonyme Greece, Zim Israel, and Navigation Company Ltd Haifa.¹⁹ In 1971, a special company, called NAVIMPEX, was founded at Galați and was entrusted with the foreign trade of Romania's naval industry. It co-ordinated both the acquisition of the equipment that could not be domestically manufactured and the completion of the sale of ships constructed in Romanian shipyards.

In 1970, the State Planning Committee drafted the new five-year plan for the period 1971-1975, which required a growth of 2.5 times for the national shipbuilding industry. To accomplish this task, the Naval Industrial Central assigned Galați Shipyard the task of building ships of 40,000 dwt. This third phase of investment included the construction of a new storehouse of ferrous laminates, provided with all necessary transportation and lifting equipment, a new workhouse for cutting sheets and profiles, and a workhouse for assembling and welding larger block sections placed closer to the Danube slipway. However, the most important asset completed was a dry dock with a length of 235 m and a breadth of 35 m, allowing the building of ships of up to 60,000 dwt and having the capacity to operate with block sections of up to 300 tons. In the same time, until 1977, local engineers built from scratch a fitting-out quay of 180 m, provided with a crane of 40 tons and two mooring spots, a new basin, an assembling and welding workshop, an acetylene factory, fitting-out workshops, an open storehouse for large pieces, an oxygen factory, a compressed-air plant, a fuel storehouse, a steam power plant, and several other warehouses.²⁰ In 1976, a new industrial plant, INETOF, was founded in Galați, with the task of manufacturing propellers, steal and cast iron pieces, forged pieces, etc., which were either produced in Romanian shipyards with low productivity or were imported. In 1978 it delivered the first products, and by the late 1980s it had a workforce of about 1,100 employees.²¹

17 *Ibid.*, 61.

18 Nistor, "Romania's Participation in the Specialization and Cooperation on Production in the Shipbuilding Program of COMECON Member Nations".

19 The National Archives, Galați County, Șantierul Naval Galați, File 7/1971.

20 Lăcătuș and Aruscuței, "Cercetare tehnologică III", 36-40.

21 M.A.S., "INETOF, Mircea Roibu și elicele pentru nave realizate la Galați".

The most representative ships for this decade were the 7,500-dwt cargo boats, commenced in 1970 and delivered in 1972. With a length of 131 m, a breadth of 17.7 m, a draught of 8.10 m, and a speed of 16 knots, they were equipped with 6,100-hp engines manufactured in Poland under a licence from Sulzer. Thereafter, in order to decrease the importation of foreign technology, 6,000-hp engines were built in Romania at a factory located in Reșița, under a licence from MAN. Ro-Ro ships were built for Israel, and coal carriers were exported to India. Container ships were built after a design drafted in Norway, whereas a licence from the American Offshore Company based in Houston was used for building maritime drilling platforms. They were constructed to drill at a maximum depth of 94 m, with maximum wave height of 10 m and a wind speed of 185 km/hr, maximum load per each of the four feet – 2,300 tons, and length of feet – 121.9 m.²² The first installation, *Gloria*, started to drill in the Black Sea in September 1976, 72 miles off Romania's coast, at a depth of 65 m. Romania was thus one of only ten countries producing offshore oil-drilling rigs. In 1988 seven such platforms operated in the Black Sea under the supervision of Petromar Company.²³ The bulk carrier of 55,000 dwt (length – 220 m, breadth – 32.2 m, draught – 12.40 m, force – 17,400 hp, speed – 16 knots) was delivered to the Romanian fleet, as well as several complex refrigerated ships.²⁴ A total of 116 ships, among which 95 complex maritime vessels and 1 drilling platform were delivered in the golden decade of Galați Shipyard (Table 14.4).

A fourth phase of investment started in 1982, allowing a further increase in production. The most important developments were the construction of new fitting-out workshops closer to the dry dock, of new berths for ships, and of a workshop for sandblasting and painting block sections; the consolidation of the basin slipway so as support ships of up to 10,000 dwt; new storage areas; increased mechanisation; new equipment; etc. The proportion of ship repairing slightly increased, providing capital repair to the ships built in Galați. A new workshop, especially designed for ship repair, started work in 1980.²⁵

During this decade, production suffered greatly due to several problems Romania was facing as a result of Ceaușescu's decision to repay the entire foreign debt to the country's "imperialist" creditors. The need for hard

22 Lăcătuș and Aruscuței, "Cercetare tehnologică III", 40-42.

23 Details in Lăcătuș, "Epopeea construirii platformelor de foraj marin românești".

24 Lăcătuș and Aruscuței, "Cercetare tehnologică III", 41-42. Technical details of the Ro-Ro ships for the drilling platforms can be found in Alexandru and Aburel, *ICEPRONAV Galați*, 81, 104-105.

25 Lăcătuș and Popescu, "Cercetare tehnologică IV", 52-56.

Table 14.4 Shipbuilding in Galați, 1971-1980

No.	Type of ship	1971-75	1976-80	Total
1	Cargo boat, 4,800 dwt	17	-	17
2	Cargo boat, 7,500 dwt (slow engine, Sulzer)	11	-	11
3	Cargo boat, 8,700 dwt (slow engine, Sulzer)	1	15	16
4	Cargo boat, 8,700 dwt (semi-rapid engine, MAN)	-	9	9
5	Refrigerated cargo boat, 7,000 dwt	-	2	2
6	Port container cargo boat, 8,250 dwt	5	-	5
7	Multi-functional cargo boat, 15,000 dwt	4	4	8
8	Ore carrier, 12,500 dwt	4	-	4
9	Coal carrier, 15,000 dwt	10	-	10
10	Bulk carrier, 18,200 dwt	-	8	8
11	Bulk carrier, 55,000 dwt	-	3	3
12	Ro-Ro ship, 3,800 tons	2	-	2
13	Drilling platform	-	1	1
14	Dredging machine	-	20	20
	Total	54	62	116

Source: Lăcătuș and Aruscuței, "Cercetare tehnologică III", 41

Table 14.5 Shipbuilding in Galați, 1981-1990

No.	Type of ship	1981-85	1986-90	Total
1	Refrigerated cargo boat, 7,000 dwt	4	-	4
2	Cargo boat, 8,700 dwt	5	-	5
3	Multi-functional cargo boat, 15,000 dwt	2	4	6
4	Cargo boat, 15,000 dwt, Liner	8	-	8
5	Universal cargo boat, 15,000 dwt	-	9	9
7	Ro-Ro cargo boat, 3,800 dwt	4	-	4
8	Ro-Ro cargo boat, 4,000 dwt	8	-	8
9	Port container, 8,000 dwt	-	2	2
10	Bulk carrier, 55,000 dwt	2	-	2
11	Oil tanker, 10,000 dwt	-	1	1
12	Oil tanker, 39,000 dwt	-	2	2
13	Tugboat, 2 X 2,000 hp	3	1	4
14	Maritime drilling platform	4	2	6
15	Rock-cutting platform	1	-	1
16	Barge, 3,000 tons	10	-	10
17	Coastal ship, 300 dwt	10	-	10
	Total	61	21	82

Source: Lăcătuș and Popescu, "Cercetare tehnologică IV", 56-57

currency imposed a policy of extreme cutbacks on imports, and the building of all equipment was entrusted to Romanian factories. However, these products arrived late and their quality was usually unsatisfactory. In the same time, exports dwindled, as Romania lost several traditional clients, such as the USSR and China, and competition on the market sharpened.

In these years 82 ships were delivered (Table 14.5), the most representative of which is the cargo boat of 15,000 dwt. Multi-functional cargo boats (six ships), universal cargo boats (nine ships), and liner cargo boats (eight ships) were built along with other extremely complex ships (Ro-Ro, port containers, bulk carriers, oil tankers, refrigerated ships, offshore drilling platforms, etc.). In 1990 45 ships were under construction in the shipyard, in different phases of production.²⁶

Socio-economic working conditions of shipbuilders in Galați

Significant qualitative and quantitative changes were recorded in relation to the workforce employed in Galați Shipyard during communist times. In the early 1950s it had about 3,000 workers, and in 1964 the figure reached 3,762 employees, among whom there were 487 engineers and technicians, 71 foremen, 2,929 workers, 250 administrative staff, 74 guards and firefighters, and 22 janitors. Additional staff served at the canteen (21 persons) and the nursery. In 1971 the yard had 5,105 employees, with 4,419 people hired as workers (as opposed to managerial or administrative staff, for example).²⁷ In 1988, it counted 7,900 labourers, among whom 7,250 workers involved in production and 650 in the administrative staff.²⁸ Besides these, the shipbuilding industry in Galați included about 2,000 people employed at the Naval Mechanical Plant (1,259 employees in 1971 and 1,664 in 1975),²⁹ 1,100 working for INETOF and 1,300 for ICEPRONAV, amounting to a total of more than 12,000.

Available sources do not allow us to differentiate between male and female employees. However, under communism women were highly encouraged to work in industrial plants, as the regime needed their labour, but traditional social and educational patterns allowed them to occupy only inferior positions in those industries favoured by the regime. In a list of

26 *Ibid.*, 56-58.

27 The National Archives, Galați County, Șantierul Naval Galați, File 12/1971, f. 103.

28 Maftei, *Organizarea și conducerea șantierelor navale*, 328.

29 The National Archives, Galați County, Șantierul Naval Galați, File 12/1971, f. 327.

those who worked in Galați Shipyard, only 5 women out of a total of about 100 people are mentioned as having occupied top management positions.³⁰ However, 53 per cent of the employees of ICEPRONAV were women.³¹

The socialist salary system was introduced in Romania in February 1949. Wages were increased regularly, according to the party's directives, with a new unique tariff settled at the level of the national economy, stressing the accomplishment of planned norms and giving bonuses for extra labour. In 1964 the average annual salary in Romania was 11,500 lei (about USD \$760 at an average exchange parity of 15 lei for USD \$1), and in the shipyard it was 13,667 lei for workers, 21,652 lei for engineers, 22,957 lei for foremen, 12,356 lei for clerks, 8,897 lei for firefighters, and 8,109 lei for janitors. Workers from the capital repairs sections had an average salary of 9,785 lei a year, whereas canteen personnel earned 8,273 lei and nursery staff 7,800 lei a year. As it is clearly visible, the leadership encouraged productive professions, which were better paid according to state policy.³²

The work schedule remained strenuous throughout the period, with an average of 48 hours per week, not including unpaid "patriotic labour". Of the nominal salary 80 per cent was paid regardless of performance, and the remaining 20 per cent was dependent on the individual's productivity. However, in 1983 Ceaușescu abolished fixed wages in favour of a policy that tied workers' income directly to plan fulfilment by the enterprise.³³

The new technical equipment and procedures induced a notable shift in working professions. About 120 engineers were employed in the shipyard in the early 1970s, but new professions also appeared that had been completely unknown before, such as welders, electricians, electronicians, electro-technicians, refrigerationists, etc. Thus, it was decisive to also invest in getting human resources trained and qualified. The need to train engineers for the shipbuilding industry led the authorities to establish in Galați, in 1951, a Mechanic Naval Institute, divided into two faculties – the Faculty of Naval Construction and the Faculty of Ship and Port Exploitation. The first had two specialisations, body construction and construction of ship machinery and deck instruments, which remained unique in Romania throughout this period. In 1971 a group of junior shipbuilding engineers was also created, with two sections: body construction and ships' mechanism assembling. In the same period, starting with the academic year 1972/73,

30 Lăcătuș, "Personalități din cadrul Șantierului Naval din Galați".

31 Alexandru and Aburel, *ICEPRONAV Galați*, 50-51.

32 The National Archives, Galați County, Șantierul Naval Galați, File 8/1965, ff. 1-10.

33 Bachman, *Romania*, 159-160.

a section in welding technology was established. During this period more than 1,000 shipbuilding engineers graduated from this Polytechnic Institute (now the University of Galați) and were employed throughout Romania.³⁴

The same need for qualified workers resulted in 1955 in the creation of a school of foremen within the shipyard, which schooled specialists for all Romanian shipyards. In 1956 a post-high school specialisation was also founded. All these professional schools were merged in 1962 with the A.I. Cuza High School, qualifying labourers for the professions of tabulators, naval builders, electricians, etc. Within a decade, between 1963 and 1972, it schooled 1,690 workers who were deployed in shipyards around Romania. Two other high schools in Galați, the Machine Constructions High School and the High School for Naval Transport also provided technical education for shipbuilders. The school of foremen trained for the shipyard in Galați, during the period 1962-1972, a total of 147 foremen in the following specialisations: boiler forges and welding, ships' ironware, naval buildings, welding, metal splintering, etc.³⁵

The shipyard also educated its own apprentices, so that between 1948 and 1960 the professional school trained 1,622 linesmen, shipbuilders, adjusters, mechanics, assemblers, carpenters, etc. Over the course of a decade, about 850 workers qualified as apprentices and studied at a school near the shipyard. In 1966 it also had an industrial school for machine building, which trained qualified labourers and technicians for three professions: ship construction, technology of machine construction, and machine and electrical fittings. In the 1970s the shipyard co-ordinated the technical activity in several secondary and high schools in Galați: the A.I. Cuza High School, the Industrial School for Machine Construction, a secondary school in Galați, and one in a small village called Vânători, by investing in building and equipping the schools' workshops and employing most of the graduates.³⁶

The communist leadership invested heavily in providing social facilities to workers. The shipyard was endowed with a medical section (1950), reorganised in 1955 when a small hospital with fifty beds for internal diseases and a polyclinic were created. The employees were served their meals in a canteen with a capacity of 500, extended in the 1980s, when it could no longer cope with the demand. Families with children were supported by a new nursery for children aged between 4 months and 3 years old, most of

34 Brezeanu, *Universitatea din Galați*, 41-85.

35 Maftai *et al.* (eds), *Șantierul naval Galați*, 69, 100-101.

36 *Ibid.*, 100-102.

the monthly expenses being covered by the shipyard. In the early 1970s it had eighteen employees, among whom were twelve nurses.³⁷

During the 1950s, the shipyard was the largest industrial plant in Galați, but the city's position on the Danube and the need for steel to develop the national industry led the central authorities to start the construction (1962) of the largest industrial establishment in communist Romania, the Sidex steel plant, which also provided sheet and ferrous laminates for the shipbuilding industry. With huge investment in the heavy and machine construction industry, Galați emerged in the 1960s as one of the fastest-growing municipalities of Romania. Population spiked, and from 80,411 in 1948 it grew to 151,412 in 1966 and 307,376 in 1989. This completely changed the architecture of the city, whole quarters of blocks of flats being built from scratch. This marked urbanisation was not a simple consequence of forced industrialisation, being centrally directed by the communist authorities under the guiding influence of Marxist concepts. Urbanisation was decisive in the creation of a new socialist society, in which urban areas were considered economically, socially, and culturally superior. Cities swelled from migration of workers from the rural areas, so that the industrial plants needed to provide housing for their employees. In 1953, the Galați Shipyard built three blocks with fifty-eight flats each, and in the following years thirty-two more flats. In 1969 it established a hostel for bachelor employees, with 300 beds in 79 rooms, 2 more such constructions being finished in the next decade.³⁸

Throughout this period, the authorities also invested in “building” the new man, who was to be educated according to communist ideology. Work was a respected method of education, and labour was regarded as a way in which respectable citizens served and showed devotion to the party and the country. Labour had to endow employees with the highest moral qualities, to make them militant activists, capable of defending their social class and the entire nation against all domestic and foreign enemies. Workers had to be disciplined, to obey the commandments of their leaders, and to contribute their best to the welfare of the socialist state. But they were not human machines that only produced material goods, so they also received a literary, artistic, and sporting education to make them worthy members of the community.³⁹

37 “Din activitatea creșei de copii SNG”, *Șantierul Roșu*, 17 October 1972; Maftai *et al.* (eds), *Șantierul naval Galați*, 152-154.

38 Maftai *et al.* (eds), *Șantierul naval Galați*, 154.

39 Dascălu, “Modelul ‘Omului nou’ în ideologiile totalitare din România secolului XX”, 41-42.

Propaganda was an important part of the shipbuilders' professional life. All employees had to join artistic and cultural organisations and take part in social activities in their free time, closely organised by the trade union and the local branches of the Communist Party, activities that served the double goals of indoctrination and surveillance. In Galați Shipyard propaganda was co-ordinated until the mid-1970s by means of a bi-monthly organ called *Șantierul Roșu* (The Red Shipyard). It published in 3,500 copies per issue, enough for a copy for each employee. The journal shared all kinds of information, from technical data to columns devoted to the political and moral values of the working class. It commended diligent labourers, preached working discipline, and strongly criticised those employees who did not fulfil their material, social, or moral obligations towards the factory, their colleagues, their families, or the country's leaders. Men who divorced their wives were cited as bad social examples,⁴⁰ and the validity of the proverb "like father, like son" was demonstrated by the low school performance of children whose parents were not diligent workers.⁴¹

Another means of propaganda was the loudspeaker system, which broadcast a large variety of programmes, from those popularising technical or literary books to those related to the need to respect the work schedule. Employees who arrived late at work or spent too much time in the canteen during the lunch break were publicly criticised.⁴² Not least of all, wall gazettes presented the activity of each workshop, and provided details on competitions for increasing production.⁴³

Propaganda lectures were periodically organised in the shipyard, with courses on the new directives of the party, but also on the political values of the "new man". An Evening University of Marxism-Leninism educated the participants in the values of socialist doctrine. However, propagandists and lecturers complained of poor attendance. In January 1967, 72 per cent of the students attended these courses, with only 50 per cent attendance at the course on "Problems of Industrial Economy". A "working university"

40 "Un 'flăcău' la 40 de ani", *Șantierul Roșu*, 15 May 1967.

41 "Educarea copiilor – preocupare de seamă a fiecărui comunist, a întregii organizații", *Șantierul Roșu*, 1 April 1970.

42 "De ce mai sunt carențe în activitatea stației de amplificare", *Șantierul Roșu*, 1 April 1967; "Stația de radioamplificarea SNG transmite", *Șantierul Roșu*, 15 May 1972.

43 "Gazetele de perete – mijloc eficient în munca educativă cu oamenii", *Șantierul Roșu*, 15 April 1970; "Concursul gazetelor de perete", *Șantierul Roșu*, 1 May 1972; "Gazetele de perete în concurs", *Șantierul Roșu*, 17 October 1972.

also offered courses in legislation and geography, with 120 people enrolled to attend.⁴⁴

Technical propaganda, defined “as the popularisation and spread by mass actions of the new conquests in science and technology, of advanced working procedures and exercises, of the elite workers’ activity in the socialist competition”, was organised by conferences, lectures, and scientific symposia. Regular meetings were scheduled among workers in different sections, with, for instance, mechanics debating the necessity of accomplishing their working plan and of showing discipline and seriousness in their productive activities.⁴⁵

In the same time, employees were included in different forms of cultural, social, and sporting activities. The shipyard’s library included 9,180 volumes in 1950 and almost 30,000 in the early 1970s, including both technical books and general literature. According to official statistics (most probably rigged), 80 per cent of workers borrowed and read books in 1966, with an annual average of sixteen literary and two technical books per employee.⁴⁶

In 1957 the shipyard established a sporting association called Ancora (The Anchor), with 3,000 members involved in mass sport and 190 in official competitions. In the 1970s it had eight sections: canoeing-kayaking, rugby, football, volleyball, handball, table tennis, chess, and orienteering.⁴⁷ Sporting competitions were organised in the workers’ free time; Spartakiada followed the Soviet model, the hero being embodied by a slave, a true social model. During the national communist phase, the leadership organised the Daciada, preaching the qualities of the Romanians’ brave forerunners, the ancient Dacians.

There were also artistic troops of folk and modern dance, theatre, music, and so forth, with about 100 amateur artists involved in these activities. Artistic performances in each workshop were adapted to serving propaganda needs. Two of the shows presented in 1967 were called “Competition Is in Full Swing” and “We Are the Youth Brigade”, and they referred to model workers, preaching respect and good organisation of production. A new show was entitled “A Good Day Starts in the Morning”, which was conceived

44 Lucreția Maftai and Ion Palamiuc, “Conținutul corespunde cerințelor. Notă slabă frecvenței și muncii unor propagandiști. Carențe la capitolul: însușirea problemelor”, *Șantierul Roșu*, 16 February 1967; “La universitatea muncitorească tematica a fost judicios întocmită. De ce nu s-a respectat? Frecvența slabă. Uneori sub 25%”, *Șantierul Roșu*, 1 April 1967.

45 “Ridicarea continuă a calității personalului”, *Șantierul Roșu*, 16 January 1967.

46 “Propaganda tehnică în șantier”, *Șantierul Roșu*; Maftai *et al.* (eds), *Șantierul naval Galați*, 155-156.

47 Maftai *et al.* (eds), *Șantierul naval Galați*, 160-162.

as “a lyrical incursion into how working time is used”.⁴⁸ In the same time, a literary club, called Nicolae Labiș, was founded in 1961, with poems preaching the productive activity of the shipyard, of the party leaders, and of the country. The following lines (literally translated, without respecting rhyme and measure) are extracted from a poem devoted by a local planner to his beloved shipyard, a good example of proletarian culture encouraged by the regime:⁴⁹

The Danube godfathered it at its baptism
 And people brought it up and made it great,
 Its name has ever since appeared in all chronicles,
 Written in our pure alphabet in golden letters
 That stand all storms: GALAȚI SHIPYARD.
 I see the Danube at a twilight hour and a new song
 Caresse the shipyard with every new wave
 And the yard kisses back the old river
 And lays in Danube's arms a charming cargo boat.

By 1989, almost all Romanian workers belonged to trade unions, which were organs for worker representation in name only. In fact labour unions were completely controlled by the party and acted as transmission belts carrying directives from the central administration to the rank and file. Workers had to join unions to receive social welfare and several other benefits, as they were responsible for distributing flats, for subsidising holiday permits to Romanian resorts, and for providing financial support in times of need (when children were born or close relatives died). In 1971 workers' councils were established in all economic enterprises, allegedly to involve workers in economic decision-making, but in reality to shore up support for the regime. However, the employees' interest in such organisations remained limited, as they were dominated by the same diligent activists.⁵⁰

The Union of Communist Youth (UCY) had the same structure as the Communist Party and was both a youth political party and a mass organisation. Membership was open to those between the ages of 15 and 26, and employees over 18 could also become members of the party. Its mission was to educate young people in the spirit of communism and mobilise

48 “Activitate rodnică a brigăzii artistice de agitație din atelierul strungărie”, *Șantierul Roșu*, 15 May 1967; Maftei *et al.* (eds), *Șantierul naval Galați*, 156-159.

49 Jan Parfeni, “Șantierul Naval”, *Șantierul Roșu*, 3 March 1973.

50 Bachman, *Romania*, 100-101.

them for building a socialist society.⁵¹ It organised political and patriotic courses in schools and factories, but also had regular meetings to analyse social behaviour and to condemn those workers accused of immoral attitudes. A certain Ion Oprea was publicly admonished for his deeds (theft and drunkenness), but also for his lack of interest in reading the shipyard's newspaper and in improving his working capacities, because he was smug and disrespectful with his elders.⁵² A list of the activities UCY held in September 1973 is illustrative of the organisation's role: 200 young workers did patriotic labour cleaning a street in Galați; on a free Sunday 235 youngsters worked to dehusk seventy tons of corn in a neighbouring village; forty people made a trip to a resort in the Carpathians; 600 men were trained to fire weapons in the compulsory lessons for defending the country; and the UCY members collected 150 tons of waste iron.⁵³

Conclusions

After four decades of continuous transformation and four phases of investment, the balance sheet for the local shipbuilding industry indicated a marked quantitative increase. Under the co-ordination of the Naval Industrial Central, 2,281 ships amounting to 6,191,000 dwt were built in Romanian shipyard between 1971 and 1988, almost twenty times more than the displacement of the vessels constructed in the previous two decades. Of these ships, 90 per cent were Romanian-designed projects drafted by ICEPRONAV Galați and were fitted with engines, naval equipment, electrical cables, and radio-navigation equipment manufactured in the country. About 12,000 employees worked in Galați in the naval industry, with about 8,000 in Galați Shipyard, about 2.5 times more than in the early 1950s. Engineers were trained in a naval engineering department within the local university, with about 1,000 graduates in these four decades. The shipyard had three modern production lines, two with side launch facilities and a dry dock, in which about 500 ships were built throughout this period.

However, things were not as good in terms of quality. Many components manufactured in Romania lacked the proper quality, delivery times were hardly respected, and acquisitions of foreign technologies and equipment

51 *Ibid.*, 220-221.

52 "UTC-iștii nu l-au iertat pe tovarășul Ion Oprea", *Șantierul Roșu*, 16 February 1967; "În contradicție cu etica. Bun e vinul ghiurghiuliu", *Șantierul Roșu*, 1 February 1969.

53 "Acțiuni inițiate de UTC din SNG", *Șantierul Roșu*, 3 October 1972.

were blocked due to the lack of hard currency. In the last years of the totalitarian regime, production visibly dwindled, a trend confirmed after 1990. The first effects of the transition to a private economy and to a free market were quickly apparent, as the shipyard lost its main clients, the shipping companies of the Romanian state, which no longer had capital to pay for the contracted ships. In a difficult market, the yard survived by building ship bodies for Western contractors, and was finally privatised in 1999, when 99 per cent of the shares were bought by the Holland Damen Shipyards Group. However, the number of employees continuously decreased, with only about 2,000 workers left in the shipyard and about 2,000 more people in outsourcing companies. In a post-communist country still in transition towards economic and political stability, the current decline in heavy and machine construction industry, accentuated by the financial crisis of the past five years, is rendered even more painful by a concomitant growth of nostalgia after the golden times of the industrial boom.

The Americas and Australia

15 Charting a new course

US shipbuilding labour, 1950-2014

Robin Dearmon Muhammad

Introduction

This chapter explores the trajectory of United States shipbuilding in the second half of the twentieth century and the impact of the declining US shipbuilding industry on shipyard workers. During this period US industrial workers faced many challenges as urban deindustrialisation led to wage stagnation and accelerated unemployment. However, US shipyard workers who remained employed were also among the highest-paid industrial workers in the country. As US shipbuilding declined, the role of the US government and specifically the US Maritime Administration (MARAD) became increasingly important as private ship production of large merchant ships rapidly diminished by the end of the twentieth century. For the shipyard workers who remained on the job, the increased dependence on naval contracts meant comparatively stable wages, but at the expense of shrinking employment. Moreover, labour legislation in the late twentieth century extended protections and forms of redress to US shipyard and other industrial workers, but such protective labour policies proved inadequate for many who worked in welding and other shipyard trades. Understanding how and why US shipbuilding shifted from supporting both private and naval production to an almost exclusive focus on naval ships will demonstrate the transformation of the US shipyard worker during the late twentieth century.

Maritime subsidies and national defence

As with other shipbuilding nations in the late twentieth century, the United States government grappled with how to compete in world trade and maintain national security. Historically US shipyards were either private enterprises or naval yards, but by the early twentieth century this division of production was beginning to blur. The First World War was a watershed moment for US shipbuilding, paving the way for subsidies to shipbuilders in times of war and peace. To meet wartime demand the US Navy built and

repaired vessels as well as contracting to private shipbuilders for partial or complete production of cargo and strategic ships.¹ Furthermore, to maintain both a merchant and naval fleet the US government passed the Merchant Marine Act of 1920 (known as the Jones Act) to authorise shipbuilding subsidies and to require US ships only on domestic shipping routes.² Protectionist policies covering US shipbuilding are deemed appropriate by the US public, politicians, and labour to maintain an advantageous position in the world market and to secure a regular and reliable naval fleet for national defence.³

Although business subsidies appeared to be an anathema to US politics, the US Maritime Commission used competitive tendering for government contracts as a means to avoid high costs to taxpayers. Cost-cutting in this manner was not successful, although the subsidisation system continued to be refined. Under the Merchant Marine Act of 1936, cost-plus contracts (as they were called) allowed shipbuilders to capture up to 10 per cent of the contract price. Cost-plus contracts were intended to provide an incentive to private shipbuilding while giving the navy control over design and production.⁴ During the Second World War, however, there were several attempts to curb costs and this cost-effectiveness goal persisted in the post-war period. Studies of the Second World War production of cargo and

1 For the American shipbuilding effort in the First World War, see Kelly and Allen, *The Shipbuilding Industry*, Hutchins, "History and Development of the Shipbuilding Industry in the United States", Powell, "Labor in Shipbuilding", Mattox, *Building the Emergency Fleet*, and Hurley, *The New Merchant Marine* and *The Bridge to France*. For the Second World War, see Lane, *Ships for Victory*. See also Lindberg and Todd, *Anglo-American Shipbuilding in World War II*. For the US relationship with the sea generally, see Labaree *et al.*, *America and the Sea*. During the First World War, the US Emergency Fleet Corporation yards output peaked in 1919, and the last ships were delivered in 1921. Of a total of 1,409 ships built between 1916 and 1921, 1,033 were delivered after the war ended. In 1921 the Emergency shipyards were closed down. Thereafter, naval work and ship repair kept a nucleus of private yards in business during the interwar period, see Murphy, "The British Shipbuilding Industry During the Great War", 63. Such was the glut of American-built ships after 1918 that it inhibited US domestic shipbuilding for most of the 1920s and 1930s; some two-thirds of steel ships built rusted laid up. See Hutchins, "History and Development of the Shipbuilding Industry in the United States", 55.

2 The Merchant Marine Act of 1920 is a federal law which provides for the promotion and maintenance of the US merchant marine. *Inter alia*, the act regulates maritime commerce in US territorial waters and between US ports. Section 27 of the Jones Act deals with cabotage (coastal shipping) and requires that all goods transported by water between US ports be carried on US-flagged ships, built in the United States, owned by US citizens, and crewed by US citizens and US permanent residents. The Jones Act is applicable along the Atlantic, Gulf, and Pacific Coasts, down the St Lawrence Seaway, and between the East and West Coasts via the Panama Canal. The act also applies to Alaska, Hawaii, Puerto Rico, and Guam.

3 Whitehurst, *The US Shipbuilding Industry, Past, Present and Future*, 26-27.

4 Lane, *Ships for Victory*, 101-104.

strategic vessels reveal that 41 per cent of the costs were attributed to labour, and another 41 per cent of more than USD \$14 bn in costs arose from the cost of materials.⁵

Although unique in many respects, US shipyard production must be seen within an international exchange of technologies. US shipbuilding has shared aspects with other national shipbuilding industries. During both world wars, US shipyards borrowed designs from other countries and produced emergency ships in what became associated with the American method of assembly-line production. During the Second World War, the basis of the American Liberty-ship programme was a modified British design by J.L. Thompson of Sunderland.⁶ In addition some sixty Ocean-class cargo vessels were built in US shipyards to the Thompson design during 1941-1942.⁷ After 1945, the San Francisco Bay Area defence industries closed and left behind empty industrial plants, shipyards, and temporary wartime housing. This was particularly true of "Emergency shipyards" built primarily to construct cargo vessels, many of which were located there.⁸ Emergency shipyards were hastily erected along the waterfront and competed with the more established shipyards for labour, resources, and government contracts.

After the Second World War, the contracting system remained competitive in theory, but the financing incorporated by subsidies and loans was administered by MARAD. In addition, Titles 5 and 6 of the Merchant Marine Act of 1936 allowed for a construction differential subsidy (CDS)

5 *Ibid.*, 819-822.

6 For the Liberty Ship programme, see Sawyer and Mitchell, *The Liberty Ships*, and Elphick, *Liberty*.

7 The Ocean-class ships were built in two new shipyards under the aegis of Todd Shipbuilding Corporation at Portland, Maine, and Richmond, California. Both were owned by the British government, which sold them in 1943 to the United States Maritime Commission. See Johnman and Murphy, *British Shipbuilding and the State Since 1918*, 63, 85. See also Johnman and Murphy, "The British Merchant Mission in the United States and British Merchant Shipbuilding during the Second World War".

8 Richmond was particularly congested; the Kaiser Corporation built four Emergency shipyards there, while Marinship was located across the Bay in Marin County, and Moore Dry Dock in Oakland. Prior to the war, Richmond had a population of 24,000; by 1945 the population had increased to over 100,000. The rapid increase in population led to increased expenditure, overcrowded schools, barrack-like public housing, overloaded sewerage, high crime, increased traffic, and a city administration unable to keep pace with the demand for social services. See "Richmond Took a Beating", *Fortune*, February 1945, 262-264. See also seven oral testimonies on Richmond during the Second World War, "On the Waterfront: An Oral History of Richmond, California", held at the Regional Oral History Office, The Bancroft Library, University of California, Berkeley. For Marinship, see Finnie, *Marinship*, and for Kaiser, see Adams, *Mr Kaiser Goes to Washington*.

Table 15.1 Ship Production in U.S. Shipyards, 1950-2004

Year	Merchant	Tonnage	Naval	Tonnage
	Ships	000gt	ships	000 LD
1950	26	415	0	0
1960	25	404	12	39
1970	13	370	32	166
1980	23	788	19	102
1990	0	0	14	102
2000	1	7	8	124
2004	2	243	4	142

Sources: MARAD (U.S. Maritime Administration); MARAD ceased publication of its Annual Survey of Shipyards in 2004, <http://www.shipbuildinghistory.com/today/statistics/deliver2.htm>

by which the shipbuilder was subsidised between one-third and one-half of the differences between the costs of producing a given ship in a foreign shipyard in comparison to one in the United States.⁹

The decline in the post-war merchant fleet signalled a new era for US shipbuilding in which the historical connection between the US merchant marine being an auxiliary to naval defence was steadily being severed. Although subsidies continued throughout the post-war period; these subsidies could not prevent the eventual decline of US shipbuilding. As a counter-cyclical corrective, naval contracts remained relatively stable with increased production during the Korean and Vietnam Wars.¹⁰

Shipyard processes elsewhere required workers to work in groups of two or more trades embracing a flexible approach to work organisation. However, post-war market patterns of demand were not conducive to the use of the assembly-line approach and standardisation of product developed during the First and Second World Wars in US Emergency shipyards, and, like the Emergency shipyards of the First World War, their counterparts in the Second World War went the same way. For the most part the long-established private US shipbuilders did not alter the layout of their shipyards after 1950. Other international shipbuilders modernised their shipyards to facilitate production flow and standardisation in the post-1945 period.¹¹

9 Gibson and Donovan, *Abandoned Ocean*, 138-142.

10 *Ibid.*, 197-203.

11 A good example is the American shipowner Daniel Ludwig, who took over the lease of the former Kure naval yard in Japan and formed National Bulk Carriers utilising production methods of the US War Emergency Shipbuilding Programme. His production methods were not lost on other Japanese shipbuilders, and by 1956 Japan had overtaken Britain as the world's premier

Table 15.2 Privately Owned U.S. Merchant Fleet, 1950-1999 (vessels of at least 1000 gross register tons)

Year	No. of Ships	Gross tons (000)	DWT tons (000)
1950	1,087	8,795	13,195
1960	1,003	9,491	13,898
1970	793	9,782	14,404
1980	578	13,467	21,103
1990	406	13,085	20,529
1999	281	9,544	13,213

Sources: MARAD (U.S. Maritime Administration); <http://www.shipbuildinghistory.com/today/statistics/totalfleet.htm>

Undercutting production was the decline in the numbers of privately owned tonnage.

Cycles of shipbuilding boom and bust were not new to the shipyard workers of the late twentieth century. However, after the Second World War a number of factors contributed to a declining shipyard workforce and an undermining of traditional working-class communities in many US port cities. By 1946, it was clear that there was a huge amount of excess capacity relative to normal peacetime demand in US shipbuilding. By March 1946, 171 large naval warships ordered had been cancelled.¹² Emergency wartime shipyards were closed and, by 1947, the US government had sold off much of its surplus wartime tonnage to private American buyers or Allied governments under the Ship Sales Act of 1946,¹³ and laid up a huge amount of merchant and naval tonnage as a National Defense Reserve Fleet (NRDF), administered by MARAD. In 1947, US merchant shipbuilding output was 54 per cent below that of the previous year, and by 1955 output had plummeted to a paltry 119,000 grt. Employment, primarily due to naval construction and repair, stood at 77,867 at the beginning of 1949, not far off the 1939 total of 80,100, but had dropped to 72,000 by 1950 as the last of wartime naval tonnage was completed. During the 1950s and 1960s, as it had done after the First World War, the United States reverted to a relatively high-cost shipbuilding industry and, as it had been during the interwar

shipbuilder – a position it retained for the rest of the century. See Davies, “The Role of National Bulk Carriers and the Advance of Shipbuilding Technology in Post-War Japan”.

12 Todd and Lindberg, *Anglo-American Shipbuilding*, 200.

13 By some estimates, more than 2,000 vessels were sold under this process by 1949. See Gibson and Donovan, *Abandoned Ocean*, 170.

period, it basically became a ward of state – the mercantile side dependent on constructing Jones Act tonnage, and the naval and larger mixed naval and commercial yards dependent on warship construction for the US Navy. Employment and production increased as a result of the Korean War, but many of the vessels used in that conflict were reactivated from the NRDF. Other factors impinging on US shipbuilding demand were that, unlike Europe and other economies dependent on maritime trade for food imports, the United States has remained more self-reliant in agricultural production. Consequently, US trade routes did not expand as widely as in other countries. Perhaps a larger barrier has been labour costs, tax laws, and restrictive maritime legislation (Jones Act) encouraging US owners to register their ships outside the USA.¹⁴

After the Korean War, the USA retained the world's largest navy, and naval construction, not least for power projection and Cold War realities, remained steady with short-lived spikes in output during the Vietnam War. In the naval-only yards from 1952 to 1972, ninety-two new ships were built, ranging from aircraft carriers to landing craft, and wartime cruisers were converted into guided missile destroyers. However, by 1972 new construction in naval-only yards had ceased, as Daniel Todd and Michael Lindberg noted, to preserve private naval-shipbuilding capacity and not least because ships built in naval yards cost 30 per cent more than those built in commercial mixed naval and mercantile yards.¹⁵

The 1980s witnessed two major changes in governmental policy applied to US shipbuilding. First, federal subsidies were terminated and, second, defence spending increased significantly for nearly a decade.¹⁶ From 1981 onwards, President Ronald Reagan – a committed advocate of free markets and laissez-faire economics – promoted a 600-ship navy policy which ensured continued naval construction. Moreover, the increasing dependence

14 Stopford, *Maritime Economics*, 144-145, 152-157, 157-158. Registration of a ship under a particular national flag requires the shipowner to comply with the national law of the registering country. Consequently, the registered ship becomes "an extension of national territory while it is in international waters". The modern practice of flagging ships in foreign countries began in the 1920s in the United States when shipowners frustrated by increased regulation and rising labour costs began to register their ships to Panama. The use of open registries steadily increased, and in 1968, Liberia surpassed the United Kingdom as the world's largest shipping register. At 2010^{update}, more than half of the world's merchant ships were registered with open registries, and Panamanian-, Liberian-, and Marshall Islands-flagged ships accounted for almost 40 per cent of the entire world fleet, by deadweight tonnage.

15 Todd and Lindberg, *Anglo-American Shipbuilding*, 202.

16 John J. Stocker, President of the Shipbuilders Council of America, Statement to US Coast Guard's Plan to Improve Deepwater Accountability, 21 March 1991.

Table 15.3 Output Value in U.S. Shipbuilding and Repairing, 1960-2010

Year	Total Value of shipments (000'USD)	Value Added as % of Total
1960	1,461	59%
1970	2,682	60%
1980	9,268	58%
1990	10,856	59%
2000	11,380	56%
2010	22,132	66%

Sources: Bureau of Census; <http://shipbuildinghistory.com/today/statistics/bocsales.htm>

of US shipbuilders on government contracts was brought into sharp focus with the ending by the Reagan administration in 1981 of the Construction Differential Subsidy Program (CDS). Prior to this, the US shipbuilding industry had delivered, on average, around twenty ships per annum since 1955. The CDS was a programme whereby the US government attempted to offset the higher shipbuilding cost in the United States by paying up to 50 per cent of the difference between cost of US and non-US construction. The difference went to the US shipyard.¹⁷ The CDS was unfunded after 1982, when no new funds were requested, and has remained dormant since then. However, there was almost USD \$50 mn available in carry-over funding for extant contracts and a temporary one-year building subsidy was given to US owners building abroad.¹⁸ As a result commercial shipbuilding in US shipyards was dealt a near-fatal body blow, and those yards which survived became largely dependent on government naval contracts. Prior to this, commercial shipbuilding contracts under Jones Act provisions accounted for about two-thirds of the total US shipbuilding workload from 1973 to 1978. By this stage the naval market had begun to pick up, and by the end of the decade US shipyards employed around 180,000 people on the Atlantic, Pacific, and Gulf coasts and on the Great Lakes. This high dependency on

17 The CDS was legislatively enshrined in the 1936 Merchant Marine Act, Title V. For a succinct description of CDS, see Caras, "US Maritime Administration Financing Procedures Available for New Ship Construction".

18 Forty-three container ships were built in the USA up to 2010 – thirty-one with CDS, twelve without. The first was *American Lancer* for US Lines, built by Sun Shipbuilding, Chester, Pennsylvania, 1968, 22,225 dwt. Sun built five of these vessels for US Lines from 1968-69. The last built with CDS was the *President Monroe*, built in 1983 by the Avondale Shipbuilding, Bridge City, Louisiana, 32,000 dwt. The last built without CDS was *Muanalei*, 30,00 dwt built by Aker Philadelphia in 2006. See <http://www.shipbuildinghistory.com> (accessed 1 July 2014).

naval contracts led to around 40,000 jobs being lost in the commercial shipbuilding sector in the 1980s. Indeed, for the majority of the 1980s the United States had hardly any commercial ships on order or under construction, and in 1988 it registered, rather ignominiously, given its heritage, a 0 per cent share of the world commercial shipbuilding market – a situation which continued to 1991.

American shipbuilding unions

Shipyard workers, welders, riveters, ship fitters, and others organised throughout the late nineteenth and early twentieth centuries to encourage both private and government investment in order to expand union membership. They remain among the most organised industrial workers in North America. By the 1950s there were several trade unions in the US shipyards, including the International Association of Machinists (IAM), the United Electrical Workers (UE), and the largest trade union for shipyard workers, the International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers (IBB).¹⁹

From the 1930s US shipyard workers were covered by labour legislation and governmental policies seeking to protect the workers' right to organise. In addition, unions supported the extension of Roosevelt's New Deal labour laws well into the second half of the twentieth century. Consequently many workers' unions pursued legislative means of redress for disputes over wages and working conditions that could not be settled through the normal negotiations with shipyard owners. Historically, most of the skilled positions in US shipbuilding, such as boilermakers and ships' fitters were almost exclusively held by male Caucasians, who were highly unionised, particularly in the Bay Area of San Francisco. Immigrants and other workers of colour were largely relegated to non-union and unskilled positions. This position altered during the two world wars but did not fundamentally change in their aftermath.²⁰

19 Dubofsky and McCartin (eds), *American Labor: A Documentary Collection*. For the IBB, founded in 1893, see their official history, *Grace Under Pressure*.

20 Included in the non-white category of workers were Filipinos, Portuguese, Mexicans, South Americans, and Chinese. See Archibald, *Wartime Shipyard*, 100-109. Archibald, a sociologist, worked at Moore Dry Dock in Oakland, California, during the war. By 1940 most African-American shipyard workers remained concentrated in Southern and mid-Atlantic shipyards, and by March 1943 they comprised 8.4 per cent of all shipyard workers. In the First World War,

Table 15.4 Employment in U.S. Shipbuilding and Repairing: 1950-2010

Year	Numbers employed
1950	72,000
1960	112,000
1970	133,000
1980	178,000
1990	130,300
2000	95,100
2010	96,900

Sources: MARAD Bureau of Labor Statistics (SIC 3731); <http://www.shipbuildinghistory.com/today/statistics/jobs/htm>

During the Second World War US industrial workers transferred to shipyard and other defence industries to meet the demand for skilled labour. This was a consistent national pattern with the exception of the less-industrialised West Coast where most of the shipyard labour demand had to be met by workers from non-manufacturing industries and by women. African-American shipyard workers, particularly in the San Francisco Bay Area, had historically used the shipbuilding and maritime industries to launch labour and civil rights campaigns. Nevertheless, entering skilled positions required them to challenge both unions and shipbuilding employers on racial and gender exclusion.²¹

After 1945, shipyard closures swept through many parts of the United States. In south-eastern and Gulf Coast shipbuilding centres such as Newport News and New Orleans, shipyard workers experienced high unemployment, but not as high as in the Bay Area of San Francisco, the home of many war Emergency shipyards primarily building cargo vessels. Even repair work, which had enabled the IBB to retain their hold on shipbuilding, had receded by the 1950s as the naval and merchant marine demanded fewer cargo vessels and warships. Post-war reconversion became synonymous with a reversal of fortunes for shipbuilding and workers alike, sharing many features with what we now associate with globalisation,

the corresponding figure was approximately 10 per cent. See Rubin, *The Negro in the Shipbuilding Industry*, 37-43.

21 For female participation, see, for example, Archibald, *Wartime Shipyard*, Kessleman, *Fleeting Opportunities*, Gregory, *Women in Defense Work during World War II*, and Anderson, *Wartime Women*. The only comparable British study is Murphy, "From the Crinoline to the Boilersuit". For early twentieth-century African-American labour struggles along the Bay Area waterfront, see DearmonJenkins, "Linking Up the Golden Gate".

employment instability, and outsourcing of industries and undermining labour organisations.²²

The International Association of Machinists (IAM) and the IBB, both members of the larger organisation the American Federation of Labor (AFL) adopted the No-Strike Pledge for the duration of the Second World War. Although there were wildcat strikes called despite the pledge, most shipyard workers did not strike. The IAM became more prominent in airplane production while the IBB dominated shipbuilding. The IBB, in particular, received congressional support in the form of the Frey Amendment whereby they were given almost exclusive rights to organise shipyards on the West Coast.²³

During the 1950s the IBB remained a dominant union in many shipyards but as closures continued and merchant shipbuilding began to decline, shipyard workers in the IBB began to see signs of dwindling membership. The 1950s also witnessed a purging of radical labour organising in a variety of unions. Long-standing conflicts with another national labour organisation, the Congress of Industrial Organizations (CIO), had taken its toll on both organisations. When the AFL and CIO merged in 1955 to form the AFL-CIO, national labour leaders campaigned more directly with Congress for legislative change. Shipyard workers in some instances felt that the effort to increase membership and to protest against shipyard closures was diminished. Indeed, the merger did not translate into sustained membership in Southern port cities, where most of the remaining shipyards remained open.²⁴

To avoid labour problems many shipbuilders looked for more favourable policies for US ships while shipping companies often hired ships under foreign flags, thereby stimulating shipbuilding in countries outside North America. Subsidies in peacetime were not common in US maritime history. However US shipbuilders that formed joint partnerships with the state often shared a pattern of investment with other countries where subsidies were more common. The concept of a “eurocracy” might have encouraged co-operation among European shipbuilding nations but the United States remained aloof to further co-operation. The post-war years encouraged a brief period of international co-operation among shipbuilders. The Treaty of Rome (1957) further encouraged co-operation, especially within Europe. By the 1970s, however, the West European focus was to press back against

22 Wollenberg, *Marinship at War*, 83; “Outlook for Employment in the Shipbuilding Industry”.

23 Zieger, *The CIO, 1935-1955*, 170-174.

24 *Ibid.*, 367-369; Lichtenstein, *Labor's War at Home*, 244-245.

Japanese competition. But a succession of world economic crises knocked all parties back into a nationalist orientation.²⁵

Whether or not collaboration could be found, all shipbuilding countries witnessed technological advances in shipbuilding, particularly in the military sphere. Nuclear submarines were a case in point, their construction and fitting-out involving a wide range of industries.²⁶ Gaining from wartime experience, welding techniques had also improved. Faster and better welding techniques improved productivity. There was an increasing demand for larger ships, particularly bulk carriers and tankers to reap economies of scale, making many older and smaller vessels obsolete. The implications of ageing ships vary with different market demands. US shipbuilding advanced with new technological designs. As Martin Stopford explains, merchant ships deteriorate over time, causing a reduction in their market value. Once the market value drops below the scrap value, the ship is likely to be scrapped. New technology or operating economics can accelerate the ship's obsolescence, as was the case in 1973-1974 when rising oil prices made turbine tankers technically obsolete owing to their high fuel consumption.²⁷ Merchant ships take several years to build and have a physical life of fifteen to thirty years.²⁸

After the Suez Canal closure of 1967 and thereafter, the demand for ever-larger tanker and other bulk vessels grew, to carry more goods and fuel around the continent of Africa via the Cape of Good Hope, thereby bypassing the trade route through the canal and the Mediterranean. Building ships that could hold containers to be transported to truck or rail cars shifted the emphasis away from building and maintaining merchant fleets. One container ship could replace several cargo vessels and facilitate the transportation of many different types of dry break-bulk cargoes.²⁹ During the 1960s, despite periodic passage of new shipbuilding subsidies, US merchant shipping was wilting under competition from non-US flagged vessels, which were appearing in increasing numbers to meet commercial demand. Naval

25 Stråth, *The Politics of De-Industrialisation*, 207-223.

26 For this, see Weir, *Forged in War*.

27 Stopford, *Maritime Economics*, 40-41.

28 *Ibid.*, 72.

29 The United States is generally credited with the rise of containerisation through the Matson Shipping Line and the "father of containerisation", the Scots-American trucker Malcolm McLean, who acquired thirty-seven wartime C-2 cargo vessels in 1955 and began a roll-on-roll-off container service linked to road and rail transport, giving rise to intermodalism of sea and land transportation. In 1969, McLean's Sealand company ordered an entirely new fleet of eight container ships from West German and Dutch shipyards. For containerisation in general, see Broeze, *The Globalisation of the Oceans*, Levinson, *The Box*, and Cudahy, *Box Boats*.

shipbuilding became the steady and growing focus of US shipbuilding from this point forward.³⁰ US commercial shipbuilding remained a relatively high-cost enterprise. Japanese shipyard workers did not earn as much as US shipyard workers but their shipbuilding industry was more productive and efficient.³¹ Moreover, by the 1990s the cost of building a ship in the United States was double the cost anywhere else. Petitioning the US government, shipbuilders claimed that foreign subsidies to foreign shipbuilders made fair competition impossible. The Federal Trade Commission (FTC) in the United States investigated the shipbuilders' claims and found that even the elimination of foreign subsidies would offer little benefit to US shipyards.³² Beforehand, Japan moved ahead with integrated production methodologies – using robotics to streamline shipyard processes³³ – and Japanese shipbuilders maintained strong ties with specific shipping lines.³⁴

The greatest challenge came to US workers affected by mergers and shut-downs. Growing production paralleled a growing body of workers directly involved in shipbuilding. In 1950, there were 72,800 workers in US shipyards but that number had more than doubled by 1981 to 186,700. Following this zenith of shipyard employment, the 1990s witnessed a steady decline until a levelling off in 2004 of 97,800 shipbuilding workers. The 1990s also marked a decline in naval employment. By the eve of the twenty-first century, the US Navy had reduced the number of its aircraft carriers from 15 to 11, and the number of nuclear submarines from 100 to 75. The civilian employment was also reduced by half during this period in the naval shipyards.³⁵ Earlier, at the Fore River yard in Quincy, Massachusetts, which closed in the 1980s, there was a campaign to reopen the yard under workers' ownership.³⁶ Worker-ownership programmes also occurred during this period while maritime unions fought American ownership of foreign-flag shipping.³⁷ Aaron Schneider's work suggests that traditional methods of shipyard labour organising gave way to more community-oriented strategies. In the past, US shipyard workers had poured their energies into unionisation. Before the Second World War, shipyard unionisation relied on racial exclusion and limited labour legislation. The Second World War ushered in a period

30 Latorre, "US Shipbuilding Potential in the World Market", 248-249.

31 Gibson and Donovan, *Abandoned Ocean*, 269.

32 *Ibid.*, 270.

33 Stopford, *Maritime Economics*, 293.

34 *Ibid.*, 295.

35 Riposo *et al.*, *US Navy Shipyards*, 13.

36 Palmer, *Organizing the Shipyards*, 245.

37 Gibson and Donovan, *Abandoned Ocean*, 232.

Table 15.5 Hourly Wages in U.S. Shipbuilding and Repairing, 1970-2004

Year	Wages in USD
1970	3.96
1975	5.47
1980	8.56
1985	11.42
1990	11.83
1995	14.12
2000	15.88
2004	18.46

Sources: MARAD (U.S. Maritime Administration); [http://shipbuildinghistory.com/today/statistics/\\$perhour.htm](http://shipbuildinghistory.com/today/statistics/$perhour.htm).

2004 is the last available year for hourly wage statistics.

of greater labour legislation protecting the rights of shipyard workers and others. Schneider explains that port cities were able to thrive so long as trade and industry grew. However, New Orleans needed governmental intervention. “The first half of the twentieth century,” he writes, “saw limited diversification, and it was federal infrastructure investment of the New Deal and World War II stimulus that boosted military-industrial production around the middle of the century.”³⁸ During the 1990s, US shipyard workers faced an uncertain future. The shipyard workforce was divided between those who struggled to keep shipyards open and those who were embedded, in many ways, in the military-industrial complex.

In 1993 the IBB was voted in as the shipbuilding industry union of choice. However, the Avondale shipyard owners filed objections with the National Labor Relations Board (NLRB). Litigation dragged on for four years until the NLRB certified the union, but the Avondale owners protested and filed suit in federal court.³⁹ Wages had risen steadily, if not spectacularly.

Open registries were debated among the US shipbuilding community but ultimately were defeated. US shipping companies by law must build US ships to fly under the US flag. With that requirement come additional restrictions on maritime labour (not shipyard labour) and taxation.⁴⁰ Some attempts have been made to chip away at, even abolish, the Jones Act. For example, by the end of the 1990s several US congressional attempts had

38 Schneider, “Dualist Development, Globalized Growth, Segmented Labor Markets, and Community-Based Resistance”, 48.

39 US Congressional Record, Senate, S7090, 19 June 1999.

40 Gibson and Donovan, *Abandoned Ocean*, 225-229.

been made to pass a federal law that would roll back the Jones Act.⁴¹ These attempts were ultimately unsuccessful.

During the 1980s and 1990s US shipyard workers consequently witnessed a decline in naval contracts and the highest number of shipyard closures since the end of the Second World War.⁴² Employment was maintained in the major shipyards through a series of corporate takeovers. By 2000 (notwithstanding the myriad small-ship and boatbuilding companies and a small number of medium-sized companies, comprising the US shipbuilding and repair industry) around 10 per cent of firms accounted for 85 per cent of the business.⁴³ The six largest companies are often referred to as the “Big Six.” They represent two-thirds of the overall US shipbuilding/repair business and 90 per cent of naval construction work. These six shipyards are now owned by just two companies: General Dynamics owns Electric Boat at Groton, Connecticut, Bath Iron Works at Bath, Maine, and National Steel and Shipbuilding Co., on San Diego Bay, the largest shipyard on the West Coast; Huntington Ingalls Industries owns the largest US shipyard, Newport News Shipbuilding at Newport News, Virginia, Ingalls at Pascagoula, Mississippi, and Avondale at Bridge City, Louisiana. Collectively, they now employ approximately some 60,000 workers, nearly two-thirds of those employed in the industry.⁴⁴ US shipbuilding is no longer a national industry as it had been in the past, and it largely relies on government contracts and subsidies to survive.

Conclusion

By the end of the twentieth century US shipbuilding faced many of the same problems that had bedevilled it from 1945 onwards. Despite building some of the most sophisticated warships in the world in naval and commercial shipyards, the mercantile side of the industry hardly made a dent in the export market for ships, concentrating instead on protected Jones Act construction.⁴⁵ High labour costs and low productivity in American yards

41 US Congressional Record, Senate, 1999 S. 1032; 106 S. 1032.

42 Lovett, “Realistic Maritime Renewal”, 312-313.

43 At May 2013, there were 117 shipyards in the United States, spread across 26 states, that were classified as active shipbuilders. In addition, there are more than 200 shipyards engaged in ship repairs or capable of building ships but not actively engaged in shipbuilding: MARAD, “The Economic Importance of the US Shipbuilding and Repairing Industry”.

44 This figure is gleaned from the individual company websites (accessed 9 July 2014).

45 This chapter does not cover public naval yards owned by the US government. After 1945 there were eleven naval yards, but by 2000 the number had been reduced to just four. One of

ceded the building of large merchant vessels to other countries, particularly to East Asia. Despite a union presence in politics, most of the campaigns to end the Jones Act came from agricultural interests rather than industrial groups. Why would shipyard unions or shipbuilding firms, for that matter, eschew a protective blanket, which would at least assure a minimum of orders to what remains of the domestic industry?

Throughout the period under discussion, the merchant fleet continued to lose ground, and defence contracts were not numerous enough to keep more than a few yards in business. That closures of yards occurred and mergers of others consolidated production in fewer producers was inevitable. Throughout this process, commercial shipyard labour unions developed new strategies, including promoting construction for internal waterways and coastal tourism. Shipyard communities faced with closures emerged at the forefront of urban economic sustainability campaigns. However, naval work mostly sustains the ageing shipyard workforce on the East Coast, with those yards specialising in nuclear attack submarines, aircraft carriers, and guided missile destroyer work sustaining most of the high-end technical workforce in US shipbuilding. The domestic and geo-strategic demands of US maritime and naval policy, particularly the latter, ensure a core naval construction capability in US shipyards in future. However, even in this sphere, further consolidation of the major yards and its subsequent effects on employment cannot be ruled out, given that on average ten naval vessels have been completed annually from 1990 to 2013. On the mercantile side, the industry's export performance (the acid test of international competitiveness) has been lamentable. An annual average of six ships of over 1,000 grt completed from 1990 to 2013 is indicative of why US mercantile shipbuilding is statistically insignificant in world terms today.

the four naval yards closed in the 1990s; the Philadelphia Naval yard closed in 1996, but reverted to being a private shipyard, Kvaerner Philadelphia, in 1997. The Norwegian-based company secured funds from the city of Philadelphia, the Commonwealth of Pennsylvania, and the US government to rebuild the shipyard, and in 2000 it began to construct ships there under Jones Act provisions. The Kvaerner group imploded in 2005, and in that year another Norwegian company, Aker took over the yard. The yard has an orderbook stretching into 2018, and has built a series of four container ships and fourteen product tankers for American owners, such as the Matson Line.

16 The Argentinean shipbuilding industry

Workers' struggles in a state shipyard

Cintia Russo

Introduction

The aim of this chapter is to analyse the trajectory and survival of one of the oldest and largest ship repair yards in Argentina – Talleres Dársena Norte (also known as TANDANOR, and today known as Complejo industrial naval argentino, CINAR).

I will also identify and analyse stages in the history of the Argentine shipbuilding industry (ASI) to provide context to the two Argentinean shipyards studied in this book. In this sense, I highlight the role played in this path by two social actors, the state and trade unions: the former is a key factor in the trajectory of the ASI, and the struggles of the latter have achieved the shipyard's survival.¹

Founded in 1879, TANDANOR was originally established for the maintenance of the Argentinean naval fleet. TANANDOR/CINAR, with a history of more than a century, has acquired, in the past twenty years, a symbolic status as one of the oldest shipyards in Argentina, and the first to be privatised in 1991, then managed by its workers for nearly a decade, and finally renationalised in 2007. TANDANOR is a representative example of the peaks and troughs of the Argentinean economy.

¹ The sources used in these pages are: statistics (national, provincial, and chambers of commerce), institutional documents, and reports and balance sheets of TANDANOR and the trade associations: the Federation of Industry Naval Argentina (FINA), the Association of Buenos Aires shipbuilding (ABIN). For the diagnosis and proposals of the shipbuilding trade unions, I privileged two sources: key informant interviews and the local press.

The shipbuilding industry in Argentina

There are three key periods in the ASI's history during the past fifty years: the first covers nearly three decades, from the 1960s to the 1980s, the second the decade of the 1990s, and the last from 2002-2003 to date.

The first period corresponds to the import-substitution industrialisation period: this period was specifically characterised by the expansion of the industry supported by protectionist policies, investment in equipment, and technological modernisation.² According to the economic objectives of the First Five-Year Plan (1947-1951) of the Peron government, the industrialisation effort was related to the needs and concerns of military defence. The Second Five Year Plan (1952-1957) was explicit about the need to provide military equipment to support the decision "to constitute a free and sovereign nation". Astilleros y Fábricas Navales del Estado (AFNE-ARS) was formed in 1953 under this plan, near the Naval Base Rio Santiago, with the explicit mission of ensuring that the shipbuilding industry existed "to strengthen defence and economic independence".³

The engine of economic growth during the import-substitution industrialisation period was an active state (as regulator, producer, client, planner, and funds provider).⁴ Through a set of regulations and subsidies the state in its role as producer created shipyards for shipbuilding and repair that explained, in large part, the national shipbuilding industry; among the most important were: Astillero Rio Santiago (AFNE-ARS), the leader in building large vessels; and TANDANOR and Taller de Reparaciones Navales (TARENA), both for ship repair.⁵

During the import-substitution industrialisation period, state-owned shipping companies were the most important source of demand for ships, the driving force behind the activities of both public and private shipyards. The state-owned companies and agencies were: the Argentinean navy, Yacimientos Petrolíferos Fiscales (YPF), Yacimientos Carboníferos Fiscales (YCF), Empresa Flota Fluvial del Estado Argentino (EFFEA), and Empresa Líneas Marítimas Argentinas (ELMA).⁶ Also, during this phase, technical and professional skills were developed and nurtured, which improved the

2 Decree-Law 10267/53, 15 June 1953 (created by AFNE); see Kosacoff (ed.), *El desempeño industrial argentino más allá de la sustitución de importaciones*, and López, "Una puesta en perspectiva de la industrialización sustitutiva de importaciones".

3 Decree-Law 10267/53, 15 June 1953 (created by AFNE).

4 See Bellini, *Stato e industria nelle economie contemporanee*.

5 See Calá *et al.*, *La industria naval argentina*.

6 See Ugalde, *Las empresas públicas en la argentina*.

performance of the ASI in the long run. AFNE, TANDANOR, Alianza, Astarsa, Puerto Belgrano, and Arsenal Naval Zárate created technical schools for training the labour force, which generated a positive spill-over for the rest of the regional industry. AFNE, as the leading shipyard in technical studies for the industry, developed a significant capability in local design engineering, contributing personnel to the wider economy.⁷

From the late 1950s, as a funds provider, the state improved financing mechanisms managed by the Banco Industrial of the time. In the early 1960s, the Merchant Marine Fund (MMF) was created for financing public and private shipyards, with money acquired from a levy of about 12 per cent of the value of freight.⁸ In addition, the MMF provided loans and subsidies to public and private shipyards to acquire and build merchant ships, or to modernise shipyards.

In the 1960s the federal government approved a plan to renovate and expand the shipping fleet of state-owned companies.⁹ In 1969, the Cargo Preference Act established that imports and exports had to be transported in Argentinean-flagged vessels.¹⁰ In this regulatory regime, the merchant navy and the state-owned shipyards were two sides of the same coin. On one hand, ELMA assured participation in foreign trade freight and, on the other, merchant navy ships became one of the main drivers of demand for big yards. Until the 1980s, ELMA was the main shipping line of the country, with 25 per cent of the national fleet, followed by YPF with 15 per cent.¹¹

Consequences of orthodox policies

Decree-Law 2687/93 states:

To dissolve the Merchant Marine Fund [...] that is the intention of the state reforms [...] to leave the field of private functions that do not specifically concern the state. The public sphere should not interfere with free supply and demand, or hinder increased supply and transport services.¹²

7 See González Climent, *Historia de la industria naval argentina*.

8 Decree-Law 6677/63, 19 August 1963, National Merchant Marine, Creation of the Merchant Marine Fund.

9 Decree-Law 15761/60, 30 September 1960 (ELMA, YPF, etc.).

10 Cargo Preference Act 18250/1969, Transport in National Flag Vessels.

11 CEP, *La industria naval en la Argentina*, 17..

12 Decree-Law 2687/93, 28 December 1993, Dissolution of Merchant Marine Fund.

In the 1990s, Argentina's neo-liberal policies were enthusiastically implemented, and had an adverse effect on the maritime sector. The reforms were combined as follows: privatisation of state-owned companies that supplied goods and services, market deregulation (regulatory framework reconfiguration), and commercial liberalisation.¹³ The deregulation and denationalisation applied also had an effect on transport because of the privatisation of state-owned shipping companies, the repeal of the cargo-preference policy, and the assignment to private owners, mainly through international investments, of the infrastructure and port management.¹⁴ The three large state-owned shipyards still operating until the 1980s – ARS, TANDANOR, and Domecq García – were declared subject to privatisation: TANDANOR was privatised in 1991; Domecq García was liquidated and closed in 1994; and ARS avoided privatisation by being transferred in 1993 from the federal government to the government of the province of Buenos Aires.¹⁵

The state intervened to dismantle, piece by piece, the institutional setting of the import-substitution industrialisation period. This process began with Decree-Law 1772/1991, which allowed the registration of owners of other countries, and which led to the widespread use of flags of convenience.¹⁶ Foreign ships enjoyed, then, the right to be considered national-flagged carriers. In turn, the Domestic Trade Deregulation Act¹⁷ annulled the Cargo Preference Act 18250/69, arguing that, as cited above, “the public sphere should not interfere with free supply and demand, or hinder increased supply and transport services”. Moreover, Decree-Law 1493/1992 allowed foreign vessels bareboat charter for all kinds of activities for a period of three years, including the right to appoint the master and crew.¹⁸

The institutional framework of the import-substitution industrialisation period that sustained the ASI for three decades was destroyed in each of its key strategies, namely: the annulment of laws and decrees through the enactment of legislation based on the neo-liberal paradigm, the privatisation and closure of public enterprises (YPF, YCF, etc.), and the dismantling of the national merchant navy and funding mechanisms. ELMA was dismantled in 1997,¹⁹ and the MMF was dissolved in 1993.²⁰ This marked a turning

13 See Azpiazu and Basualdo, *Las privatizaciones en la argentina*.

14 Decree-Law 24045, 4 December 1991, Privatisation of Entities of the Ministry of Defence.

15 Decree-Law 1787/93, 26 August 1993, AFNE SA, Transfer to the Province of Buenos Aires.

16 Decree-Law 1772, 3 September 1991, Merchant Marine.

17 Decree-Law 2284/91, 1 November 1991, Deregulation of Domestic and Foreign Trade.

18 Decree-Law 1493/92, 24 August 1992, Registration of Foreign Naval Vessels and Artifacts.

19 Decree-Law 343/97, 16 April 1997, Fluvial Maritime Transport.

20 Decree-Law 2687/93, 28 December 1993, Dissolution of Merchant Marine Fund.

point, the beginning of the decline that led to the cessation of activities of some state and private shipyards. The consequences of these policies were the reduction in supply of domestic shipyards, and the contraction of the Argentinean merchant navy. In summary, in 2005, only 0.9 per cent of the sea freight foreign trade was of national origin.²¹

The ASI operated on a consistent basis between 1974 and 1985 (in the number of facilities and employment level); however, between 1985 and 1994, there was a clear downturn characterised by significant declines in the number of facilities and workers. In all, twenty-five shipyards were closed, shipbuilding suppliers almost disappeared, and an estimated 30,000 people directly and indirectly employed in the sector lost their jobs.²²

From 1991 to 2009 there was a significant drop in the index of physical volume of production, followed by a slow recovery in 2002, a period known as “post-convertibility”. But it was only in 2007 that this index returned to 1997 levels, which, in turn, represented only 22.4 per cent of 1991 values.²³ Productivity evolution shows the same trend, whether by per person employed or per hour worked. In 2009 the two indices reached 57 per cent and 54 per cent less than in 1997. Generally speaking, production levels and productivity rates showed a clear decline from 1995 to 2002, when the situation changed and there was a slight growth. Decree-Law 1010/2004 states:

Considering [...] that is urgent to reorganise trade and navigation, considering the interest of the national treasury [...] to preserve the national cabotage services and allow this activity to be conducted by Argentine companies.

The hegemonic policies of the 1990s began to change with the new federal administration in 2003, whose objective was the recovery of economic activity. In large part, the regulatory and institutional framework was reformulated; consequently, the measures taken in recent years have tended to partly offset the effects of adjustment. One such example is Decree-Law 1010/2004 for the shipbuilding industry, in which the rationale for repealing some of the previous rules is stated as being in order to “provide the necessary conditions to substantially increase the supply of Argentine

21 CEP, *La industria naval en la Argentina*, 17.

22 Eng. Podetti, Board member of Federación de la Industria Naval Argentina (FINA), interviewed 25 October 2011. According to the National Economic Census of 1985, direct jobs in the shipbuilding industry amounted to 10,200 (Censo Nacional Económico, 1985, INDEC).

23 CEP, *Fichas sectoriales: estructura y evolución 1991-2012*.

shipowners, reducing operating costs and allowing them to reach proficiency levels that the market demands”,²⁴

Under Decree-Law 1010/2004, foreign-flag ships rented through the import regime were forced to re-register as national-flag ships. At the same time a special regime was established for the import of supplies and manufactured ship parts, in order to build and repair ships in the country. Two other measures influenced the sector’s reactivation: a special fund created for financing shipbuilding in national shipyards, and a national Ministry of Labour programme called “Más y Mejor Empleo” (More and Better Jobs) to train the workforce.

In the face of the shipbuilding recession of the 1990s, state-owned shipyards restructured their activities and turned to ship repair, while others cut down on their operations or simply closed down. The ASI today operates at 60 per cent of installed capacity, with productivity 40 per cent lower than the world average, largely because there has been no significant investment in capital goods and new technologies in the past thirty years.²⁵ As for the origin of inputs in the domestic shipbuilding industry, in the 1970s about 60 per cent were national; in 2010 this figure was 35 per cent.²⁶

Since 2004, increasing levels of foreign trade have improved maritime transport business opportunities and, indirectly, shipbuilding as well. Currency devaluation and the accumulated productive experience of surviving shipyards are the cornerstones of the sector’s reactivation. However, this process faces some major obstacles: irregularity of orders for shipbuilding, financial shortcomings, and high levels of unused capacity, infrequent technological updates, and an inadequately skilled workforce. The dismantling of state-owned companies during the 1990s eradicated domestic demand for vessels, and today local shipyards basically work on foreign orders.

Almost 90 per cent of the capacity of the ASI (the major shipyards and shipbuilding suppliers and service companies involved in the sector) is provided by: Astillero Río Santiago (ARS, 1953), TANDANOR/CINAR (1879/2007), Shipyards Corrientes (1958), Astillero Punta Alvear (2009), Mestrina (1960), Tecnao (1978), SPI-ALNAVI (2009), SPI-API (2004), Servicios portuarios integrado SA, (Spisa, 1976), Coserena (1980), and Astillero Federico Contessi

24 “This decree establishes the treatment of national flags and foreign flags under the temporary import regime by Argentine owners [...] Moreover, it is only allowed the import of those inputs, parts and/or components that are not produced in the Mercosur”: Decree-Law 1010/2004.

25 Eng. Podetti, interviewed 25 October 2011.

26 José Carlos Pietranera. Eng. Naval, former president of TANDANOR and Astillero Río Santiago, interviewed 25 July 2010.

(1949).²⁷ The main activity of the two state-owned shipyards, ARS and CINAR, is the construction and repair of large vessels. The rest of the shipyards mainly construct and repair fishing boats and river barges; out of these private shipyards, only three have been created since 2004.²⁸ In 2013 there were nearly 9,000 workers, technicians, and professionals directly employed in the shipbuilding industry in Argentina.²⁹ Of this total, 3,500 employees belonged to Astillero Rio Santiago, ARS, and 1,300 belonged to the Complejo Naval industrial argentino, CINAR; these two public shipyards represent more than half of the employment in Argentine shipbuilding sector.

Although the ASI was favoured by the set of new laws and policies implemented since 2004, it cannot overlook that the recovery of a capital goods industry is a long-term process. To some extent, this recovery is unlikely if not co-ordinated with the rest of the national productive structure, access to credit, and the creation of institutional conditions for continued employment and the best use of human resources.

The workers and the survival of the state-owned shipyards³⁰

The survival of state-owned shipyards in Argentina through the years of neo-liberal experiment can be explained by the conjunction, sometimes

27 In terms of location, 80 per cent of the ASI production capacity and institutional conditions (shipyards, supply companies for the shipbuilding industry, infrastructure, financing, and training institutions) is concentrated in Buenos Aires province. The three main zones in this province are Mar del Plata (fishing vessels), Tigre (pleasure craft), and the Southern Metropolitan Region of Buenos Aires. The latter area has the largest capacity in building and repairing large vessels, mainly represented by two state-owned companies, ARS and TANDANOR/CINAR. The concentration of capacity of the domestic shipbuilding industry suggests some characteristics of industrial districts, an attribute that could play a significant role in the region and the ASI in the medium term.

28 Servicios portuarios integrados SA (Spisa) (ALNAVI-2009, located in Campana, Buenos Aires province) specialises in river barges, and Astilleros patagonicos integrados (SPI-API, 2004, in Caleta Paula, Santa Cruz province) has the capacity to build and repair vessels up to 800 tons. Ultrapetrol Company opened in 2009, in the province of Santa Fe, Astillero Punta Alvear, to build barges in series.

29 Figure courtesy of Jorge Moreno, general secretary of the union Sindicato de Trabajadores de Talleres y Astilleros Navales (SITTAN) (1990-2009). Today he is a representative of the workers' ownership in the company directorate of TANDANOR; interviewed 7 August 2013.

30 The most important Argentinean maritime trade unions include: Sindicato Argentino de Obreros Navales y Servicios de la Industria Naval de la República Argentina (SOINRA), Federación marítima, portuaria y de la industria naval de la Republica argentina, Sindicato Argentino de Obreros Navales (SAON); Sindicato Obreros de la Industria Naval (SOIN); Asociación de Trabajadores del Estado (ATE); and SITTAN.

contradictory, of a set of elements, namely: the participation of the shipbuilding unions; the workers' actions of resistance that strongly confronted the hegemonic project through union struggles to keep the shipyards running; and the workers' organised resistance to privatisation, which was strengthened by regional and social movements (supported by a nationalist and industrialist ideology). In addition, I include the resistance of the managers in charge of the public shipyards and those responsible for the strategic needs of the Argentinean navy, whose interests seem to have played in favour of resisting privatisation.³¹

At the end of the crisis of 2001, the consensus among the shipbuilding unions considered the main cause of the collapse of the ASI to be the regulatory framework of the 1990s that facilitated the importation of vessels, discouraging the purchase of locally produced ships. Although Decree-Law 1010/2004 changed the institutional conditions for the ASI, for the unions, the future viability of the industry depends on the implementation of specific public policies.

They argue not only for the repeal of 1990s regulations, but the restoration of policies and institutional conditions that somehow recreate those of the industrialisation by import substitution.³²

The maritime unions propose, then, a new law for the merchant marine and shipbuilding industry – an explicit policy referring to the introduction of ship mortgage credit, strengthening of human resources training, modernisation of transport infrastructure, improving the navigability of the waterway Paraguay-Paraná-Río de la Plata, and other issues. Above all, they consider that the restoration of the level of previous production in the shipbuilding industry requires the integration of these policies. Even if Decree-Law 1010/2004 can be identified as a turning point in the recovery of the ASI it is considered that “a decree has no force of law”.³³ The unions are concerned with the present conditions of production and the perspective of the shipbuilding industry in order to preserve the employment level in the sector. Therefore, the unions debate the necessity of establishing a new regulatory framework and a new set of policies for the entire system as a

31 Russo and Frassa, “Trayectoria reciente y perspectivas futuras de la industria naval pesada argentina”, 84.

32 Daniel Zárate, responsible for the institutional relationships department, TANDANOR/CINAR, interviewed 25 February 2013; Jorge Moreno, interviewed 7 August 2013; Juan Carlos Casarico, welder, forty-seven years working in Astillero Río Santiago, thirty years on board ship and twelve years as an instructor at School of Astillero Río Santiago (ETARS), interviewed 15 July 2012.

33 Jorge Moreno, interviewed 7 August 2013.

whole: water transport, port infrastructure, and domestic shipbuilding firms.

The propositions cover a wide range of public policies to sustain the competitiveness of the maritime sector in the medium term. Thus, from 2004 to the present, a consensus was reached among the unions, which founded the National Dialogue Table of the Argentina Shipbuilding Industry.³⁴ In 2008, they presented a document that summarised this consensus: “The Strategic Plan for the Development and Growth of the Shipbuilding Industry in Argentina”. The propositions of the round-table basically emphasise the following agenda:³⁵

- 1 A single law for the shipbuilding industry and merchant marine that gives sustainability and predictability to the sector, through incentives for national fleet renewal and incorporation of new vessels to avoid buying used vessels;
- 2 The creation of a shipbuilding division in the federal administration;
- 3 The creation of a development-oriented financial institution that includes the shipping industry; and
- 4 The promotion of human resources training.

These propositions consider the need to:

- a Increase domestic shipbuilding and repair, including for recreational and tourism purposes.
- b Promote the conversion and technological modernisation of naval shipyards and workshops, complementing public and private investment.
- c Evaluate customs taxes.
- d Evaluate asymmetries with Brazil.
- e Participate in projects related to production for defence and security in Argentine interior waters, and seas, working with the National Navy and the Argentine Naval Prefecture.
- f In terms of human resources, it is considered a vital step to encourage professional naval technical education as part of the National Education System.

34 This committee is also integrated with other associations of shipowners, business chambers, entrepreneurs, and business leaders: Federación de la Industria Naval Argentina (FINA); Consejo Profesional de Ingeniería Naval (CAPIN); Asociación Bonaerense de la Industria naval (ABIN); Astillero Río Santiago; Cámara santafecina de la industria Naval (CSIAN); Facultad de Ingeniería Universidad de Buenos Aires (and other Argentinean universities), Facultades de ingeniería, Universidad Tecnológica Nacional (UTN).

35 Estigarribia, “La mesa nacional de concertación de la industria naval argentina”.

TANDANOR/CINAR: the recovery of a state-owned shipyard

The shipyard was created in 1879 for the repair of large ships. In 1922, it became the Buenos Aires Naval Arsenal (ANBA), run by the navy and the General Administration of Ports, legally established as a corporation, with a significant share of state capital. The shipyard inherited its infrastructure from the navy and the Port Administration, and in 1970 ANBA became Talleres Dársena Norte.

In the 1970s, in order to respond to the increased demand for repairs, TANDANOR expanded its facilities, joining another state-owned shipyard, TARENA. By agreement with the American company Pearlson Engineering in 1978, TANDANOR acquired a ship-lift system, Syncrolift, which remains in operation until today.

For almost a century, from 1879 until 1983, the shipyard depended on the commander in chief of the navy, when it was transferred to the Ministry of Defence until its privatisation in 1991. After a period of private management, 1991-1999, the workers assumed management of TANDANOR, between 1999 and 2007; in 2007, the shipyard returned to the jurisdiction of the Ministry of Defence.

In the early 1990s, the first privatisation of a public company in Argentina took place: after more than a century as a state-owned shipyard, TANDANOR was privatised in 1991. That year, the Ministry of Defence ordered the sale of a 90 per cent stake in TANDANOR, and authorised the sales contract and the call for tenders. On 1 January 1992, Investing North Dock (INDARSA) acquired the shipyard. According to the State Reform Law (which regulated the privatisation programme), a stock-ownership plan was considered, in which workers would own 10 per cent of the shares.³⁶ However, this programme was not implemented during INDARSA's management of the shipyard (1991-1999). In 1999, as INDARSA had not completed the transaction (of USD \$59,760,000), the federal courts declared the shipyard bankrupt.³⁷ From that point until 2007, the company was operated and managed by its workers with a legal auditor.

During the “post-convertibility” period, there was debate about the uncertainty caused by the privatisation of infrastructure and services.³⁸

36 Decree-Law 23696, 17 August 1989, State Reform.

37 Eng. Mospán, naval engineer, former production manager of TANDANOR, interviewed 14 April 2012.

38 See Reinert, “The Role of the State in Economic Growth”, and Schorr, *Modelo nacional industrial*.

The government reconsidered the need to participate in certain privatised companies with investments or directly in management (Energía Argentina, Enarsa, Aguas y Saneamiento, AySA, and ArSat Argentina Satelital). The government's decision on TANDANOR marked the beginning of a policy to confront the detrimental effects of the privatisations of the 1990s, a policy that culminated with an important milestone, the 2012 renationalisation of the petroleum company Yacimientos Petrolíferos Fiscales.

From 2005, TANDANOR's case was the subject of National Congress debates that focused on the transfer of the company to the state and the creation of a new state-owned corporation (Astilleros Argentinos SA). General agreement about its renationalisation had been reached but there was still a controversial point: the expenditure to be made in order to purchase the bankruptcy of INDARSA, a concessionaire company. In the end, Decree-Law 315/2007 was signed, allowing the renationalisation of the shipyard TANDANOR.³⁹

Under the Ministry of Defence's ruling, in 2009 TANDANOR and the Almirante Storni shipyard formed the Complejo Industrial Naval Argentino (CINAR), a company-owned property with 90 per cent equity held by the Ministry of Defence, and 10 per cent in the hands of workers.⁴⁰

CINAR has a strategic location within the port area of Buenos Aires city, situated in the south channel of the estuary of the Rio de la Plata. Today this channel is the only access to the waterway of the Rivers Paraguay, Parana, and La Plata with suitable ports for ocean vessel operations. The strategic importance of this naval site lies not only in the fact that Buenos Aires is a terminal port in the Southern Cone but also in the dimensions of the complex, allowing the repair of ships and submarines on a large scale.

The Almirante Storni shipyard (previously named Domecq García), a manufacturing plant of submarines for the National Navy, was shut down in 1994 with two hulls about half-completed. The closure of this specialised facility forced the navy to send the ARA *Santa Cruz* to Brazil for her mid-life upgrade. In 2003, the shipyard was reopened and the submarine ARA *San Juan* completed her overhaul there.

As a state-owned shipyard, CINAR belongs to the Production System for National Defence (Ministry of Defence) along with other companies:⁴¹

39 The Ministry of Defence requested, in 2012, the reopening of the summary proceedings against the officials involved in the fraudulent privatisation of the shipyards.

40 Decree-Law 23696, 17 August 1989, State Reform; Jorge Moreno, interviewed 7 August 2013.

41 Investigaciones Aplicadas, INVAP, established in 1976, manufactures satellites and nuclear power plants; Fabricaciones Militares, founded in 1941, and Fábrica argentina de aviones, FAdeA, was created in 1926 and reopened in 2009.

INVAP, Investigaciones Aplicadas, Fabricaciones Militares, and Fábrica argentina de aviones, FAdeA. The management of CINAR as part of the strategy of the Production System for National Defence diversified their production and services, offering construction and repair of oil platforms for the Brazilian oil company Odebrecht, entering the heavy engineering industry.⁴²

CINAR's current performance is based on the technical capacity of the workforce and the investments made and technology installed during the late 1970s. The skilled component in repair shipyards is crucial, which is why TANDANOR continues its investment in the technical skills of its workers.⁴³ Although in the past five years it has invested in equipment and infrastructure maintenance,⁴⁴ the cornerstone of TANDANOR's competitiveness is still the Syncrolift: a system for lifting boats and ships out of the water for maintenance work or repair. The vessel is manoeuvred over a submerged cradle, which is then lifted by a set of synchronised hoists or winches. The vessel can be worked on in place, or it can be moved inland so the Syncrolift can be freed for other use.⁴⁵

CINAR, with very little spare capacity, is able to perform technologically complex repairs (such as on icebreakers and submarines). Some 70 per cent of CINAR repairs target the private sector, and of that total 35 per cent are foreign vessels. The repair and modernisation of the Argentinean navy icebreaker *Almirante Iriziar* are paradigmatic of the technical capacity of CINAR.⁴⁶

CINAR's reputation is based on its location, facilities, equipment, and skilled labour force. The sum of these components allows CINAR to compete in the MERCOSUR ship repair service market.⁴⁷

42 See http://www.mindef.gob.ar/mindef_ciencia_tecno_prod/cinar_index.php (accessed 27 May 2013).

43 Jorge Moreno, interviewed 7 August 2013.

44 This includes re-equipping the complex, recovering cranes, and recovering and replacing all the machines that were sold by the weight during the 1990s.

45 José Carlos Pietranera, interviewed 25 July 2010.

46 In April 2007 the icebreaker suffered an accident and was badly damaged. Then the following alternatives were considered: buying a new icebreaker, repair in the owner's yard in Finland, repair only the damage, or a reconstruction and upgrading of the icebreaker. The Ministry of Defence finally decided on the last option and then discussed which shipyard would perform this reconstruction. Finally, TANDANOR was chosen as the shipyard responsible for the repair, and on 15 September 2009 the contract was signed between TANDANOR and the National Navy. The completion of the work is proposed for 2014.

47 José Carlos Pietranera, interviewed 25 July 2010.

TANDANOR workers face the ups and downs of politics and national economy

Since the late 1960s and mid-1970s, in large industrial centres of Argentina, workers have taken part in a movement of intense struggle. This proletariat, with a significant degree of autonomy from national union leaders, carried on strong and rebellious practices, questioned existing relations of exploitation, such as the ways in which labour organisations represented their interests. Opposition to the union bureaucracies and the persistent exercise of direct democracy became privileged instruments of struggle and organisation which spread to many associations in different parts of the country. At the same time, these groups of workers maintained varying degrees of commitment to political movements of both Marxist leftist as well as Peronist origins.

The union of TANDANOR is politically identified with the Peronist movement and had characteristics different from those of the working organisation of other yards. Although TANDANOR workers in the 1970s carried on fighting for improvements in working conditions and wages, they had less conflict with business leaders than other yards (e.g., the private shipyard ASTARA and Río Santiago Shipyard).⁴⁸ With the *coup d'état* of March 1976, as part of a climate of violence that was becoming more intense, official and paramilitary repression repeatedly targeted the unions and their leaders, whether they were independent or were linked to different organisations. In TANDANOR there was persecution of workers' leaders with the collaboration of and allegations by certain union and business leaders who supported the coup, denouncing the activists and workers' delegates, and increasing the pressure and internal controls within the yard.

During the military dictatorship (1976-1983), the state-owned shipyard, TANDANOR had a strong link with the interests of the Argentinean navy, so the controls on the workers and the work process within the shipyard were intensified.

48 Two cases are notable: the struggles in the private shipyard ASTARSA and in the state-owned shipyard Río Santiago. In ASTARSA, under the radicalisation of political and union experiences of those years, a group of workers created an organisation independent of the traditional union of ASTARSA (SOIN). Clashes with the owners of the shipyard intensified while the company adopted an increasingly intransigent position against the workers' demands. This process led to the intervention of the independent workers' organisation. Between mid-1974 and late 1976, as part of a growing climate of repression, the military and paramilitaries abducted and killed militant workers of ASTARSA. Río Santiago Shipyard is analysed in Chapter 16 of this book.

With the advent of democracy in 1984, working conditions and workers' income, in general, improved. There were no significant conflicts in TANDANOR but the level of production of the yard began to show signs of slowdown, accentuated at the end of the 1980s. This process was not specific to TANDANOR; it affected the entire maritime sector. In this period, TANDANOR workers focused their claims on maintaining the purchasing power of wages in the face of severe inflation. Successive quasi-hyperinflation episodes between 1989 and 1991 formed the national context of the struggles in the yard. In this recessionary environment, the implementation of neo-liberal reforms has been intensified. The government proposed the first privatisation of a state-owned enterprise: TANDANOR.

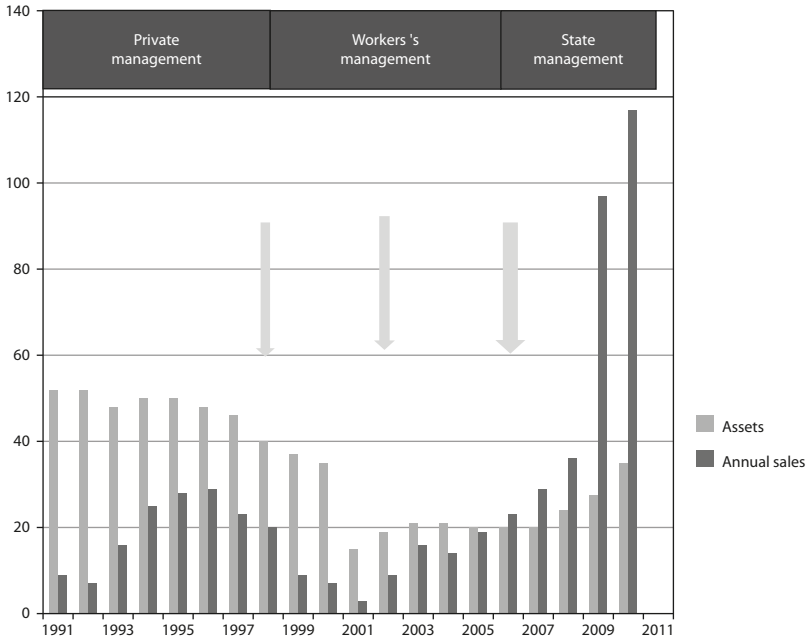
From the very beginning, the TANDANOR workers resisted privatisation. The union of TANDANOR that led these struggles against privatisation was SITTAN (Sindicato de Trabajadores de Talleres y Astilleros Navales). SITTAN is an enterprise-level union whose main goal since the 1990s has been to preserve its members' source of employment, yet the union had to face and develop strategies and actions that exceeded the limit of the company. In the protest demonstrations in front of the seat of national government, the TANDANOR workers, with the support of their families, joined the struggle of other workers who were also resisting privatisation of public enterprises. Given that the union has historically had more of a negotiating tradition, it agreed, initially, to adjust to new conditions. Finally, SITTAN led negotiations with the government to keep the shipyard open, and accepted privatisation and promises to improve pay and working conditions. It must be emphasised, however, that in 1991 TANDANOR/INDARSA owed the workers several months' wages.

During the private administration of TANDANOR, 1991-1999, the financial results were very poor (see Figure 16.1). TANDANOR's performance deteriorated rapidly in this period, since the aim of the owners was to dismantle the shipyard to conclude a real-estate deal more profitable than the repair of ships.⁴⁹ The shipyard is located in an urban area near the port of Buenos Aires, which during the 1990s was subject to restructuring and real-estate appreciation with high levels of profitability. From 1999 until 2007 the shipyard was operated and managed by its workers with a legal auditor. When the workers took over the management of the shipyard, INDARSA owed them 18 months' salary.⁵⁰ By 2000, there were 140 workers

49 Eng. Mospán, interviewed 14 April 2012.

50 Eng. Mospán, interviewed 14 April 2012; Haydee Raubvogel, Assistant to the Vice President, TANDANOR/CINAR, interviewed 15 August 2013.

Figure 16.1 Sales and assets, TANDANOR/CINAR (in millions of current dollars)



Notes:

1999: private shareholder bankruptcy

2003: TANDANOR reorganisation

2007: reconversion and capitalisation

Source: Author’s calculation based on data from company balances: TANDANOR/CINAR, 1991-2011, <http://www.TANDANOR.com.ar/espanol/noticias/03acciones/acciones.htm> (accessed 25 August 2013)

and about 10 naval engineers and technicians with an average age of 57.⁵¹ The deep crisis and high unemployment in the Argentina of 2001-2002, and the near dismantling of the domestic shipbuilding industry, formed the context of the resistance and struggle of TANDANOR’s workers. These struggles had two basic objectives: to collect the debt owed to them and to keep the shipyard open. They collected the debt accumulated in 2006 and retained the source of employment.

The workers’ participation and actions, although defensive, paved the way to the company’s renationalisation. And, when the new government elected in 2002 decided to reverse the privatisation, the workers demanded participation in the strategic decisions of the company until their future share in management and definite nationalisation were decided. From

51 Jorge Moreno, interviewed 7 August 2013.

2007 until the creation of CINAR, the shipyard recuperated slowly, but from 2009 onwards there began a strong revival in the level of production (see Figure 16.1).

The management in the hands of the unions and the involvement of middle management of the company – engineers and managers – spanned nearly five years. During that time the yard was maintained with repairs that had been negotiated in previous years, but the level of productivity was very low. The few repair orders that were received at this stage hardly allowed the retention of labour. Funding was central to the continuity of the activities of the shipyard. In principle, repair contracts required a downpayment, so it was possible to pay part wages. But these resources were very limited, and many workers had to leave the yard.⁵² Many skilled workers (especially welders) went looking for work in other metallurgical industries. In those years of resistance, the workers, with the support of their families, chose to accept low incomes in exchange for retaining their jobs. All were convinced that the yard must return to state control. During this period, the workers' organisation did not undergo major changes, but decision-making was more participatory and democratic.⁵³ This can be linked to management models of the recuperated factories movement that had already begun in Argentina with the 2001 crisis.⁵⁴

Since nationalisation, changes in the extent of production and the technological conditions of the shipyard have had significant impacts on the workforce, and have influenced production and labour relations in many aspects, not merely in the increase of the numbers of workers, but especially in the decrease in the average age of workers, which dropped from 57 in the 1990s to 35 in 2010.⁵⁵ Historically, the participation of women in the labour force of the yard was always very low: in 2010 this percentage did not exceed 5 per cent.⁵⁶

From the wage scale I would highlight just two aspects. First, we can see that the gap in wages between the highest- and lowest-paid categories has reduced; and, second, if we compare the national minimum wage with the monthly salary of the lowest-category operator of CINAR, for 2010 and 2012

52 Jorge Moreno, interviewed 7 August 2013

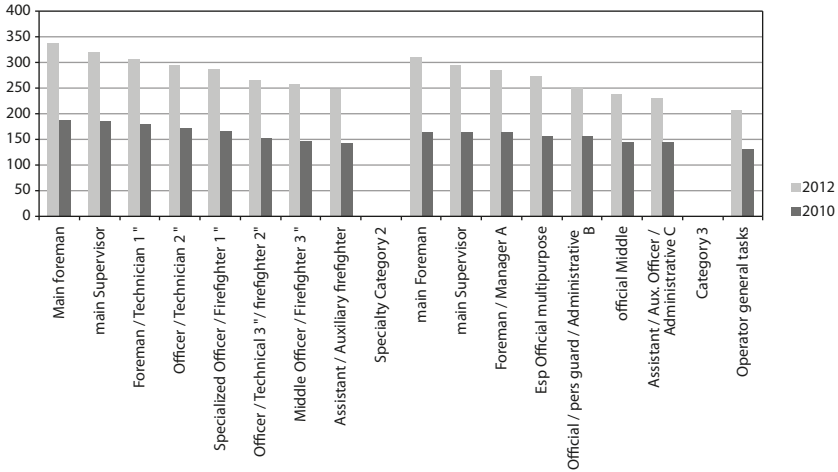
53 Jorge Moreno, interviewed 7 August 2013.

54 Azpiazu and Shorr, *Hecho en Argentina*.

55 Daniel Zárate, responsible for the Institutional Relationships Department, TANDANOR/CINAR, interviewed 25 August 2013.

56 Haydee Raubvogel, Assistant to the Vice President, TANDANOR/CINAR, interviewed 15 March 2013.

Figure 16.2 Daily wage according to category and speciality (Argentine pesos)



Note: Category I: Mechanical engineering, naval boilermaker, naval electrician, surface treatment operator, helmsman, plant maintenance operator, official firefighter; Category II: Operator general tasks, security guard, service operator; Category III: Operator general tasks.
 Source: Based on data from Collective Bargaining Agreements. SITTAN, 2012

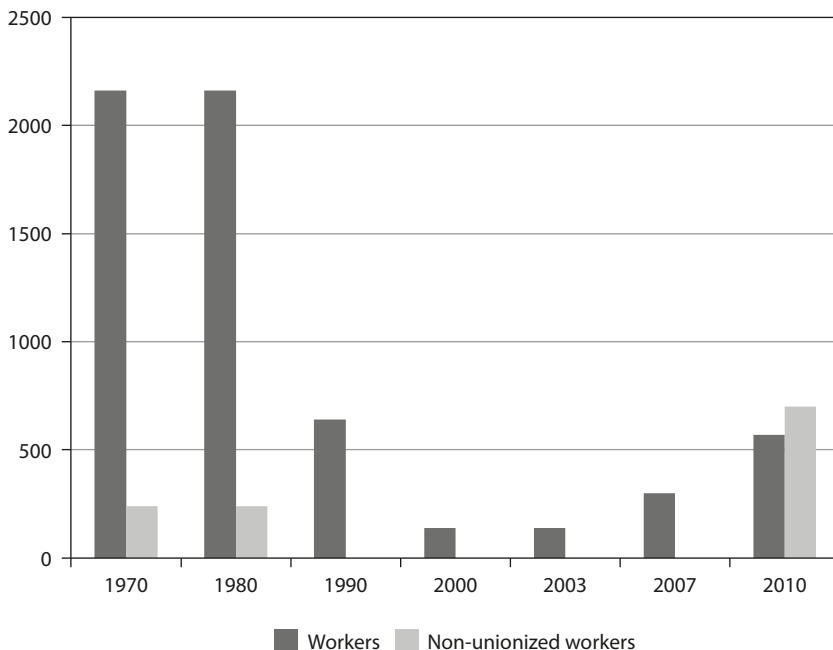
(approx. ARG \$3,800 and ARG \$7,000, respectively) we observe that these wages are remarkably higher.⁵⁷

Figure 16.3 shows the different stages of the shipyard’s trajectory since 1970: between 1990 and 2007 there was a low level of employment for a period in which the shipyard kept its doors open despite its mediocre performance, and almost no return.⁵⁸ As noted earlier, the recovery of the shipyard can be observed from the renationalisation in 2007 and the creation of CINAR. The level of employment follows this trajectory. In this sense, since 2009, the number of direct employees has increased, but this phenomenon has had a special feature: the increase in sub-contracted (non-unionised) workers as shown in Figure 16.3.

As noted above, unionised workers have been involved in the design of the company’s strategy, particularly after 2000. It is, however, necessary to clarify that workers who have a stake of 10 per cent of the shares in the

57 The minimum salary is set by the National Council for Employment, Productivity, and Minimum Wage (Ministry of Labour). The minimum monthly salary in 2010 was ARG \$1,840 and in 2012 ARG \$2,670.

58 Eng. Mospán, interviewed 14 April 2012; Daniel Zárate, interviewed 25 August 2013.

Figure 16.3 Employment in TANDANOR/CINAR, 1970-2010

Source: Based on data from interviews and CINAR: CINAR, *Informe al Congreso de la Nación*, 2011, 4; Eng. Mospán. Eng. naval, interviewed 14 April 2012; Jorge Moreno, interviewed 7 August 2013; Daniel Zárate, interviewed 25 August 2013; Haydee Raubvogel, interviewed 15 August 2013

company are those working in the yard at the time of nationalisation in 2007.⁵⁹ In 2011-2012, there were 1,258 workers: of this total, only 390 were unionised workers; 700 were non-unionised workers and 146 in administrative and other services (42 naval technicians, and 44 professionals, comprising 23 engineers, 6 engineer officers, 6 accountants, and 9 other professions).⁶⁰

The non-unionised workers are in reality the “adjustment variable” or weakest link when the activity level of the shipyard drops. The current union of CINAR is SITTAN, and working conditions and wages differ between workers who belong to SITTAN and those who are sub-contracted. Those affiliated to SITTAN enjoy a labour and wage system that guarantees stability in jobs, with wages adjusted annually in joint negotiations. While the information about categories and wages refers to unionised workers, SITTAN workers admit in interviews that there is a remarkable difference

59 Jorge Moreno, interviewed 7 August 2013.

60 CINAR, *Informe al Honorable Congreso de la nación*, 3.

between the labour regime and wage levels of both types of workers. For sub-contracted workers, the labour regime is more precarious and wages are lower.⁶¹

Conclusions

Founded in 1879, TANDANOR was established for the maintenance of the Argentinean navy's fleet. In 1991, under President Carlos Menem's privatisation plan, the shipyard was privatised and in 1999, after the principal stockholder declared bankruptcy, its workers took over the management of the shipyard until its renationalisation in 2007.

In order to understand the trajectory of this shipyard I have contextualised the evolution of the entire shipbuilding industry in Argentina. The consequences of the 1990s orthodox neo-liberal policies in the shipbuilding industry were mainly: the closure of private shipyards, the almost complete disappearance of the maritime manufacturing workshops, a significant technological setback, and the eventual loss of know-how through the loss of skilled labour. Thus, for two decades, the deterioration in competitive conditions in the evolutionary path of the ASI was persistent.

In spite of political change since 2003, which promoted a sustained industrial growth model to reverse the regressive tendencies of the previous period, the ASI did not undergo structural changes in its composition or in its dynamics. Although 80 per cent of Argentine shipyards are located in the province of Buenos Aires, neither the provincial nor the federal government has a special division which could articulate policy for the sector. Lack of substantial investment, bureaucracy, and, especially, lack of long-term growth have placed this industry in "survival" mode, with operations based on old technical and material capacities.

The performance and trajectory of the ASI have shown a marked dependence on an institutional, regulatory framework, and strategic state policy relating to defence and industry as a whole. However, the unions consider that for two decades, in the maritime value chain, a special link has been missing: the state.

From 2004 to date, as noted above, the maritime unions have begun a National Dialogue Table of the Argentina Shipbuilding Industry. This consensus has led to a comprehensive vision and a common agenda between the different links in the production chain.

61 Jorge Moreno, interviewed 7 August 2013.

Located in the Southern Metropolitan Region of Buenos Aires, the state-owned companies, TANANDOR/CINAR and Astillero Río Santiago, have most of the productive capacity and represent more than 50 per cent of the workforce of the country's maritime sector. In the past twenty years, TANDANOR/CINAR's workers have been the main actors in attempting to ensure the continued survival of the shipyard, demanding that the government recognise the importance of maintaining a repair yard, to preserve not only their source of employment but also their productive capacity and human resources. They fought for public management of the shipyard. Cristina Kirchner's government's decision to recover the ASI with Decree-Law 1010 in 2004 was reaffirmed, and culminated in the renationalisation of TANDANOR in 2007 and the creation of CINAR in 2009.

Nevertheless, the National Dialogue Table of the Argentina Shipbuilding Industry considers it imperative to strengthen the domestic value chain: construction and repair of vessels (large-sized, fishing, tourism, and commercial transportation), naval workshops and industry services, and technical and professional training institutions. In short, in the view of the maritime unions, the state should address not only the modification of the regulatory framework for the shipbuilding industry, but also the establishment of a clear policy of regional integration for it.

17 Production and labour of a state-owned enterprise

A case study of an Argentinean shipyard, Astillero Río Santiago

Juliana Frassa

Introduction

With a regulatory protectionist framework promoting the construction of ships in the country, the development of the shipbuilding industry in Argentina was characterised by strong state intervention. The state played an important part in supply, being the owner of large shipyards, and also in demand for ships for the Argentinean navy and for the country's main transport and production companies, constituting an important public, productive, and commercial framework.

The characteristics of the Argentine shipbuilding industry, its recent history, and the role of the state were presented in Chapter 16 by Cintia Russo. In the present chapter, I adopt a case perspective to observe how some macro-social processes (changes in capitalism and in the organisation of production, and the economic role of the state) are expressed at a micro-social level, in this case, at company level. The aim of this chapter, therefore, is to characterise several dimensions of Argentina's largest and most significant state-owned shipyard, Astillero Río Santiago (ARS), and to highlight the most significant developments in production, employment, working conditions, and industrial relations at the shipyard over the past five decades.

The chapter is divided into five sections. First, I trace the history of the enterprise, as well as its relationship with the National Industrial Policy and the role of the state. Secondly, I describe the characteristics of production and organisation of labour present in the shipyard. Thirdly, the characteristics of workers in ARS are analysed, along with their working conditions and the features of the internal labour market. Fourthly, and in relation with the previous topic, I describe the specific work culture built around the shipyard, highlighting the material and symbolic (values, visions, symbols) aspects which supported it. Fifthly, I will analyse the recent history and current characteristics of labour relations in the company. I will also focus

on two key points in the history of labour disputes in the shipyard: the strategies of workers during the 1976-1982 military dictatorship in Argentina and the struggles of resistance faced in the 1990s privatisation onslaught. Finally, I reflect upon developments in the company, remarking on the current organisational and productive challenges, and the place that social actors (especially unions) have within the enterprise.

A brief history: the construction of a state-owned company

Astillero Río Santiago (ARS), located in Ensenada (Buenos Aires province, Argentina) on the Río de La Plata,¹ was created on 15 June 1953 by Astilleros y Fabricas Navales del Estado (AFNE), a company comprising Astillero Río Santiago (ARS) and Fábrica Navales de Explosivos Azul (FANAZUL). ARS depended on the Argentinean navy which managed it.²

The shipyard was conceived as a part of a strategic industrialisation plan set in motion by President Juan Domingo Perón during his second term of office to strengthen heavy industry and to promote the creation of a nationwide industrial framework.³ The shipyard was designed to meet the needs of the domestic merchant marine and the Argentinean navy. It specialised in manufacturing and repairing ships (naval and mercantile). ARS was, and still is, the biggest shipyard in Argentina, and one of the two state-owned companies today. To 1993, ARS was state-owned; since then, it has depended on the Buenos Aires provincial government. In this, the state played four significant roles: producer and consumer of ships, market regulator, and financier.

After its formation, ARS expanded in terms of production and employment, as well as installation capacity. Within a framework of an import-substitution industrialisation model, the company developed a wide range of services connected to the navy incorporating new technologies, and development of know-how and specific skills. ARS built almost all components of ships aided by its comprehensive technical and administrative infrastructure and highly qualified workforce. Over the years, the company achieved an important place among the factories in the region and was considered, towards the middle of the 1970s, the biggest shipyard in South America.

1 Currently the shipyard occupies an area of 42 hectares.

2 ARS was created by Executive Decree No. 10,627, dated 15 June 1953.

3 It should be noted that the Argentinean shipbuilding industry had relevance only at the local level, and has never reached a significant share of worldwide shipbuilding.

Until the mid-1970s, ARS, in addition to constructing ships, also manufactured diesel engines,⁴ railway infrastructure, lock gates for docks, pressure vessels for the oil and petrochemical industries, turbines and generators for hydroelectric-power plants, and nuclear components. Most of this diverse production was terminated in the 1980s as a result of a fall in domestic demand and strong competition from foreign manufacturers, which came with the opening up of national economy to external markets during that decade.

In short, until the mid-1980s, ARS was a diversified producer with high-value, extensive auxiliary productive capacity, heavy dependence on the state, and high levels of employment. Due to its military origin, the internal organisation of the company was characterised by a bureaucratic, pyramidal, and hierarchical structure. It had a state-oriented organisational discourse, stressing the consolidation of economic and commercial sovereignty through building ships locally. In this sense, the administration of the shipyard promoted a strong nationalist feeling among its workers. Being a public company, it had a role of strengthening and expanding national industrial development.⁵ Indeed, the state developed a corporate policy of paternalism that structured workers' lives inside and outside the factory, including housing, education, and recreation.

A high exchange rate, the sudden opening of the market to international competition, and the closing and/or privatisation of the largest state-owned companies⁶ were the new features which ARS had to deal with in the 1990s. In 1991, ARS was declared subject to privatisation, under the Economic Emergency and State Reform Acts.⁷

The decreasing demand for ships and changes introduced in the regulatory framework induced nearly complete paralysis in ARS. Moreover, aiming at "healing" the company before it was to be privatised, the national government implemented a rationalisation plan to reduce employee numbers. Between 1990 and 1993, through voluntary retirements, ARS cut 60 per cent

4 ARS built marine slow- and medium-speed diesel engines through diverse licences signed with companies such as Burmeister and Wain (Copenhagen), Sulzer (Winterthur), Fiat (Turin), and Ateliers des Charmilles (Geneva).

5 Among the objectives of the Statute of AFNE (1953) one stands out: "to participate, for the purposes of national defence, in the industrial mobilisation of the nation".

6 State-owned companies (especially the oil company YPF and the transport company ELMA) were ARS's main clients.

7 Act 23.696 from 1989 declared a state of emergency in the public environment, the take-over of all entities, companies, and state-owned partnerships and the privatisation of public companies. Act 24.045 of State Reform from 1991, among other things, details the entities to be privatised.

of its staff (from 2,460 employees to 1,036). These years witnessed severe conflicts within the company, in which workers argued for the reactivation and retention of ARS as a state-owned company.

Due to the implementation of neo-liberal policies by the Argentinean government, ARS experienced a lower level and degree of diversification of production, loss of auxiliary production and domestic market competition, reductions in qualified personnel, less productive capacity, and a deterioration and/or loss of certain organisational policies. However, from 1997, production and employment started to grow because of new orders from the provincial government and new foreign orders for ships.

The nature and volume of production had changed radically in the previous four decades. Until the beginning of the 1980s, ARS's production comprised warships for the navy and merchant ships whose main clients were national state enterprises. To date, sixty-four ships have been built by ARS, forty-eight of which are owned by the state or the Argentinean navy. Since the end of the 1990s, production of ships has shrunk and the focus was on the foreign market. Actual production is concentrated on foreign shipbuilding orders (from Venezuela and Germany) and metal-mechanical constructions for government works.⁸

In the past three decades Argentina's productive orientation, based on natural resource extraction and processing of raw materials, discouraged the development of heavy industry. In this context, the role of shipbuilding and the ship repair sector in the national economy is not very significant. According to statistics and official data from 2009, the shipbuilding sector represents just 0.1 per cent of industrial gross production value (GPV)⁹ and 0.5 per cent of industrial employment. In 2009, the Physical Production Volume Index reattained 1997 values, while the productivity-per-worker index presented a value at 57 per cent lower than in 1997.¹⁰

Summing up, we can see five stages in the production history of the shipyard:

- 1 1953-mid 1980s: consolidation and expansion of volume and lines of production, based on the demand of the navy and state-owned enterprises, in a context of a semi-closed economy.

8 Shipbuilding production between 1997 and 2012 (five bulk ships and an oil tanker) was focused on foreign shipowners. Currently, ARS's major contract is with the Venezuelan oil company PDVSA for several oil tankers.

9 GPV was calculated based on industrial survey data from Instituto Nacional de Estadísticas y Censos (INDEC) Wholesale Price Index and 2004 National Economic Census.

10 Center for Production Studies (CEP), based on INDEC.

- 2 Mid- to end 1980s: national economic crisis and reduction in orders from state companies.
- 3 1989-1992: new macro-economic and institutional context (government of Carlos Menem) marked by the deregulation of strategic economic sectors and the shrinking of the state; cessation of productive activity, reduction of employment, and a privatisation policy that caused significant and prolonged labour protests at the shipyard.
- 4 1993-1997: transfer of the shipyard to the provincial government and gradual reactivation of production with small works.
- 5 1998-2012: reactivation of shipbuilding for export with employment growth.

Production capacity and organisation of work

ARS's three lines of production are shipbuilding, ship repair, and metal-mechanical constructions. However, shipbuilding is the most important in terms of sales and number of jobs. Moreover, ARS is currently the only shipyard in the country that builds large ships.

On the three slipways (220 m, 180 m, and 160 m long) several types of vessels can be built: warships and merchant ships (bulk carriers, general cargo ships, and tankers) of up to 80,000 dwt, as well as offshore constructions and platforms. The last significant ships built at ARS were five 27,000-dwt bulk carriers for the German company Wilhelm Finance Inc., and two 47,000-dwt product carriers for PDVSA from Venezuela.

In relation to metal-mechanical construction areas, there are more than 250 machine tools of every type and dimension installed in the workshop for machining operations and additional tasks. ARS supplied engineering, fabrication, and erection of large mechanical structures, among which are some outstanding infrastructure works, such as parts of hydroelectric power stations, and large infrastructure road works, ARS being the only company in the country to build metal roadway bridges. This line of production had an important role during the reactivation of production in the mid-1990s.

Production in the shipyard is organised according to the specific task and is structured around individual crafts. The organisation of labour allows the simultaneous performance of different trades at different stages of the process, as well as joint work by technicians, supervisors, and operators. In this planning and organisation of production, trade groups still have an important margin of autonomy. Indeed, the productive process and

labour organisation have not experienced significant changes in the past four decades.¹¹

Related to the level of technology used, ARS did introduce some new equipment; however, management did not develop a long-term strategy of technology modernisation to radically change production processes, or relations of production in structural terms. In the past few decades, ARS has made insufficient investments in technological development and equipment, and largely kept the original infrastructure of the 1950s. Improvements were introduced only in equipment for steel cutting and welding processes. Consequently, ARS's equipment and infrastructure (between other variables) have not allowed its workforce to reach international standards of productivity.

The absence of certain labour-saving machinery, of modern management techniques, and of other equipment results in many operations being done in a "craft" way. Production time rises because of climatic effects or, for example, preparation work at height. In the same manner ARS has not developed a long-term policy of research and innovation. All these variables go against a radical improvement of production quality, competitiveness, and productivity.

Workers and working conditions

The expansion of production in the shipyard was also reflected in employment growth, which reached its peak in the mid-1970s at around 4,500 employees and around 1,800 workers who were employed by different sub-contracting companies. As Figure 17.1 shows, the level of employment is related to the stages of growth and crisis of the shipyard in recent decades.

In general terms, the workforce of ARS is highly qualified, comprises a wide range of professions and specialities, and has on average been with the company for a considerable time. Most workers have worked in the shipyard continually, and it is the first and only job in their entire working life. Also, many of the current workers began their careers as students in the company's Technical School (ETARS), later being hired as permanent staff.

The current staff comprises 3,500 workers of whom 3,200 are under the Collective Labour Convention and 300 are managerial staff. The distribution of workers by production area has altered in recent years, respecting the traditional distribution between direct and indirect workers. In 1977,

11 The changes introduced in production implied some new equipment and minor modifications in vessel design.

Figure 17.1 Employment in Astillero Rio Santiago, 1971-2012



Source: Personal Department of Astillero Rio Santiago (1971-2012)

workers involved directly in production represented 64 per cent of the workforce; in the past five years, this percentage has reduced to 44 per cent.

According to data from the Personnel Department of ARS, in 2010, 28 per cent of the total workforce under the Convention have less than thirty-two years in the company’s employ and 69 per cent of the workforce have less than fifteen years’ employment. This data about age composition of the workforce reflect a growing renewal of the workforce caused by the recruitment of young workers. In 2007, for example, 51 per cent of the workers under the Convention were 46 or older, while workers under 32 years old represented 22 per cent.

The recruitment of the workforce in the shipyard is carried out through two formal mechanisms: registration in the company and the “job bank” of the union. These mechanisms are mainly used for the recruitment of staff for production areas, the union path being the more used. Recruitment searches for professionals and management are mainly made on an informal basis, drawing on the recommendations of existing staff.

According to the rules incorporated in the existing collective labour agreement,¹² the relatives of employees have priority for jobs in the company;

12 The collective agreement 91/75 was signed in 1975 between ARS and Asociación Trabajadores del Estado (ATE), a union for state workers. The labour agreement remains in force.

accordingly, many fathers and sons work for ARS. Informally, those workers who reside in Ensenada are also favoured.

In accordance with data from a survey conducted in 2010,¹³ 64.8 per cent of workers have or have had family members working in the enterprise and, within this group, 48 per cent are the father or son of another ARS worker. Around 89 per cent reside in the cities of Ensenada, La Plata, or Berisso, within 20 km of the company, and 25 per cent are graduates of the company's Technical School. In short, the typical profile of the ARS workforce corresponds to a middle-aged male (men represent 91 per cent of the labour force) with labour experience related to the area of production, who was born in the region, and has relatives among other workers.

The labour conditions formally set by the collective labour agreement correspond to the prevailing regime of labour relations in public companies in Argentina until the mid-1980s. It was characterised by strong state intervention and a labour protection policy. The current labour conditions are clearly protective of the workforce, guaranteeing hiring on a permanent basis, stability in post, professional training, and the possibility of promotion, among others. The working day is fixed for all sectors and categories at 8 hours per day, without considering the possibility of rotating shifts or working hours to demand increased productivity.

With reference to the remuneration system, the collective agreement includes wage rules that determine increments through a system of automatic adjustment which is established on the basis of a minimum wage. Compared with the average industrial wage in Argentina, today, ARS has high levels of remuneration. Up to this stage, it can be concluded that the maintenance of such labour conditions in the company has been, largely, an achievement of the trade union policy developed in the past fifteen years.

Contrary to the trend observed at international levels, ARS has not developed wholesale strategies of outsourcing or sub-contracting labour in the past two decades, with an exception during the period 1997-2000, in which the staff hired on short-term contracts represented almost 25 per cent of those employed. That increased levels of sub-contracting have not occurred is explained by the strong and sustained policy of the union, which

13 The survey was conducted by the author of the paper in the framework of the Research Project "Trajectory of a State-Owned Enterprise: Shipyard Rio Santiago" from Universidad Nacional de Quilmes. The sample included 265 workers; it was non-random and opportunistic, and is not statistically representative of the workforce.

Table 17.1 Index of productivity, Structures Workshop, ARS, 2004-2010

Year	Tons of steel produced per year (1)	Number of workers equivalent (2)	Index of productivity (1)/(2)
2004	3596	635	5.66
2005	3955	607	6.52
2006	3239	599	5.41
2007	1966	562	3.50
2008	2496	501	4.98
2009	2166	464	4.67
2010	2877	639	4.50

Source: Structures Workshop, Production Department, ARS

puts pressure on the provincial government and the company to create jobs with stable and regulated conditions.¹⁴

After the transfer of the shipyard to the provincial government in 1993, the balance of power between company management and the union changed in favour the latter. Claims and trade union actions have achieved agreement avoiding outsourcing activities and hiring of temporary labour.¹⁵ Currently, there are no observable changes in working conditions that may be associated with flexible and precarious employment criteria (such as rotating shifts, variable of wages, or rotation between different jobs).

In the framework of a protectionist internal labour market, two challenges presented themselves to management that questioned the level of productivity: absenteeism and increased labour costs. Currently, in ARS, there is a 15 per cent absenteeism rate and between 18 and 20 per cent of unproductive hours lost (caused by lack of materials, equipment repair, climatic factors, preparation of work, lack of power supply, etc.). These failures result in high man-hour costs (an average of USD \$80 per hour in 2012), which makes it almost impossible to compete with prices at an international level.

In conjunction with other variables (such as the technological level of equipment and machinery, problems of internal organisation, limited availability of financial resources, etc.) these elements largely account for the fall in productivity observed in recent years. Considering only data from the Structures Workshop, which represents around 30 per cent of the labour force of the shipyard, a significant drop in productivity can be observed.

14 See Frassa, "Los límites a la precarización del empleo".

15 In 1998, there was a strong labour conflict because of the expiration of the contract of 200 temporary workers, which culminated in the resolution to retain seventy of them.

Culture of work: “Astillero Río Santiago: National Will, Building for the Sea”¹⁶

Added to the “objective” features of the employment relationship in the company, the presence of kinship relations, the local origins of the workforce, the maintenance of traditions of knowledge transfer and training, and the sustainability of craft-type working have given the company peculiar traits that are reflected in a certain culture of work. These elements ensure the transmission, from generation to generation, of values and symbolic representations that make up the organisational culture, and that form a collective labour culture identified with the company.

The organisational culture of the ARS was shaped in close relation with the management of the navy, which permeated the company with specific traits based on the principles of hierarchy, order, efficiency, and professional expertise. From its origin, ARS was conceived as a company at the service of the national state, which promoted among its workers a strong nationalist feeling based on the company’s public character, and on its role in strengthening the development of local industry. This discourse, together with the material benefits and work stability the shipyard traditionally provided, developed in the workers a strong social and work identity closely related to the company.

The national and state-owned character of the shipyard was a fundamental pillar of the organisational culture that is expressed in the value acquired by the “public question”. This value constituted the ideological premise on which was based the action of labour resistance to the policy of privatisation in the 1990s. It was not only the source of employment that was being defended, but also the values and concepts (of sovereignty and national industrial development) that the company stood for. The opposition strategy was against the attempt to privatise ARS as well as against the neo-liberal economic model.

According to one of the workers interviewed:

For us the shipyard is a bastion of sovereignty, is strategic [...] For us to defend the shipyard in part is to defend national sovereignty. That’s the reason why the ARS workers defended the company for so many years [...] it is a part of them (Angel, interviewed in 2009).

16 Commercial slogan adopted by the company up to the 1980s.

In this sense, the privatisation attempt was understood by workers not only as a transformation of the ownership and property of the company, but also as an attempt to establish a cultural change. In this conflict, the confrontation between two different political and ideological positions was crystallised in a question that posed two different models of country and enterprise.

The development of this organisational culture, together with material benefits and job security that traditionally characterised the shipyard, led to a strong labour identity forged by the workers intimately associated with the company. This identity was and is built on two fundamental pillars: on the one hand, the know-how and accumulated experience of work (which has a special importance in the case of craft workers), and, on the other hand, the sense of belonging to the company. Workers' identification with the company responds both to its symbolic dimension (represented as a nationalist ideological project) and its material dimension (as source of income, job security and training provider).

These features have remained unchanged to the present day. According to the aforementioned survey, conducted in ARS in 2010 on representations and meanings around the enterprise and work in it, the shipyard features most valued by workers were, in the following order: "job security" (44.7 per cent), "that it is a state-owned company" (19 per cent), and the "good wage level" (17 per cent).

In respect of the implications of working in a state-owned enterprise, 82 per cent of respondents said that it is "very important". In the kind of companies surveyed, the most important features for the workers were the "guarantee of continuity and stability of job" (29.2 per cent), the "guarantee of respect for trade union rights" (24.8 per cent) and "promotion of national economic development" (13.2 per cent).

Finally, in relation to the degree of identification of workers with the company, I found that 90 per cent declared themselves to be proud to work at the shipyard. An equal percentage of workers hoped that their job at ARS would last for the rest of their lives, explaining this choice for "economic reasons" (41 per cent), "labour and professional satisfaction" (32 per cent), "emotional/affective reasons" (15 per cent), and "political reasons" (12 per cent).

Industrial relations and labour protest

The features of the industrial relations system in the company correspond to the characteristics of the “classic” model prevailing in Argentina until the 1990s. This model is characterised by a high degree of state intervention that assumed a labour protection policy and promoted the institutional power of the trade union recognised as having “official status”. Public enterprises, in comparison with the private sector, guaranteed benefits and preferential conditions to workers (job stability, social benefits, exemption from certain payments, etc.), at the same time as they set periodic wage agreements in which the level of remuneration was fixed according to the cost of living index.¹⁷

Despite this labour-protective framework, the struggle of the union has a long tradition at ARS going back to 1955, with the first conflicts arising from the Perón *coup d'état* to and the political prohibition on Peronism. In the decades of 1960s and 1970s, labour protests centred on refusal to approve the installation of a dictatorial government. By then the ARS delegates, linked mostly to the Peronist resistance and the class unionism movement, opposed, on the one hand, the bureaucracy and the practice of corporate negotiation of the Confederación General del Trabajo (CGT) and, on the other, the authoritarian practices of business management.

During the dictatorship initiated in 1976, trade union activities were virtually eliminated. However, military forces continued repressing and kidnapping workers from the shipyard, with forty missing workers.¹⁸

Given the limits of this chapter, I will focus here on exposing two “key points” in the history of labour disputes in the company. The first refers to the strategy of workers against the establishment of the 1976-1983 military dictatorship in Argentina; the second describes the struggles of resistance against the privatisation of the shipyard at the beginning of the 1990s. This does not mean that other moments of protest in the fifty-year history of the shipyard are not equally important, but I believe that these two conflicts are the most relevant to the present.

17 For this, see Senén González, “Teoría y práctica de las relaciones industriales”, and Gaudio, *Sindicatos y empresas públicas*.

18 The number of unofficially recognised victims. For more details, see Corzo, *Un sentimiento llamado Astillero*.

Repression of trade union organisations during military dictatorship

During the military dictatorship in Argentina (1976-83), strong repressive policies that had the organised labour movement as their main target were put into practice. From March 1976, with the establishment of the dictatorship, abduction, disappearance, torture, and murder of workers came to be officially sanctioned, with the objectives, among others, of eliminating the power of workers' organisations. Some of these repressive practices, however, were developed by security forces and illegal groups linked to right-wing ideologies during the previous democratic government of Estela Martínez de Perón (1974-76).

The shipyard was characterised by an important tradition of worker organisation and mobilisation, as well as the presence of different union groups, which represented the political ideologies that existed in the national scene (orthodox Peronism, Peronism of the left, socialism, and communism). The ARS workers belonged to the trade union *Asociación Trabajadores del Estado* (ATE) which organised state workers, and which, until 1992, belonged to the CGT, a confederation linked to Peronist ideology.

Traditionally, elected union authorities at local level belonged to the official "Blue and White" list that represented the Peronist trade union orthodoxy. However, the election of union delegates by sector of production (instead of from a unique list) enabled the participation of new union leaders who could confront with the bureaucracy of the union. This allowed expansion of trade union democracy into the shipyard. At the beginning of 1970s most of these new delegates belonged to political ideologies of the Left.

During these days, the main reasons for trade union conflicts at the factory were wage levels, participation in wage negotiations, and discussion of collective labour agreements. Health, safety, and working conditions were additional demands of the workers presented in conflicts. Many of the demonstrations undertaken during 1974-75 demanded increased wages, and collective labour agreements were jointly co-ordinated with other industrial workers in the region (petrochemical, steel, and metallurgical workers). These actions were also discussed in the local press, putting in context the labour dispute presented in Ensenada, Berisso, and La Plata that reflected the action existing at national level.

In February 1975 an assembly of 2,500 workers, protesting against the administration of the shipyard, requested a wage increase based on the

increase in the cost of living. This wage conflict had a positive resolution for the workers. In July 1975, a demonstration at the headquarters of the CGT (La Plata Section) was held in defence of the collective labour agreements suspended by the national government that year. Workers in the major factories in the region joined the demonstration, which culminated in a massive mobilisation of 10,000 workers.

However, during the military regime, and according to the repressive policy put in practice by the employer with the support of military force, labour strategies were transformed. To avoid direct repression, workers developed “underground” practices of resistance at the level of their job: working slowly and reluctantly, partial interruptions of tasks, sabotage, and so forth.¹⁹ The first explicit demonstration of ARS workers after the dictatorship period took place in 1983, when the democratic political process in Argentina began.

The role played by the state, navy, and armed forces generally was clearly repressive. The most significant practices implemented were: militarisation of the factory, arrest of workers, disappearance and murder of workers, and repression of meetings and strikes. The explosion of a bomb in the frigate *Trinity* on 22 August 1975 deepened the repressive climate in the factory. Interventions and other forms of repression of workers increased after the attack. Although the attack was attributed to an armed political organisation without explicit links to ARS workers, the navy saw the militancy of the workers of the ARS as a real threat to its plans.

The repressive policy applied to the company during the dictatorship had tragic results in the disappearance of forty-two workers and the murders of eleven militant workers. This policy interrupted the participation and representation of employees in the workplace, eliminated potential new union leaders, and increased the distance between the trade union leadership and workers, since the trade union bureaucracy was often a silent witness to the repressive process. The new forced internal discipline resulted in the demobilisation of the workers and the modification of power relations between capital and labour, with a clear advantage to the former. Unsurprisingly, with the alternative of death or disappearance – usually the same outcome – the repressive policies succeeded in increasing labour productivity and the rationalisation of production.

19 See Barragán, “Disciplinamiento industrial, represión y conflictividad obrera en una empresa estatal”, and “Acción obrera durante la última dictadura militar, la represión en una empresa estatal”.

Labour protest and strategies of resistance to privatisation in the 1990s

The high exchange rate, the sudden opening of the internal market to international capital, and the closing and/or privatisation of the largest state-owned companies were the new features of the context in which the ARS had to survive.²⁰ In this sector, new policies of liberalisation were introduced, which established the deregulation of maritime transport, elimination of cargo-reserve requirements for national ships, elimination of tax benefits, dissolution of the Fund for the Merchant Navy (the main source of financing), and implementation of strategic privatisation practices in state-owned shipyards.²¹ Thus, in 1991, ARS was declared subject to privatisation, under the Economic Emergency and State Reform Acts.

This, the decreasing demand for ships, and the changes introduced in the regulatory framework produced an almost complete paralysis at ARS. Moreover, the government implemented a rationalisation plan to cut down on the numbers of employees. From 1990 to 1993, ARS cut 60 per cent of its workforce.

During those years, there were severe conflicts within the company, in which workers, together with their union leaders, argued for ARS to be productively active again and returned completely and permanently to state-ownership.²² As a result of the particular articulation of strategies, ARS was able to avoid privatisation in the end and was transferred in 1993 to the government of the province of Buenos Aires. The company's "rescue" by the provincial government did not save it, though, from the policies of readjustment. In 1995, the installation of a free trade zone on a lot owned by the shipyard was approved, leaving only 23 of its 229 hectares to the shipyard.²³ This measure resulted in the loss of several facilities and pieces of equipment, that is, a reduction in its installed capacity. Moreover, the provincial budget adjustment caused the company's equipment to become obsolete due to lack of replacement, a personnel freeze, and lack of financial resources to embark on new projects.

20 See, Murillo, "La adaptación del sindicalismo argentino a las reformas de mercado en la primera presidencia de Menem".

21 See Frassa and Russo, "Trayectoria reciente y perspectivas futuras de la industria naval pesada argentina".

22 Pérez Pradal, *Contra el naufragio*.

23 In 2006 part of that territory was recovered and, with it, some areas essential for production such as workshops and working yards.

It is noteworthy that the company continued to keep its traditional organisational structure on the production side, but this was not accompanied by a business strategy of modernisation and restructuring, which were the options adopted by the most important shipbuilding countries as a result of the strong recession and deregulation suffered by the sector since the 1980s.²⁴

The dynamic articulation of social actors' strategies

Up to the transfer of ARS to the provincial government in 1993 the workers' strategies were to avoid privatisation and to maintain productive capacity at ARS. Between 1989 and 1993 the ARS workers, belonging to ATE from CTA,²⁵ initiated more and more politicised open labour disputes in response to attempts at privatisation and company readjustment. These conflicts took different forms: factory seizures, the withdrawal of collaboration, demonstrations at government offices, road blockades, and seizures of public buildings. The main claims were payment of outstanding salaries, opposition to privatisation, and national industry defence.

To make its resistance stronger, the union gained the support of the local community to the claim and made alliances with other workers in the area. Conflict visibility was another key element. Since the company became public, the "pluralisation" and "publicity" of labour disputes were fundamental for the strategy's success. The democratic and pluralist characteristics of the ARS structure (a Board of Union Delegates and a General Assembly) contributed to the resistance.²⁶ This structure fostered democratic decisions, permitted the workers to take control of the union leadership, and allowed the quick organisation of collective action. Moreover, the concentration of workers at the same place and the bond created outside the factory with neighbours from the towns of Berisso and Ensenada encouraged united action.

The opposition strategy undertaken jointly by union leaders, workers, and middle management conditioned, mostly, the strategies developed by government officials. In the state sector, however, three actors with

24 For this, see, for example, Todd, *Industrial Dislocation*, and Str ath, *The Politics of De-Industrialisation*.

25 Since 1992, ATE joined with Central de Trabajadores Argentinos (CTA), a new central union that was created as opposition to neo-liberal policies implemented by the Menem government.

26 See Montes, *Astillero R o Santiago, su historia y su lucha relatada por sus trabajadores*.

interests and different forms of conduct towards the company must be distinguished. First, the national government, in order to reduce the public deficit, tried to terminate the relationship with every productive asset and implemented a strong and fast adjustment policy. Due to the difficulty in finding a buyer for the shipyard in the short term,²⁷ and the high level of resistance to privatisation on the part of the ARS workers, the executives decided to make a politically feasible deal with the provincial government, and transferred the company to it. This alternative allowed the national government to disregard the social conflict engendered by the privatisation process in the area²⁸ and to continue moving forward with its privatisation policies in other big companies, which were far more profitable and could therefore attract more private capital.²⁹

Second, the navy, responsible for managing the company since the beginning, launched an ambivalent strategy. While its management depended on the policies set by the executive, it did have a certain room to manoeuvre inside the organisation. Even if it followed central government policies, when faced with workers' resistance, it changed its attitude to let workers keep a certain amount of power over the company. The navy shared with workers the nationalist ideology which had inspired the company's creation; and the goal was to keep the productive operation of the ARS as a bastion of the local naval industry. Although the navy sought to protect its own interests and resources which were threatened by the national government's privatisation policies, in the end it lost its involvement in the company after the province took over the ARS.³⁰

Third, the provincial government's decision to take over the company mainly responded to political and economic interests: political, because ARS control allowed it to stifle the regional struggles which were becoming

27 The deep recession in the international shipbuilding sector did not help in finding a potential buyer for the company.

28 The privatisation of the YPF distillery and the restructuring of other factories in the area had a strong impact on Berisso and Ensenada, two industrial towns which began to suffer high unemployment.

29 Being smaller than the other state-owned companies participating in the privatisation process (the oil company YPF, the national telecommunications company ENTEL, the energy provider SEGBA, the airline Aerolíneas Argentinas, etc.), ARS was not a priority, and this fact helped delay the privatisation attempt.

30 According to the testimonies, collected in interviews, of the manager auditor between 1990 and 1993 and union leaders of ARS, who were privileged witnesses in negotiations about the shipyard's future, the navy developed an ambivalent and defensive business strategy. For details about actors' strategies in facing the attempts at privatising ARS, see Frassa, "Estrategias de resistencia laboral frente a la política privatizadora neoliberal".

increasingly more visible, and to add a new source of power for partisan use; economic, because, on top of the funds transferred by the national government, the installation of a free trade zone in that area allowed the government to obtain important commercial profits in a previously non-productive space.

All in all, each government actor launched a rational strategy which best suited its interests, even if they did not always achieve their “maximum” objective. Such strategies, rational in the context,³¹ reached a satisfactory if not optimal solution.

The ARS workers, also, developed a defensive strategy to confront the government’s privatisation policies, taking an active role to keep the company productive and, later, to reactivate it. This strategy was supported by the organisation of production by trade groups, the specific organisational culture, and the strong sense of identity associated with the shipyard. With its production almost totally paralysed and lacking a business strategy for restructuring, the high level of expertise of the workers and the organisation by trade groups allowed ARS to keep its operation going using informal labour rules and accumulated productive capacities.³² Retaining the workers’ know-how was vital to be able to reactivate the shipyard later.

Conclusions

Based on the portrayal up to here, I will try, first, to point out the biggest challenges that the company faces in the different dimensions analysed in this chapter and, second, to reflect upon the role played by social actors (especially workers) on the trajectory of the company.

In terms of production challenges, there is a significant underutilisation of the workforce as well as the technical and productive capacity accumulated in the company throughout its history. The lack of a long-term national policy for the shipbuilding industry, the prevalence of political criteria above technical-productive ones in business management, the loss of organisational routines, the reduction of value-added production,

³¹ According to Simon, *El comportamiento administrativo*, the satisfaction criteria of the decision-taker is influenced by the characteristic features of the context, which is why actor strategies must always be understood within the system of action they correspond to.

³² I am making particular reference to the maintenance of machinery at times of production stoppages and its ability to embark on new projects in a restricted economic context.

and the disappearance of the areas of design and development of projects, among other variables, resulted in a deterioration in the shipyard's competitiveness.

Among the main productive challenges that lie ahead for the shipyard as a consequence of approaching international standards of production, the following could be pointed out: it should modernise its equipment and infrastructure; reverse the current ratio between direct and indirect workers; diversify production and promote construction of new ships for the navy; increase the number of construction orders through marketing; attain funding to carry out an investment plan; make productive and technical agreements with national agencies and state-owned enterprises (such as the recently nationalised YPF, Dirección de Vialidad, and La Plata Port, among others) for the building of ships and mechanical works; and reorganise administrative processes to match the purchase and supply of materials to production needs.

Likewise, the productive-economic logic, on one hand, and the political logic, on the other, present in the specific functioning of any state-owned enterprise, are currently in clear tension at ARS. This condition has led the shipyard to a situation of confusion in direction, lack of global guidelines, and organisational and productive imbalances, often with consequences for industrial relations.

On the other hand, analysis of the work culture demonstrates the current validity of the values, goals, and historical assumptions of the company (especially the promotion of economic sovereignty and commitment to the development of national industry).

These symbolic supports, combined with the material benefits that provided employment in ARS, built up a strong labour identity in their workers. This identity was reinforced by a sense of "professional pride" present in craft workers and by the validation of the working-class protests that occurred in the shipyard in the past four decades, which are part of the collective memory of the workers.

In relation to the characteristics of industrial relations existing in the shipyard and the labour disputes analysed here, it could be concluded that, as shown in the recent history of ARS, the path followed by management cannot be explained solely by external logic such as changed and changing market conditions or the macro-economic policies implemented, which would have imposed universal and homogeneous changes on them. On the contrary, if we want to explain the companies' business tracks and assess their differences, we must consider the actions taken by the social actors (workers, unions, employers, governments,

etc.) within each productive organisation versus the restrictions and opportunities available.

In conclusion, this case study shows how relevant the strategies of the social actors are³³ to the business tracks taken by the companies. The actors are the ones who, with a greater or lesser degree of restriction on their actions, perceive, understand, and deal with changes in the environment. Accepting that no logic of action imposes itself completely on the organisation is the first step in accounting for the true complexity of the social relationships developed within. This statement shows the tension existing in every social analysis: how much constraint there is on social action, or how much unpredictability and originality of behaviour there is which is not explained by the social system or the macro-economic determinants.

In this analysis, without trying to minimise the structural impacts of applied policies, as several authors have pointed out,³⁴ it is highlighted that the results of public policies can never be totally predictable because the articulation between the imposition of a macro-economic policy and the actors' behaviour is always unexpected. Track diversity, as I have analysed, is explained by structural conditions (characteristic features of the company, national and international conditions in the field) as well as by the actions of the intervening actors, suggesting that the macro-economic contextual constraints must be considered relatively if the transformation of companies over time is to be properly explored.

Reassessing the actions of social actors within the enterprise, I believe, is the most adequate approach to explaining the way in which recent global changes (corporate restructuring, production outsourcing, precarious employment conditions, labour market flexibility) affect the world of labour.

33 This element is usually underestimated or forgotten in analyses done from an economic point of view.

34 See Wainer and Schorr, "Trayectorias empresarias diferenciales durante la desindustrialización en la Argentina".

18 Labour in the Brazilian shipbuilding industry

A contribution to an analysis of the recovery period

Claudiana Guedes de Jesus

Introduction

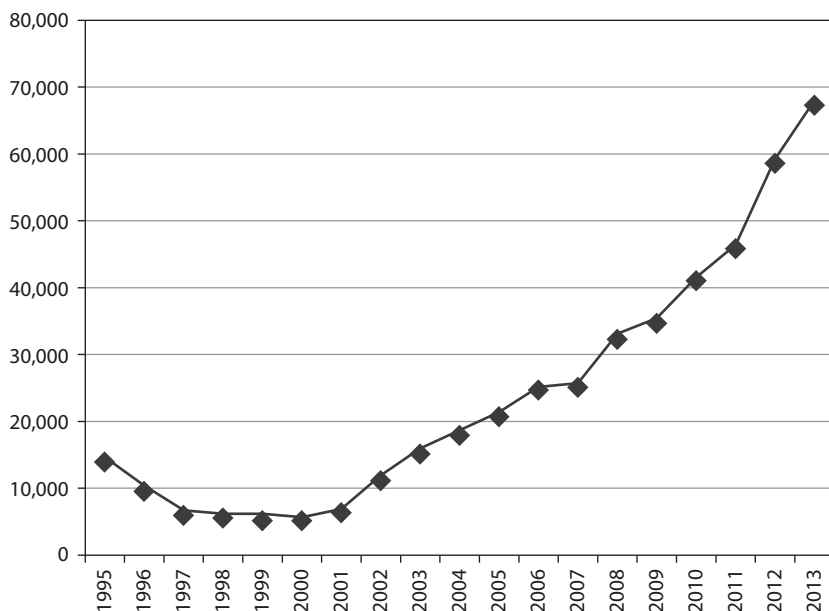
This chapter analyses the changes that took place in labour relations and activities within the Brazilian shipbuilding industry during the recovery in activity in the main shipyards from the late 1990s. The study has three central parts: first, the start and increase in the regional employment decentralisation process in the country's shipbuilding industry; secondly, it considers variables, mainly those linked to the number of jobs, education level, time working in the same company, age, and wage rate; the third part analyses information regarding manpower costs and productivity.¹

The Brazilian shipbuilding industry has passed through distinct stages during its development. The period from the mid-1950s through to the early 1980s witnessed the sector's structural development, growth, and peak;² thereafter, during the 1980s and 1990s, the industry faced a marked drop in production and in employment leading to the closure of a number of shipyards.

In the late 1990s, government policies promoted the sector's recovery in Brazil. The Brazilian government stimulated production through orders from the state-owned Petrobras/Transpetro monopolies, and the state demanded minimum local-content percentages in oil and gas exploration

1 The main sources utilised in this chapter, besides the technical literature, are the Work and Employment Ministry Annual List of Social Information-RAIS/MET Database and interviews with key industry personnel. In order to set methodological information, data from RAIS/MET was used to verify information about shipbuilding workers at year-end (31 December) in Brazil from 1995 to 2010. It is important to highlight that due to changes in the National Classification on Economic Activities (CNAE), in 2006, the shipbuilding labour categories were adjusted. In this chapter I used the following categories: CNAE 1.0 (between 1995 and 2005); CLASS 35114 – construction and recovery of ships and floating structures; CLASS 35112 – construction and recovery of ships for sports and leisure; CNAE 2.0 (since 2006): CLASS 30113 – construction of ships and floating structures; CLASS 30121 – construction of ships for sports and leisure; CLASS 33171 – ship maintenance and recovery.

2 In steel processing volume.

Figure 18.1 The number of jobs in the Brazilian shipbuilding industry, 1995-2013

Note: RAIS/MET: for 1995 to 2005 – CNAE 1.0 (CLASS 35114 – construction and recovery of ships and floating structures and CLASS 35122 – construction and recovery of ships for sports and leisure); from 2006 – CNAE 2.0 (CLASS 30113 – construction of ships and floating structures: CLASS 30121 – construction of ships for sports and leisure and CLASS 33171 – ship maintenance and recovery). All the attributes describe the situation of those who were working on 31 December of that year
 Source: Data from RAIS/MET from 1995 to 2013 (Group 301, CNAE 1.0 and CNAE 2.0)

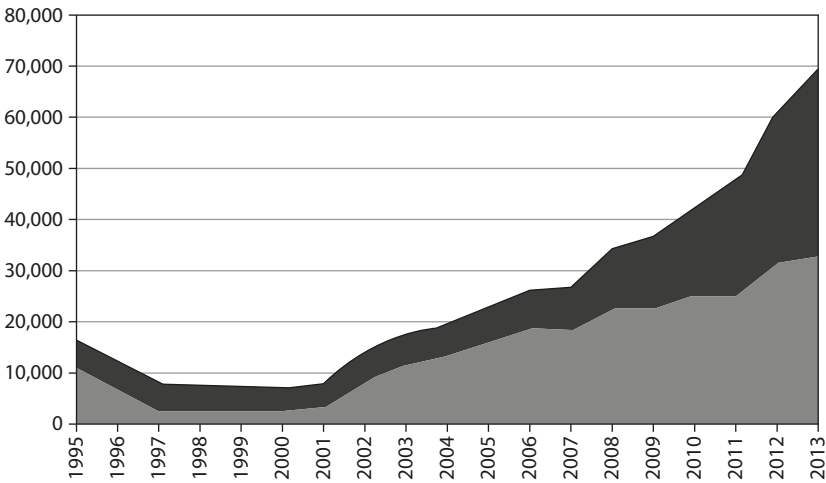
and production activities, and promoted tax and credit incentives from the Merchant Marine Fund (Fundo de Marinha Mercante, FMM).³

The current study highlights the definition of the Brazilian shipbuilding industry as a collection of small and medium-sized shipyards.⁴ Within the production chain, shipyards are responsible for the construction and assembling of ships often involving complex production processes. Employment

3 The FMM is the accounting fund used to provide resources to merchant navy and shipbuilding industry development. Its basic source is the Additional Freight and the Freight for Merchant Navy Recovery (AFRMM) fees paid for waterway transportation of any nature and unloaded in a Brazilian harbour, i.e., a fee paid based on goods' cabotage and importation activities. See Soares, Lage, and Procesi, "A retomada da indústria naval brasileira".

4 According to the CNAE, the shipbuilding industry is part of the transformation industry within the metal-mechanical sector within Transportation Equipment Manufacturing. Thus, shipbuilding workers are also called steelworkers.

Figure 18.2 Jobs in the Brazilian shipbuilding industry in Rio de Janeiro state, 1995-2013



Source: Data from RAIS/MET data between 1995 and 2013 (Group 301, CNAE 1.0 and CNAE 2.0)

peaked during the 1970s at approximately 39,000 workers, and thereafter declined to the year 2000 when just over 5,000 workers remained in the sector. However, in the subsequent recovery period, there were more than 68,000 workers by 2013 (see Figure 18.1).

The increase and start of the decentralisation of employment in the Brazilian shipbuilding industry

From 1995 to 2013, there was a significant increase – 464.2 per cent – in the number of workers in the shipbuilding industry in Brazil. Employment rose from 14,700 workers in 1995 to 68,000 in 2013 (see Figure 18.1). Throughout the period analysed, there were distinct moments. There was reduction and expansion in numbers employed. First, between 1995 and 2000, during the crisis period, there was a 257 per cent reduction – from 14,700 to 5,600 workers. At this time, the shipyards were closing. The recovery arrived after 2000 when the number of jobs constantly increased.

When we observe the distribution of these workers within the Brazilian states, their concentration in Rio de Janeiro state is clear. This state is the origin of the sector, and historically it hosted most of the shipyards. In 1995, the percentage of workers in Rio de Janeiro went from 74 per cent of

Table 18.1 Employment distribution, by state, in the Brazilian shipbuilding industry, 1995 and 2013

Position	State	1995	%	2013	%
1	Rio de Janeiro	10,906	74.40	32,476	47.73
2	Pernambuco	80	0.55	11,027	16.21
3	Santa Catarina	360	2.46	6,029	8.86
4	São Paulo	1,425	9.72	3,522	5.18
5	Amazonas	231	1.58	2,416	3.55
	Others	1,657	11.30	12,572	18.48
	Brazil	14,659	100.00	68,042	100.00

Source: RAIS/MET data 1995 and 2013 (Group 301, CNAE 1.0 and CNAE 2.0)

the national total to approximately 48 per cent, in 2013 (Figure 18.2 and Table 18.1).

Although shipyards were concentrated in the state of Rio de Janeiro, the state had a small loss in its participation during the years analysed (Figure 18.2) with state investment transferred mainly to the north-east region, and from 2007 particularly to the state of Pernambuco.

In Table 18.1, we can observe the percentage of employment from the five main states in 1995 and 2013, i.e., Rio de Janeiro, Pernambuco, Santa Catarina, São Paulo, and Amazonas. Pernambuco stands out for its sharp growth. Until 2007, it had virtually no representation in the industry. However, when the Atlântico Sul Shipyard (EAS) began its activities in 2008, it hired more than 1,500 workers in its first year.⁵ In 2013, it reached 16.2 per cent of the total employment in the industry and occupied the second position in the national ranking.

Santa Catarina and São Paulo states had historical representation within the shipbuilding industry because they hosted important shipyards such as Itajaí (1996) and Navship (2005) as well as the old Wilson Sons Shipyard (SP), which had been operating since 1937. Amazonas state stands out for its large amount of small and medium-sized shipyards.

5 In 2010, 4,748 workers were registered in the EAS/PE.

Table 18.2 Percentage distribution of workers within the Brazilian shipbuilding industry according to time working in the same company, 1995-2010

Year	Up to 2.9 months	From 3.0 to 5.9 months	From 6.0 to 11.9 months (1/2 to 1 year)	From 12.0 to 23.9 months (1 to 2 years)	From 24.0 to 35.9 months (2 to 3 years)	From 36.0 to 59.9 months (3 to 5 years)	60.0 to 119.9 months (5 to 10 years)	120 months or more (10 years or more)	Total number of workers
1995	4.48	5.10	11.04	20.17	9.05	14.75	20.67	14.70	14,659
1996	10.33	5.53	8.33	14.12	15.41	10.93	21.71	13.56	10,428
1997	10.45	12.80	13.49	14.33	10.63	14.57	16.74	6.94	6,725
1998	8.22	10.25	18.26	19.26	8.92	14.05	12.83	8.16	6,178
1999	9.45	12.46	17.85	17.17	13.87	12.84	9.93	6.33	6,180
2000	14.87	9.83	17.94	18.67	9.50	12.54	10.22	6.37	5,696
2001	14.12	14.60	19.57	17.80	9.57	10.12	9.16	5.07	6,900
2002	9.66	10.32	26.81	26.44	10.88	6.54	6.29	3.04	11,961
2003	11.08	10.82	22.19	23.66	15.34	9.46	5.11	2.33	15,970
2004	9.23	7.35	21.35	23.33	14.95	16.30	5.46	1.96	18,692
2005	11.35	7.48	16.71	21.33	15.31	18.10	7.41	2.18	21,381
2006	10.90	12.14	12.78	19.15	13.31	18.17	11.47	2.10	25,138
2007	9.93	8.49	13.92	19.25	12.91	18.07	14.81	2.60	25,739
2008	8.84	13.50	20.30	16.19	10.35	13.72	14.79	2.26	33,112
2009	11.43	7.79	15.23	24.41	10.68	12.53	15.62	2.26	35,431
2010	10.27	10.82	16.62	18.23	13.96	12.17	14.98	2.89	41,554

Source: RAIS/MET data between 1995 and 2010 (Group 301, CNAE 1.0 and CNAE 2.0)

Time working in the same company, age, education level, and wage rate in the Brazilian shipbuilding industry

Another trend that can be observed is the reduction in the time workers remained in the same company throughout the period, indicative of high manpower turnover in an industry, which responds to the demand cycle with a propensity to use short-term working contracts. Between 1995 and 2010, the percentage of workers who stayed five years or more in the same company went down from 35.4 per cent to 15 per cent, whereas employees who stayed up to two years went up from 23.8 per cent to 26.1 per cent (Table 18.2).

By analysing the changes in the workers' age distribution in the Brazilian shipbuilding industry during the period, we can observe an increase in the number of younger individuals. On the other hand, we can highlight the increase in the number of workers over 50 years old. Between 1995 and 2010, employees up to 29 years old increased from 9.3 per cent to 17.8 per cent. In 1995, more than 67 per cent of employees were concentrated in the age group between 30 and 49; this scenario has changed and the number had dropped down to approximately 46 per cent in 2010. A decrease both in the length of employment contracts and in workers' age have led to younger workers in Brazilian shipbuilding.

Regarding Table 18.3 on wage evolution, in the period analysed there was a strong increase in the number of workers who earn five or fewer minimum wages; in all together they jumped from 32.6 per cent to 74 per cent, whereas all ranges regarding workers who have earned more than five minimum wages had diminished. In 1995 they were almost 66 per cent and in 2002, just 21.5 per cent of the total. In 1995, the higher percentage of workers, 26.3 per cent, was within the range of wages above seven and up to ten minimum wages. This group went down to just 5 per cent of the total. In 2010, the situation changed the range with the higher percentage – 21.6 per cent – which corresponds to employees who earn between two and three minimum wages. We concluded that there was a significant reduction in shipbuilding workers' incomes, in minimum wages, during the period. However, it is salient to note the increase in the minimum wage values in the country between May 1995 and January 2010, a real accumulated increase of 71.8 per cent.⁶

6 From May 1995 to January 2010, as reported by Jesus, "Retomada da indústria de construção naval brasileira", 113, the minimum wage had a nominal adjustment of 410 per cent and an adjustment of approximately 197 per cent according to the INPC-IBGE.

Table 18.3 Percentage distribution of workers in the Brazilian shipbuilding industry in minimum wages, 1995-2010

Year	Up to 2.00 m.w.	From 2.01 to 3.00 m.w.	From 3.01 to 4.00 m.w.	From 4.01 to 5.00 m.w.	From 5.01 to 7.00 m.w.	From 7.01 to 10.00 m.w.	More than 10 m.w.
1995	8.93	8.46	8.06	7.15	17.03	26.26	22.61
1996	14.35	14.1	11.17	10.93	14.25	18.65	12.91
1997	16.03	19.57	12.73	8.50	20.48	14.5	8.09
1998	19.95	21.19	14.08	11.25	17.21	9.21	6.82
1999	20.84	19.51	16.30	10.95	17.91	7.54	6.70
2000	22.70	23.87	15.26	12.78	12.48	6.27	6.46
2001	22.12	21.35	15.46	15.35	14.22	6.12	5.27
2002	14.15	17.42	13.29	17.44	22.8	8.02	6.81
2003	11.53	15.40	14.32	20.07	22.44	9.23	6.89
2004	12.45	14.14	14.58	13.88	24.01	11.05	8.59
2005	13.10	15.18	17.46	13.92	22.53	8.60	6.77
2006	13.85	17.19	15.58	14.42	21.82	7.81	6.35
2007	16.97	18.44	17.42	14.18	16.89	6.21	5.74
2008	18.13	18.16	17.78	16.55	14.50	5.52	5.75
2009	21.37	19.03	17.83	15.01	12.16	4.74	5.55
2010	19.61	21.57	18.35	14.47	11.30	4.54	5.67

Source: RAIS/MET data between 1995 and 2010 (Group 301, CNAE 1.0 and CNAE 2.0)

Training of workers in the Brazilian shipbuilding industry varies from shipyard to shipyard. Manpower levels in shipyards have a significant impact on productivity and ship production.⁷ The division of labour within Brazilian shipyards was based on the master-apprentice relationship. Thus, it is linked to a vertical organisation in which the professional groups clearly reflect the education level achieved.

Usually, a worker starts his career in shipbuilding as a “freshman” worker, directly after training. For instance, in the BrasFels shipyard in Angra dos Reis, the worker begins as an assistant and takes steps upward until achieving the “in charge of” position. It is highlighted that, in this shipyard, workers follow a functional progression set by the job category’s collective agreements as described by Paulo Inácio Furtuozo:

even by the power of the agreement, our collective agreement, just for you to have an idea, a young worker who starts as assistant, he has a complete scale to get the “in charge of” position; this will depend on him alone [...]

7 Marins, “Técnicas avançadas em planejamento e controle da construção naval”, 31.

he starts up and within two years he already has to become official, in his third year he becomes a professional and then professional 1, professional 2, and after that leader, master and “in charge of”. The last criterion in there is a test and the attendance, punctuality.⁸

Training among shipbuilding workers is, to a great extent, characterised by learning by doing. The professional training based on real working practices remains the practical way of transmitting knowledge and skills, mainly in cases of master workers (or “in charge of” ones) responsible for part of the production process.

When the shipyards were relaunched, it was observed that this kind of shipbuilding culture was valorised. Brazil and mainly Rio de Janeiro state – due to its background in the industry – have specialised manpower trained on the shop floor. An example is the case of Angra dos Reis workers. When the BrasFels shipyard was reopened, the masters and the more experienced workers, who had been dismissed when the Verolme shipyard was closed in 1990, were all hired back by the new shipyard in order to work in their old positions. Since the recovery period, these expert workers have also been contracted by the new shipyards such as the Atlântico Sul Shipyard – EAS – in Pernambuco, which invited workers from Rio de Janeiro to work there.

In regard to shipbuilding culture and its technology in the Brazilian shipyards, Roberto Coelho Gonçalves, EISA CEO, highlighted in a 2011 interview that:

This is a thing which is sophisticated; Brazil had produced vessels since the 1950s, so experience has accumulated. Many people, initially, left Brazil, studied abroad, [and] brought the technology back here.

However, he highlighted that, as there are few records and documents regarding the working processes, a lot can be lost.

Almost all shipyards have their own professional training and employee development systems. According to the employers’ organisation, SINAVAL,⁹ the amounts invested are not reported publicly because of commercial confidentiality. Training is crucial. Although the shipyards do their own training, they prefer people with some education and technical background.

8 Paulo Inácio Furtuozo, interviewed 2 December 2011.

9 Sindicato Nacional da Indústria da Construção e Reparação Naval e Offshore, the national association representing shipbuilding, ship repairing and offshore work in Brazil: SINAVAL, *Report 2010*, 10.

Table 18.4 Percentage distribution of Brazilian shipbuilding workers by education level, 1995-2010

Year	Elementary school not finished	Elementary school finished	High school not finished	High school finished	College (finished or unfinished)	Total %	Total number
1995	54.84	17.92	5.57	14.01	7.18	100.00	14,659
1996	59.51	17.42	6.20	11.20	5.47	100.00	10,428
1997	51.49	23.15	7.12	12.24	5.62	100.00	6,725
1998	48.23	22.17	8.75	15.51	5.19	100.00	6,178
1999	43.20	27.35	9.75	14.24	5.39	100.00	6,180
2000	42.45	26.87	8.00	16.24	6.41	100.00	5,696
2001	42.86	26.81	7.78	16.42	6.09	100.00	6,900
2002	35.67	29.55	8.50	20.48	5.78	100.00	11,961
2003	34.84	28.03	8.50	22.57	6.04	100.00	15,970
2004	31.81	28.35	8.51	25.21	6.1	100.00	18,692
2005	31.52	25.55	9.60	27.42	5.88	100.00	21,381
2006	30.93	24.33	9.48	28.85	6.32	100.00	25,138
2007	30.26	21.44	10.27	31.57	6.36	100.00	25,739
2008	26.04	20.69	9.92	36.57	6.71	100.00	33,112
2009	23.60	19.15	10.06	39.85	7.27	100.00	35,431
2010	22.30	17.39	9.91	42.60	7.72	100.00	41,554

Source: RAIS/MET data between 1995 to 2010 (Group 301, CNAE 1.0 and CNAE 2.0)

Speaking a second language is especially important to working in areas such as project development and sales, since the technical documentation is often in English. Speaking a second language is fundamental to shipbuilding engineers and, in many cases, to the master workers.

Table 18.4 shows the range of employees who have finished high school. They increased from 14 per cent to 42.6 per cent within the period. Yet, it shows the concentration of such workers in 2010. The range corresponding to workers who finished elementary school (17.9 per cent) and to the group with college graduation (7.2 per cent) remained relatively stable (Table 18.4). It is also worth highlighting that the number of workers with post-graduate degrees (master's degree and/or PhD) remained low, going up from 0.01 per cent to 0.04 per cent within the period.¹⁰ In 1995, there was only one PhD professional; fifteen years later, there were eleven with master's degrees and three with PhDs.

¹⁰ In Table 18.4, data correspond to post-graduate individuals who are within the range of graduate workers, in view of their reduced number.

By analysing the income and education level rates, by comparing Tables 18.3 and 18.4, it is possible to see that those who had finished or were studying for college degrees together ranged from 7.2 per cent in the income table and those who earned ten minimum wages or more ranged more than 5.7 per cent. Certainly, higher salaries were paid to the most qualified workers.

The number of engineers in Brazil is much lower than the total number of employees, particularly in comparison to other countries. According to Cassiano Marins:

generally, Brazilian shipyards contain a small number of engineers in relation to the total number of employees. The percentage of engineers, overall, falls below 5 per cent. As a general comparison, Korean shipyards can have up to 2,000 engineers who represent approximately 10 per cent of the total manpower.¹¹

Two Shipbuilding Engineering Schools in Brazil stand out, one at USP in São Paulo (launched in 1956) and another one in UFRJ in Rio de Janeiro (launched in 1959). Both universities have important shipbuilding research centres, engineering schools, and post-graduate courses, which also cover waterway transportation and ocean systems. Recently, a third shipbuilding engineering formation course was launched at UFPA in Belém (PA). Its first class graduated in 2010.¹² In addition, a new Shipbuilding Engineering School at the Federal University of Pernambuco (UFPE) was launched in 2010. Its first classes started in 2011. It was the first Shipbuilding Engineering School in the north-east of Brazil.

According to a study by the Brazilian Development Bank (BNDES),¹³ it is necessary to highlight

the great demand for qualified manpower in Brazil due to the indifference to training in the sector in the past few years: the level of investment is almost zero. Such a scenario may change in the medium term, since different training programmes have been launched by the industry and

11 Marins, "Técnicas avançadas em planejamento e controle da construção naval", 31.

12 Assis, "Desafios, necessidades e perspectivas na formação e capacitação de recursos humanos na área aeronáutica e aquaviária". In 1959, the first shipbuilding engineering class graduated in Brazil – from the Escola Politécnica da Universidade de São Paulo – and in 1962, another class graduated in Rio de Janeiro from the Escola Politécnica da Universidade Federal do Rio de Janeiro (at that time, the institution was known as National Engineering School).

13 Dores, Lage, and Process, "A retomada da indústria naval brasileira", 293.

the government as well as by some university schools related to the shipbuilding industry.

As for gender distribution, the percentage of women among shipbuilding workers in Brazil increased from 5.3 per cent in 1995 to 6.8 per cent in 2010.

Manpower cost and productivity in the Brazilian shipbuilding industry

Manpower costs represent between 15 and 20 per cent of the total costs within Brazilian shipbuilding; they can vary according to two factors: the position of the shipyard on the learning curve, which defines the speed of productivity gains, and its level of technology, which determines the mechanisation level in its process.¹⁴

Studies done by consultancies at the time PROMEF (Program to Modernise the Fleet of Transpetro/Petrobras) was launched, in 2011, showed that the learning curve in the Brazilian shipbuilding industry presented a drop of 85 per cent. This means that every time the accumulated production doubles, there is 15 per cent reduction in manpower – measured by the mh/cgt (man-hours/compensated gross tonnage) indicator.¹⁵ The curve declivity in the Asian countries is of approximately 70 per cent.¹⁶

The cost of manpower in this sector in Brazil is low in comparison to the cost in the leader countries. According to Priscila Dores, Elisa Lage, and Lukas Processi, such costs vary between USD \$11 and USD \$19/mh, which is lower than that of some Asian and European countries, although it is higher than in China.¹⁷ According to C.G. Jesus in 2008, the cost including manpower varied between USD \$6 and USD \$10/mh (Table 18.5).¹⁸

In Table 18.5, we can observe the variation (from minimum to maximum) and the best estimation for the average cost per hour of shipbuilding manpower in Europe, Japan, Korea, China, and Brazil. China is in the leading position due to its very low cost in comparison to other countries, varying between USD \$1 and USD \$4/mh.

14 *Ibid.*, 292-293.

15 This is the standard manpower productivity indicator in the shipbuilding industry; it balances the variations in the level of complexity among the existing ship types. As for the offshore sector, mainly for probes and platforms, the mh/t indicator is used: *ibid.*, 291.

16 *Ibid.*, 292-93.

17 *Ibid.*

18 Jesus, “Retomada da indústria de construção naval brasileira”.

Table 18.5 Average cost of manpower, per hour, in the shipbuilding industry (in USD), 2008

	Minimum	Best estimate	Maximum
Europe	27.0	30.0	36.0
Japan	22.0	25.0	30.0
South Korea	11.5	13.0	17.0
China	1.0	1.4	4.0
Brazil	6.0	8.0	10.0

Source: Jesus, "Retomada da indústria de construção naval brasileira", 122

According to Jesus, Brazil does not need to reach the same productivity rates as Asian shipyards in order to become competitive, because one of the great advantages of the national industry is low manpower costs.¹⁹

In regard to the numbers of workers in the Brazilian shipbuilding industry, Jorge Roberto Coelho Gonçalves, CEO of EISA, pinpointed in an interview from 2011 that the productivity of labour in Brazil is lower than in Japan:

The more their [Japanese] workers produce, the less they need manpower. And, if you go deep in the MH, what these guys spend are numbers which go beyond perception, like, they reach 1/10 of what we spend to make the same thing. But I always say that you do not count the robot hours; isn't it so? The robot hours do not count. But, robot have a high cost, in fact, a huge cost from mobilising assets they order, and this is another problem. Today we import almost 100 per cent of the machines – imagine that.²⁰

As it is a manpower-intensive industry, reduced costs due to the experience of workers used to be significant in Brazilian shipbuilding, since it has a high share of manpower in its production process. Thus, if the costs

19 Some recent research co-ordinated by Prof. Floriano Pires (UFRJ), "Benchmarking internacional para indicadores e desempenho na construção naval", which is not yet publicly available, conclusions were shown in August 2007 in seminars on shipbuilding in COPPE/UFRJ (Alberto Luiz Coimbra Institute for Graduate Studies and Research in Engineering, Federal University of Rio de Janeiro). Brazil does not need to reach productivity levels like those from Asian shipyards in order to become competitive. According to the research, one of the great advantages of the national shipbuilding industry is its low manpower cost: Jesus, "Retomada da indústria de construção naval brasileira", 122.

20 Jorge Roberto Coelho Gonçalves, interviewed 23 February 2011.

with experience drop and if experience must be retained by these stable companies, then this effect will lead to an entry barrier.²¹

A common feature among all shipyards worldwide is the growing use of outsourcing. Outsourcing has been adopted by Brazilian shipbuilding on a wide scale, and not just in complementary fields in the industry (such as cleaning, provision of meals for workers, etc.) but actually as part of the production process. According to Leda Gitahy: in this sense, the reduction in the number of formal jobs and the consequent elimination of expenses of social insurance, as well as the reduction in the interference of trade unions within an economic crisis context, give rise to production externalisations.²²

Therefore, what we have observed in the Brazilian shipyards is a more and more intense outsourcing as a traditional cost-reduction strategy, thus reinforcing the deverticalisation and externalisation of the company's activities. This makes it difficult to measure the number of jobs in this industry due to high manpower turnover (short-term working contracts). As the shipbuilding industry operates in cycles, it depends on purchase orders. Outsourcing processes are used more and more. In an interview from 2011, Paulo Inácio Furtuozo highlights: "there are two things which are the evil of the century: [...] drugs [...] and here for us [it is] the sub-contractors, contractors".²³

Both safety and working conditions in the shipyards in 2010 deserve attention. The Regulatory Police – following NR 34, termed "Working Conditions and Environment in the Shipbuilding and Repair Industry" – aimed at setting the minimum requirements and safety protection actions to support health and the working environment in this industry's activities in Brazil. Such legislation considers shipbuilding as all the activities performed within the building plants or within ships and floating structures such as vessels, boats, speedboats, and fixed and floating platforms, among others.²⁴

The process was laid out by a three-part commission formed by government representatives, companies, and workers who, for approximately two and a half years, discussed and approved all that is written in the standardisation rules. The labour category points out that this is a victory and that the rules were essential to the formulation process. Other countries are using this regulation as their basis since it is a pioneer project in this

21 Fadda, "Construção naval – uma indústria global".

22 Gitahy, "Inovação tecnológica, subcontratação e mercado de trabalho".

23 Interview, 2 December 2011.

24 NR 34 – Working Conditions and Environment in the Shipbuilding and Recovery Industry, Publication DOU Ordinance SIT no. 200, from 20 January 2011, Changes/updates DOU, Ordinance SIT no. 317, from 8 May 2012. For more details see: [http://portal.mte.gov.br/data/files/8A7C816A36A27C14013750E887B25674/NR-34%20\(Atualizada%202012\).pdf](http://portal.mte.gov.br/data/files/8A7C816A36A27C14013750E887B25674/NR-34%20(Atualizada%202012).pdf) (last accessed 8 May 2012).

particular matter. Therefore, NR-34 regulated safe working in shipbuilding. Thus, the basis for the regulations on working conditions will be the same in the national territory for all the different activities. This of course raises another question: is it fully observed more in the breach than in the actuality?

Conclusion

The Brazilian shipbuilding industry's recovery relied on a significant increase in the number of jobs to satisfy mainly domestic demand in shipbuilding and offshore work. The level of certainty in the increase in the number of domestic orders brought up the expectancy that the number of jobs would keep growing (mainly the purchase orders from Petrobras to 2020). Thus, the need for trained manpower also grew and it reflected on the opening of new shipbuilding engineering schools in the country, in addition to all the technical schools inside the shipyards.

However, on the other hand, we can observe the trend of casualisation of working conditions, resulting from manpower turnover linked to shorter work contracts and to the hiring of younger individuals as well as to lower salaries and the use of outsourcing. By following world market trends, it is interesting to observe that, in comparison to leading Asian and European countries, with the exception of China, Brazil has lower manpower costs and a lower number of engineers, especially in relation to the industry's total number of employees. The differential in this labour market is the importance given to the "learning by doing" process and to the contracting processes based on orderbook demand.

The current indicators from the Brazilian shipbuilding industry corroborate the recovery of this sector in the country. The annual publication "Review of Maritime Transport of the United Nations Conference on Trade and Development" (UNCTAD), published in 2012, noted that Brazil is the country producing the highest volume of ships when its present fleet is taken under consideration. Moreover, it is the highest volume in the domestic shipbuilding industry's history. This, combined with expectations relative to oil exploration in the pre-salt Libra layer, gives rise to projections of an increase in orders, in conjunction with the effective guarantee of demand from Petrobras/Transpetro. This combination of demand factors promises a potentially new era for the shipbuilding industry in Brazil, which goes beyond the "recovery period", not only in fulfilling domestic demand but also in reducing dependence on foreign technologies.

19 **Brazilian shipbuilding and workers between tradition and innovation**

Shipyards Caneco/Rio Nave and Mauá – Rio de Janeiro, 1950-2014

Elina G. da Fonte Pessanha and Luisa Barbosa Pereira

Introduction

This chapter analyses how labour relations developed in the shipyards Caneco/Rio Nave and Mauá (Rio de Janeiro, Brazil) from 1950 to 2014, in terms of production relations and working conditions. We reflect on the role of state in the Brazilian shipbuilding industry; the labour process under different conditions; the profile of the workers; the workers' culture; the different forms of collective resistance of workers; and the historical action of their trade unions. We aim to show that both the Shipyards Caneco/Rio Nave and Mauá were central for the development of the shipbuilding industry in Brazil. Although both are privately owned shipyards, government financial support was vital to their continued survival.

Although huge changes have taken place in the shipbuilding industry from the 1950s until today, Brazilian shipbuilding workers have not lost their autonomy and have retained a distinct workers' culture. This culture was also key to making them one of the most important categories of workers in Brazil. In recent years, workers have improved their terms and conditions of employment through various forms of collective action.

Brazilian shipbuilding production and Mauá and Caneco Shipyards

In 1845, the first major private shipyard in Brazil, the Company Foundry and Shipyards of Ponta D'Areia (later known as Shipyard Mauá), was formed in Niterói. Owned by Irineu Evangelista de Souza, the baron of Mauá of the Brazilian Empire independent from Portugal (1822-1889), between 1849 and 1857 the company built about seventy vessels, including some used during

the War of Paraguay.¹ The pioneering initiative of Mauá was finally aborted in 1857 when, after the suspension of customs protection against foreign competition, a fire destroyed the shipyard, along with the shipbuilding models and moulds. Only at the beginning of twentieth century did the Company of Commerce and Navigation (CCN) put the shipyard of Mauá to work again.

Caneco Shipyard was founded by Vicente dos Santos Caneco, who began with a small repair shipyard in Saúde, Rio de Janeiro, in 1886. At the end of the nineteenth century, with the advent of the republic, the region became a maritime cluster with some 3,000 workers. In 1909 the Caneco Shipyard expanded by moving to Caju, also in Rio de Janeiro. Up to 1915 Caneco had constructed only small vessels. After 1928, renamed as Indústrias Reunidas Caneco SA, the shipyard comprised about 12,000 m² and had a bridge crane with capacity to lift up to 5,000 tons; its principal client was the War Ministry of Brazil.

Although there had been some growth in the sector during the interwar period, Brazil had not yet developed a heavy steel industry.² By 1940, however, its small domestic industry (the first steel mills were built in the 1930s where large proven reserves of iron ore were located) was self-sufficient in pig iron and ingot steel and could produce 75 per cent of all light sections and bars, but could not provide heavy rolled steel plate in sufficient quantity needed to grow its shipbuilding industry, with some 90 per cent of rolled steel imported. Only after the Second World War was an integrated steel mill established at Volta Redonda in Rio de Janeiro state; once opened in 1946 under the state-owned Companhia Siderúrgica Nacional it became the first fully integrated steel mill in South America, signalling the beginning of a new era in Brazilian steel-making and industrialisation.³

1 The War of Paraguay (also known as the War of the Triple Alliance) lasted from late 1864 to 1870, by which stage it had long descended into a guerrilla war, and ended in utter defeat for Paraguay, with Brazil occupying the country until 1876. In May 1865, the Treaty of the Triple Alliance was signed between Argentina, Brazil, and Uruguay. In the aftermath of war, Brazil sought to retain Paraguay as a buffer state to check Argentinean expansionism.

2 For the history of Brazilian economic development, see Furtado, *The Economic Growth of Brazil*, and Baer, *The Brazilian Economy*.

3 The Volta Redonda steel mill embodied the import-substitution industrial policies that prevailed in Latin American economies from the Second World War until the Latin American debt crisis in the 1980s. In 1993, the steel mill was privatised and is now known as the Presidente Vargas Steelworks.

The great stimulus to Brazilian shipbuilding after 1956

An important stimulus to Caneco and Mauá Shipyards occurred in the late 1950s after efforts to increase industrialisation by Getulio Vargas's government. Inspired by developmental objectives, the political initiatives of President Juscelino Kubstichek, with specific goals (Goals Plan/Plano de Metas) for the ports, merchant marine, and shipbuilding industry, were essential in this process. The state began to invest more in the shipbuilding industry.

In a 1956 report, the Ministry of Transport pointed to the low performance of Brazil's merchant marine, with a commercial fleet for heavy loads of only twenty ships,⁴ built in the period 1947-1948, a fleet of coastal vessels more than twenty years old, and high expenditure on chartering foreign vessels. The report proposed reform of the financial basis of Brazil's industry – public and private – with the creation of taxes to compose a Merchant Marine Fund (Fundo de Marinha Mercante, FMM),⁵ in order to renovate and expand the national fleet and stimulate shipbuilding. An executive group called GEICON was created,⁶ which approved projects of shipyard expansion (Caneco, Mauá, and Emaq) and construction of others to facilitate the boom in building tankers. Ishikawajima Heavy Industries (IHI), with Japanese capital (Ishibrás shipyard opened in 1959, in Rio de Janeiro, and closed in 1994) and Verolme, with Dutch capital (opened in Angra dos Reis in 1959 and closed in 1997). Both IHI and Verolme were attracted, despite an initial paucity of skilled labour, by access to a previously protected market and cheap labour, and, in the case of IHI, the prospect of using its heavy machinery division to export plant and equipment to Brazil.⁷ The Goals Plan aided the cluster of shipyards in Rio de Janeiro, and Caneco expanded its facilities to 147,000 m².

The taxes to support the shipbuilding industry were created by the Decree No. 47,818 of 25 February 1960. This decree, *inter alia*, imposed

4 The Brazilian commercial fleet carried only 4 per cent of the volume of exports. For a detailed analysis, see Goularti Filho, "A trajetória da marinha mercante brasileira".

5 The Merchant Marine Fund was created by Law 3381/1958 during the government of Juscelino Kubstichek. It has been changing since 1970. For more information, see http://www.planalto.gov.br/ccivil_03/leis/1950-1969/L3381.htm (accessed on 22 January 2013). The fund is now governed by Law 10893/2004.

6 Grupo Executivo da Indústria de Construção Naval (Executive Group for Shipbuilding Industry). The GEICON (Grupo Executivo da Indústria de Construção Naval – Executive Group for Shipbuilding Industry) was a federal government organisation that controlled shipyards and their building activities. For Geicon, see *Grupo Executivo da Indústria de Construção Naval (GEICON)*.

7 For the mobility of shipbuilding industry worldwide, a classical study is Todd, *Industrial Dislocation*. In terms of global social division of labour, see mainly van der Linden, *Workers of the World*.

taxes on goods transported by sea, at the rate of 5 per cent on all freight in international shipping (import or export), to build up a “fund for renewal of the fleet”. In addition, a tax amounting to 15 per cent was levied on all freight received by ships plying between Brazilian ports (coastal shipping) to establish the Merchant Marine Fund.

The “fund for renewal of the fleet” could be used for the purchase, by Brazilian shipowners, of new tonnage, both in Brazil and abroad. On the other hand, the FMM could also be used for repairing and maintaining Brazilian ships, either in Brazil or abroad, if this work could not be performed in Brazil.⁸ A public body, the Council of Merchant Marine (CMM), administered both funds.

Ships purchased by CMM were resold to Brazilian shipowners with CMM funding. The shipowners paid 20 per cent in cash, while the balance could be paid off over a period of up to 20 years in monthly instalments and at an 8 per cent annual rate of interest. As far as the FMM was concerned, sums were paid in cash, the shipowners having access also to a special fund, used solely for repairs, maintenance in dry docks, and restoration of ships in this fleet.⁹ In 1961, however, the expansion began to present problems, and the level of shipyard production began to decline. Factors such as the disruption of port administration, disjointed action by shipowners, and the high cost of production due to the concomitant effort to expand businesses combined to spur on an inflationary process. Entrepreneurs also bemoaned the influence of prevailing high wage costs, since wages in the sector were above the national average in industry generally, in part due to the strength of the union movement of shipbuilding workers in association with the Seamen’s Confederation.

Modernisation under authoritarianism after the military coup of 1964

After the military coup of 1964 the shipbuilding industry in Brazil faced a critical situation due to lack of planning and weakness of the market.¹⁰ There

8 Archive of International Metalworkers Federation Collection at International Institute of Social History, Amsterdam, Netherlands, IMF’s 6th Shipbuilding Conference in Newcastle upon Tyne, 1967. According to the IMF the costs at those yards were higher than on the world market.

9 IMF’s Shipbuilding Conference in Newcastle upon Tyne, 1967.

10 The 1964 Brazilian *coup d’état* by the armed forces on 31 March 1964, culminated in the overthrow of President João Goulart, covertly supported by the United States. The military regime would last until 1985, when Tancredo Neves was indirectly elected the first civilian president of Brazil since the 1960 elections.

began a process of privatisation of production and changes to the state's role as a promoter and protector of Brazilian industry, which throughout the authoritarian regime would largely reflect the internal tensions between military groups that were more or less "nationalist". Only from the late 1960s were there signs of a new orientation, with the Emergency Plan for Shipbuilding (EPS), but the privatisation profile continued. The EPS established new rules of reciprocity in maritime transport between Brazil and other countries; ensured a 40 per cent share of national-flag vessels in foreign trade freight; and gave a stimulus to shipowners by guaranteeing them long-haul routes, formerly under the exclusive control of the state shipping company Lloyd Brasileiro. The new ship orders, for long-range navigation, injected new dynamism into the sector. The rates of companies' capacity utilisation rose to 60 per cent from 1967 to 1970, and production reached 344,000 dwt. In 1969, the CMM became SUNAMAM (National Superintendence of Merchant Marine).¹¹

The end of the EPS in 1970 brought in its wake a new crisis in orders, in a clear demonstration, once again, of the dependence of the sector on the state. The government undertook the 1st Naval Construction Plan (PCN), which had the aim of increasing mechanisation and automation in steel preparation, use of welding, hydraulic jacks and cranes, and centralisation of production systems. The plan provided orders of 1.8 mn dwt in total, worth USD \$1 bn, facilitated further importation of equipment, and improved the functioning of the Merchant Marine Fund.¹²

A government directive of 1971 led to Shipyard Mauá signing contracts with seven shipping companies for forty-five vessels worth USD \$500 mn, orders made possible by state financing arrangements. By 1973, Mauá reached maximum production, with the construction of twelve cargo ships of type SD-14, and two patrol vessels for the Brazilian navy. In 1974, under the authoritarian "nationalist" orientation of Ernesto Geisel's government, a second PCN was promulgated. This plan aimed for a volume of orders of 5.3 mn dwt, and planned expenditures of nearly USD \$4 bn that corresponded to the tripling of tonnage and financial resources of the 1st PCN. By 1979 the industry directly employed over 39,000 workers, and in the first half of 1980 Brazil had reached the second-highest volume of orders worldwide, behind Japan.¹³ In this period, the shipyards Ishibrás, Verolme, Caneco, and Mauá became leaders of the Brazilian shipbuilding until the crisis in the 1980s-1990s.

11 Pessanha, *Operários navais*, 60.

12 Goularti Filho, "A trajetória da marinha mercante brasileira", 261.

13 Pessanha, *Operários navais*, 64.

Table 19.1 Brazilian government shipbuilding plans, 1969-1979

Plan	Period	Targets (mn dwt)	Production (mn dwt)	USD \$bn	Shipyard capacity (000 tons steel per year)
Emergency Shipbuilding Plan	1969-70	0.5	0.4	n.a.	56.9
First Shipbuilding Plan	1971-74	1.6	0.8	1.2	76.9
Second Shipbuilding Plan	1975-79	5.3	2.6	3.2	367.5

Source: Ministry of Transport, Merchant Marine Department

Table 19.2 Main Brazilian shipyards in 1978

Shipyard	Capital	Workers	Capacity (dwt)
Ishibrás	Japanese	3,900	400,000
Verolme	Dutch	4,000	150,000 and 40,000*
Caneco	Brazilian	3,913	180,000
Cia Comercio Navegação/ Mauá	Brazilian	3,900	90,000

Note: *Two shipyard berths in use

Source: International Metalworkers Federation Collection/IISH 2nd Asian Shipbuilding Seminary (1978)

Earlier, in June 1976, the expansion and modernisation programme undertaken by CCN Mauá, then the world's fourth-largest builder of series of ships over 10,000 dwt, was nearing completion. The programme involved a total investment of approximately USD \$29.3 mn, and doubled Mauá's shipbuilding capacity by giving the yard two building berths instead of one, and brought into operation a substantial amount of automatic and semi-automatic equipment. The expansion allowed Mauá to construct ten to twelve series vessels a year instead of six, and enabled it to carry out its USD \$640.5-mn orderbook, which stretched through to 1980, from Brazilian, Greek, and Chilean owners. A slipway had been enlarged (820 ft in length by 138 ft wide), modernised and reinforced to enable the construction of vessels up to 90,000 dwt. In addition a second building berth had been created by converting the yard's graving dock to shipbuilding by widening it by 100 ft, giving a building capacity of up to 27,000 dwt. This concentration on shipbuilding meant that Mauá's ship repairing interests were transferred to Renave, then a new ship repairing consortium in which Mauá had a 16.3 per cent stake. The other partners were Petrobras, Lloyd Brasileiro, Vale Do Rio

Doce, Ishibrás, and IHI. Renave would operate from the island of Costeira, opposite Mauá's yard in the Bay of Guanabara, and had four graving docks, including two floating docks transferred from Mauá.¹⁴

Table 19.2 gives details of ownership, capital, employment, and capacity in 1978 of four principal Brazilian shipyards, all beneficiaries of government subsidies, direct and indirect.

Recession and crisis, 1980-1990

Despite huge state support, the upward trajectory of Brazil's shipbuilding industry was not immune from the effects of the oil crises and international downturns in the market for ships. Indeed, from the mid- to late 1980s, when Brazil was experiencing a political transition to democracy, the worldwide shipbuilding depression reached the country with a vengeance. By this stage the state body responsible for shipping and shipbuilding, SUNAMAM, had been plunged into a deep crisis and an investigation was made into its bills. Subsequently, cases of alleged corruption were discovered. The principal such case was connected with credits given to shipyards without proper financial controls and with prejudice to the state.¹⁵ The government took the option of reducing its intervention in the economy. This policy change had a profound effect on Brazilian shipbuilding. The collapse of the Dutch shipbuilding conglomerate, RSV (which included Verolme's Brazilian shipyard), meant that the shipyard passed into local control in 1983. That this occurred proved the strength, and in this case the weakness, of the Brazilian government's policy on shipbuilding. The strength of the policy was the encouragement of foreign direct investment and ownership as a way to stimulate its domestic industry to grow and emulate international competition, and foster employment and greater technological know-how in Brazilian companies. The weakness was that the cost of subsidisation to achieve this was high and could ultimately be successful only if all shipyards were working to capacity.

A prolonged recession from the late 1980s and during the 1990s, already under the new democratic constitution of 1988, resulted in dwindling orderbooks and underutilisation of capacity, and from the mid- to late 1990s

14 *Marine Reporter and Engineering News*, 15 June 1976.

15 "Investigação pode levar a prova de crime na SUNAMAM", *Jornal do Brasil*, 1 February 1985, 19. A few days later, the owner of Mauá Shipyard, Paulo Ferraz, pressed by debts, committed suicide ("Caso SUNAMAM leva Ferraz ao suicídio", *Jornal do Brasil*, 8 February 1985, 1).

onwards the vast majority of workers in all Brazilian shipyards lost their jobs. In 1979, with 1,394 mn dwt delivered, the shipbuilding workforce in Brazil comprised 39,155 workers; in 1998, with 149,117 dwt delivered, there were only 1,880.¹⁶

Caneco Shipyard was one of the last shipyards to face a crisis. In 1985 Caneco could build ships up to 100,000 dwt and had around 10,000 workers (including sub-contracted workers). As the market for shipbuilding steadily diminished, the government withdrew funding for shipbuilding and, in 1994, Caneco worked only in small repairs and ship-breaking with a small sub-contracted workforce. According to our research the shipyard ceased activities in 1997. In 2000, however, on the initiative of a group of former employees, the shipyard was reactivated with the signing of a lease between Industrias Reunidas Caneco and Rio Nave Serviços Navais Ltd, established with its headquarters at the same Rio de Janeiro address in order to use the facilities, technology, and expertise of the landlord. Operated by Shipyard Rio Nave, ship repair, conversion of vessels, and processing and assembly of structural blocks for others were undertaken, in addition to the continuation of the traditional activity of building new ships. Nonetheless, the process of final bankruptcy of Caneco was exceedingly slow, and Caneco Shipyard was declared bankrupt only in 2006. Rio Nave Serviços Navais Ltd continued its activities under the same contract immediately after the passage of the new bankruptcy law.¹⁷ In late 2009, the Shipyard Rio Nave had 95 per cent of its shares acquired by ESTAI (Escritório de Serviços Técnicos e Assessoria Industrial), whose majority shareholder is Mauro Orofino Campos, a marine engineer with extensive experience in the shipping industry and shipbuilding in Brazil. Currently, ESTAI controls 66.67 per cent of the company's shares with 28.33 per cent belonging to Nitpar Holdings, another company controlled by Campos. Around 900 of Caneco's workers who were laid off in 1997 have been receiving their late salaries and labour benefits in lower portions, year by year, until today (early 2014).

According to Pedro Batista, who had worked at the yard since the 1980s, first at Caneco and now at Rio Nave, the deep crisis at Caneco really started

16 Data from SINAVAL-Sindicato Nacional das Indústrias da Construção Naval (the official union of the owners of shipyards). Labour legislation in Brazil regulates the formation of separate local unions of workers and of owners, to manage conflict and conduct negotiations under the control of Labour Courts.

17 The new bankruptcy law (Law 11.101, in 2005) limited the preference of labour credits and the credits of labour accidents for 150 "minimum wages", which is around USD \$100,000. This politically biased law removed a labour right with the argument of saving workers' contracts that "could be in danger" with the bankruptcy process.

during Fernando Collor's neo-liberal government (1990-1992). The workers were forced to take collective holiday, there was a lack of jobs, and wages were frequently late. According to Batista:

I was working at the shipyard [...] One day, we went to the shipyard door, to work, and the door was closed. We thought: "It is over."¹⁸

The neo-liberal orientation was maintained during the eight years of the government of Fernando Henrique Cardoso (1994-2002), with serious damage to workers' rights. In the early 2000s Rio Nave started to operate in only a part of the total area of the shipyard, and now occupies an area of 94,766 m² with 43,052 m² of this space indoors. The company Intercan Terminais de Containeres e Logística rents a small part of the yard. The Rio Nave Company employed some labourers, but did not assume past labour claims or take responsibility for late wages. At this moment, Rio Nave have a workforce of 1,550 workers (650 on sub-contracting jobs), with projected increases, in the short term, to 2,500 workers,¹⁹ but the situation of the shipyard is unstable. Even new employees faced problems of non-compliance with the job contract, and government support was not as strong as the industry needed.²⁰

In the case of Mauá, from March 1997 to December 1998, the shipyard was leased by the group SEAPAR, which kept the ship repairing activities and some platform work. From the year 1999 Mauá Shipyard was leased to Naval Maritime Constructions which continued the same activities.²¹ However, in September 2000, the Singaporean ship repairing and conversion conglomerate, Jurong, assumed the lease of Mauá Shipyard, under the name Mauá-Jurong SA. Production resumed with the construction of modules for oil and gas platforms, and the activity of ship repair was also maintained. Indeed, the number of employees reached 2,000, according to SINAVAL. Today, Mauá Shipyard has more than 4,000 effective workers,²² and is controlled by the Synergy Group Corporation, a South American conglomerate, created and owned by German Efromovich, and headquartered in Rio de Janeiro.

18 Pedro Batista, 59 years old, interview with Luisa Barbosa Pereira, 29 May 2012.

19 Information available on Rio Nave website: www.rionave.com.br (accessed 12 March 2013).

20 Barbosa Pereira, "Navegar é preciso", 278.

21 *Jornal do Brasil, Economia*, 26 August 1999, 15.

22 This estimate is given by the local workers' metal union, Sindicato dos Metalúrgicos de Niterói.

The Brazilian shipbuilding industry in the 2000s: the affirmative role of the state

In the early 2000s, the picture seemed to improve for shipbuilding industry, at least at the regional level. Earlier, in 1999, under pressure from trade unions, the secretariat of the shipbuilding industry, energy, and gas was created in Rio de Janeiro. In that year, a programme called Fleet Naval Renovation and Maritime Support was implemented; followed in 2000 by the programme Navigate Brazil; neither had a strong impact on the shipbuilding industry. In 2001, under pressure from Rio de Janeiro deputies, a National Agency of Aquatic Transport (ANTAQ) was formed. The Brazilian government has also established a specific programme to nationalise oil platforms. In addition, trade unions created the Inter Unions Forum for the Development of the Shipbuilding Industry in Rio de Janeiro.²³

The most important government stimulus took place only after 2003, when the Workers' Party government (Partido dos Trabalhadores, PT) came to power. The federal government of Luiz Inácio Lula da Silva,²⁴ from the time of its election worked for the development of the shipbuilding industry, through subsidies, financial support for local shipyards, special laws, and – mainly – with orders from the state-owned oil and gas company, Petrobras, and its transport subsidiary company, Transpetro.

The government launched various plans for the expansion of the national fleet. The principal plans were: the Mobilisation Programme for the National Industry of Oil and Natural Gas (PROMINP) and the Programme of Expansion and Modernisation of the Fleet of Maritime Support (PROMEF). By presidential decree in 2003, PROMINP was created aiming to improve qualification policies for workers, and to encourage the participation of domestic goods and services industries in the implementation of oil and gas projects in Brazil and abroad.

In 2005 PROMEF – the main instrument of renewal of the shipbuilding industry in Brazil in recent years – was launched.²⁵ The first orders were for forty-nine ships, eleven to Rio de Janeiro shipyards, with Mauá receiving four orders. In the following period the orders increased to 149 maritime

23 Barbosa Pereira, "Navegar é preciso", 211.

24 Luiz Inácio Lula da Silva (Lula) was president of Brazil between 2003 and 2010. He was the main leader of the "new unionism" in Brazil and one of the founders of CUT (Central Única dos Trabalhadores) and PT (Partido dos Trabalhadores).

25 Guedes de Jesus and Gitahy, "Transformações na indústria de construção naval brasileira", 390.

Table 19.3 Ships delivered to Transpetro, 2011-2014

Date	Shipyard	Tanker	Type of tanker
November 2011	Mauá	<i>Celso Furtado</i>	Product tanker
May 2012	EAS	<i>João Cândido</i>	Oil tanker
July 2012	Mauá	<i>Sérgio Buarque Holanda</i>	Product tanker
January 2013	Mauá	<i>Rômulo Almeida</i>	Product tanker
May 2013	EAS	<i>Zumbi dos Palmares</i>	Oil tanker
January 2014	Mauá	<i>José Alencar</i>	Product tanker
April 2014	EAS	<i>Dragão do Mar</i>	Oil tanker

Note: EAS: Atlantico Sul Shipyard

Source: SINAVAL (Information for candidates in the 2014 elections, August 2014)

support ships, 11 platforms, and 19 oil and gas tankers, in addition to others.²⁶ In November 2011, Mauá Shipyard launched the first ship under the PROMEF programme, a tanker vessel – for oil “white derivatives” – named *Celso Furtado* (a leading economist punished by the military coup of 1964). Up to April 2014, thanks to PROMEF, seven ships had already been delivered to Transpetro, as we can see in Table 19.3.

There were also other important financing initiatives. One of the most significant was the restructuring of the Merchant Marine Fund, begun in 2009.²⁷ The FMM subsidies, which were vital for supporting the shipbuilding industry, declined during the international financial crisis period after 2008, and the fund suffered many changes up to the end of the decade, when the government created a tax added to freight, for the renewal of the merchant marine fleet (AFRMM, Adicional de Frete para Renovação da Marinha Mercante). The FMM got bigger, and this combination of factors, coupled with the discovery of oil in the Brazilian pre-salt layer, reintroduced the Brazilian shipbuilding industry to the group of big producers of the world.²⁸ Rio Nave has directly benefited from FMM subsidies (through STX OSV and Guanabara Consórcio), by PROMINP; and indirectly through the subsidies given by Transpetro/Petrobras in PROMEF. Today, the Petrobras Company is Rio Nave’s principal client.

As the Shipyards Caneco/Rio Nave and Mauá are private, throughout their history the state has frequently given them subsidies to develop their shipyards, and shipbuilding in general. The role of the state has always been

26 SINAVAL, Balanço Anual de Atividades, Rio de Janeiro, 2008.

27 Resolution CMN 3.828, in 2009, and Act 11.786, in 2008.

28 In 2012 the disbursement of FMM was of R\$ 2,924 bn (USD \$1,439 bn at that time): SINAVAL, SIM- SINAVAL *Informa Mensal*, December 2012, 2.

fundamental for the Brazilian shipbuilding industry, and in recent years the renewal of this sector and its reorientation towards offshore work has been possible only because of this strategy. Because of these programmes and financial support, by 2011 the number of shipbuilding workers in Brazil had grown to 62,000 contract workers.²⁹

Naval workers: labour conditions and collective action

Workers' profile

At the beginning of Brazilian industrialisation as well as during its initial expansion, the workers had mainly a rural background. With the evolution and consolidation of industrial growth after 1950, shipyard workers increasingly came to feel themselves a "working-class family". Our research shows that, until the 1980s, a referral from a family member was the principal way to get a job. The new workers were sons, brothers, or relatives of older shipbuilding workers or ex-workers. Frequently sons tried to follow their fathers into these jobs, although some interviews have indicated that many fathers did not recommend the job to their sons or relatives because of the hard and dangerous conditions inherent to it.

The workers were also recruited by the shipyards from technical schools such as SENAI's, to work as trainees.³⁰ SENAI had courses for platers, plumbers, fitter mechanics, electricians, cutters, carpenters, locksmiths, and lathe turners.

In terms of regular education, more than half of workers in 1995 (54.8 per cent) had not completed high school. In 2010, this percentage was 22.3 per cent. The proportion of workers who had completed high school (the educational stage before college) was 14 per cent in 1995 and grew to 42.6 per cent in 2010; 7.18 per cent of workers had gone to college in 1995 and 7.72 per cent in 2010. The number of engineers is also low. The average for engineers/shipyards in Brazil was 5 per cent in 2010.³¹

29 According to SINAVAL, *Cenário da Construção Naval Brasileira – Cenário do 4º trimestre – Balanço 2011*, www.sinaval.org.br (accessed 12 March 2013).

30 National Service of Industrial Learning (SENAI) is a Brazilian private institution of public interest, a non-profit, with a legal personality. SENAI was created by Decree 4.0482 of 22 January 1942. Its main goal is to support twenty-eight industrial areas through training of human resources and the provision of technical and technological services. The institution is still active.

31 Guedes de Jesus, "A retomada da indústria de construção naval brasileira", 119-121.

Until the 1980s the workforce in the production line at the shipyard was exclusively male. By the advent of the 2000s there had been little change, despite the growth of the female workforce in Brazil.

The interviews conducted show that the workers who were on production at Caneco, Rio Nave, and Mauá after 2000 were younger than before the 1990s. According to the interviewees the predominant age range before the 1990s was between 18 and 35 years old; after 2000 it is between 18 and 28 years old.

Labour conditions

Before the Second World War the shipbuilding industry in Brazil was very rudimentary in terms of technology and was based heavily on the workers' inherited knowledge of ship construction. The sections were controlled by the most experienced workers, and know-how was passed from generation to generation. Shipbuilding is an assembly industry and involves various stages of work of varying complexity. The fact that the capital good that had been commissioned was non-standard empowered the workers in the labour process.

The labour process in the shipbuilding industry allows the workers to control part of their time and to follow the production of ships as a whole. Many of them remembered ships by name and/or number and followed their trajectory through the seas of the country and the world until they became inactive. During the interviews their pride in their work was evident. Many of them are able to "read the drawings" of the ship design to "make the parts" and assemble the hull. Because of that we can speak of a particular work culture, that, despite the increased technical control allied to modern methods of production such as block and section assembly and construction, leads to a perception of a kind of "iron handicraft", a phrase the workers often used to describe some of their activities:³²

The ship is drawn there, in the section of risk, piece by piece, the ship's structure [...] The structure is steel, as are the building blocks that form the ship, the craft that we see [...] Iron craft we call, the workers usually call it [...] So you draw these pieces, cut them up [...] and they are assembled [...] forming blocks. Then those blocks [...] go to the dyke, these

32 Pessanha, *Operários navais*, 96.

blocks are placed accordingly, in their places, and adjusted [...] and there the ship will be taking shape.³³

After 1950, new techniques began to be introduced into Brazilian shipbuilding. By the 1970s, technical changes in production methods and in labour organisation resulted in a decline in workers' autonomy and the qualifications of the collective of workers. IHI's Ishibrás shipyard unsurprisingly adopted the Japanese model of production utilising automatic welding, which allowed pre-assembly of entire sections of the ship, and detailed production planning. Other shipyards such as Caneco, Mauá, and Emaq/Eisa at that time imported German and British technologies.³⁴

In spite of workers' resistance, after the military coup in 1964, forms of recruitment and professional formation brought some changes for the workers' profile. There was a tendency to build a "new generation of workers", and a clear distinction appeared between the older and younger generations, based on changes in professional socialisation and social and political participation of the older cohort under the "populist regime". The workers at this moment were suffering the intensification of working conditions, repression, suppression of their rights, and prohibition of free unionism.

The progressive implementation of the 1st PCN (1971-1974) by the military dictatorship corresponded to the consolidation of new administrative and industrial methods: increased mechanisation and automation of the process of preparation of steel, extensive use of welding, considerable improvement in the handling capacity of plates and blocks inside the yard (by the use of hydraulic jacks and hoists), diffusion and application of advanced finishing methods, and concomitant centralisation of systems of planning and controlling the execution of the work, thus redefining the relationship between sectors and production projects. In the second period of technical change (1972-1976), fundamental in order to spread and try to consolidate the modernisation of the sector, the imposition of Japanese methods of production pioneered at Ishibrás

33 Worker in a fabrication shop of Mauá Shipyard, 29 years old, Niterói, interviewed by Elina Pessanha, 1985. The names of workers interviewed in this period are omitted to protect them from possible persecution by the management of the yard or the military authorities.

34 Technical document, National Social and Economic Development bank (BNDES): "Contribuição para o Aperfeiçoamento de uma Política para a Indústria Naval e a Marinha Mercante" www.bndes.gov.br (accessed 12 March 2013).

Table 19.4 Launching output of the Brazilian shipbuilding industry, 1975-1988 (ooo grt)

1975	389	1982	455
1976	426	1983	359
1977	572	1984	460
1978	698	1985	401
1979	467	1986	316
1980	615	1987	41
1981	549	1988	269

Source: Lloyd's Register of Shipping data

Shipyard became more widespread.³⁵ Technicians became divorced from actual production and concentrated on managing the production process, and the premium for skilled workers in the occupational hierarchy radically altered.

The combination of these factors allowed production volume to grow extraordinarily during this period, and by 1978 Brazil was second to Japan in shipbuilding output, due largely to VLCC construction.

The implementation of the 2nd PCN (1974-1979) was also marked by a further expansion in the process of automation within the shipyards, the installation of modern machinery, and a renewed emphasis on project management, coupled with the introduction of the use of computers to control the flows of materials and production. During this period a kind of euphoria reigned among businessmen and technocrats involved in shipbuilding, as its economic importance was recognised internally and the relative position of the country in international shipbuilding production improved significantly. Table 19.4 shows that output increased steadily to 1978, dropped in 1979, recovered in 1980, and thereafter from 1981 to 1986 averaged 421,000 gross tons, before a disastrous year in 1987 and a six-fold recovery in 1988.

However, this transformation in the technical basis of ship production did not erode the importance of workers in the production process. Indeed, the distribution of shipyard workers in small groups contributed to preserving their control over the working day.

By this stage and especially between the most repressive years of dictatorship in Brazil (between 1968 and the end of the 1970s), the military also

35 Pedro Motta Veiga describes in detail these processes and their changes: "Mudança técnica e processo de trabalho na construção naval brasileira".

tried to rationalise the training of workers through technical schools and with Ishibrás's assistance.

Elina Pessanha and Regina Morel in their paper about shipbuilding workers and steel industry workers in Rio de Janeiro showed how the relationship between old and young workers was improved during this period, and how the new generation established a strong connection with the expertise of the older.³⁶ This connection was due to a permanent process of professional and political socialisation of the younger workers trained by the older ones, and also conjoined the "old unionism" to the "new unionism" that took place at the end of 1970s, under the influence of São Paulo's metalworkers' unionism (in the car industry).³⁷ In Rio de Janeiro, where the "old unionism" led by communists and workers in state enterprises had predominated, this process of disruption could be seen more clearly alongside one of continuity between the generations. Reacting to the authoritarianism of 1964 regime, they helped to make the transition to democracy that the 1988 constitution had consolidated.

Nevertheless, the crisis of the 1990s, under a neo-liberal economic orientation, produced a gap with a large majority of the workforce having left shipbuilding; when the shipbuilding industry re-emerged in Brazil in the 2000s, the scenario was a shortage of a specialised workforce:

The shipbuilding industry stopped in the 1990s and now, when it is coming back, the shipyards have a big problem in finding a skilled workforce [...] The Metalworkers Union is struggling to make for SENAI training free for workers. Because nowadays one worker has to pay R\$ 1,000 (USD \$500) to graduate into the shipbuilding industry.³⁸

After 2000, new techniques of production were also introduced. The principal change is the reorganisation of production in terms of products, with a reduction in direct suppliers and change to supplies just in time, with systems and pre-assembled blocks. When the productivity of the sector returned, after 2003, shipbuilding was a faster-moving industry that involved a larger chain of production and many more workers in the main shipyards (old or new), necessitating more sophisticated planning and management systems.

36 Pessanha and Morel, "Gerações operárias".

37 On the "new unionism" in Brazil, see Rodrigues (org.), *O novo sindicalismo 20 anos depois*, Antunes, *O novo sindicalismo*, and Badaró Mattos, *Novos e velhos sindicalismos no Rio de Janeiro*.

38 Anelsino Bento, Shipbuilding Industry Director at Metalworkers Union of Rio de Janeiro, interview with Juliana Marques, 21 March 2013.

Table 19.5 Number of workers employed in shipyards associated with SINAVAL, 2004-2014

State	2004	2006	2008	2010	2012	2014*
Rio de Janeiro	10,636	17,052	20,403	25,987	29,967	35,458
Espírito Santo	-	-	-	-	-	508
São Paulo	661	795	1,065	781	1,604	1,858
Sta Catarina	1,046	1,208	2,395	1,958	3,039	5,172
Rio Grande Sul	-	-	-	5,500	6,174	9,454
Pará	175	225	341	411	316	810
Amazonas	-	-	2,500	9,244	13,372	12,110
Ceará	133	320	960	1,300	202	703
Sergipe	-	-	-	350	38	58
Bahia	-	-	-	-	1,628	100
Pernambuco	-	-	5,613	10,581	5,696	15,680
TOTAL	12,651	19,600	33,277	56,112	62,036	81,911

Note: * Up to July

Source: SINAVAL

In terms of technology, the growing use of pre-assembly work manufactured outside the shipyard was an important point highlighted by the workers. The panels are more modern. The sections of the ship came to the shipyard already cut, ready to fit:

The ship is a big puzzle. We have to fit it together, piece by piece. If a piece is too big or too small, we lose time and the puzzle doesn't fit. This kind of thing didn't happen in the past but now it does.³⁹

The productivity of the shipbuilding sector is associated with quicker delivery times, less stock, and less waste all along the production process. Interdependence between the shipyard and outside assembly contractors became fundamental to meet deadlines. The rate of construction has grown by incorporating increased automation in welding for sub-assemblies and hull sections. Previously in Brazilian shipyards the majority of welding tasks were conducted manually, but this has gradually changed from semi-automatic processes to fully automated machine welding.

39 Willian Cardoso, worker at Caneco in the past and at Rio Nave today, interview with Juliana Marques on 21 March 2013.

Table 19.6 Ship orders, worldwide and Brazil, 2010

Type	World	Brazil	% participation of Brazil
Tankers	1,594	56	3.51
Gas tankers	164	12	7.20
Chemical tankers	754	0	0
Bulk carriers	3,387	2	0.05
Container ships	672	5	0.72
Ro-Ro and passenger ships	343	0	0
Offshore	1,006	154	15.31
TOTAL	7,920	229	2.89

Source: Clarksons. June 2010; SINAVAL

The introduction, for instance, of computerised welding at Rio Nave and especially MIG (metal inert gas) welding (used in semi- and fully automated welding processes) is seen as the most important change in construction methods by the workers but it is not without critics:

The welding process now is 20 per cent faster than in the past but the quality is low. In the end, many times, we have to do the work again.⁴⁰

According to data from Sinaval, in December 2011 the Brazilian shipbuilding industry was working with orders in seven main areas: offshore support vessels; port support; PROMEF (the tanker fleet renewal programme noted above); the Brazilian Navigation Companies (EBN) Programme; platforms and rigs; vessels for internal commerce; and vessels for inland navigation.

Over the course of 2013, Rio Nave constructed four vessels for Transpetro. Two vessels were for carrying “dark products” and two vessels for carrying “white products”, such as naphtha, diesel, kerosene, and gasoline. The contract for construction was signed by Transpetro to improve the EBN Programme. All the vessels together have the capacity of 120,000 dwt. The EBN Programme is part of a series of Petrobras initiatives to boost shipbuilding in Brazil and aims to reduce dependence on foreign markets for sea freight.⁴¹

40 Willian Cardoso, worker at Caneco in the past, and at Rio Nave today, interview with Juliana Marques, 21 March 2013.

41 According to Rio Nave’s website, www.rionave.com.br (accessed 12 March 2013).

Labour rights

Despite the increasing use of mechanisation, our research shows that the workers did not on the whole lose control of the production process; and, largely because of a shortage of skilled workers, they can ask for more rights and are continually trying to regain the rights lost in the years of dictatorship and recession.

Only in the first decade of the 2000s did rights begin to be regained, and then only in part. In 1963 the working week comprised 40 hours, after the military coup it grew to 48 hours and after 2000 it is 44. In 1963, overtime was paid at double the normal hourly rate of pay. Only in 2009 did workers recover a part of this old right when the payment of overtime on Sundays and holidays started to be paid at double the hourly rate (100 per cent). But overtime at night only attracted a premium of 20 per cent and in a normal day 50 per cent of the hourly wage (Table 19.7).

In October 2012, the average wage in the shipbuilding industry in Rio de Janeiro was around USD \$885 (skilled worker) and USD \$351.51 (unskilled worker). The minimum wage was USD \$304, only 34.35 per cent of the skilled worker's salary. In May 1985, the average wage in the shipbuilding industry was around USD \$1,440 (skilled worker) and USD \$879 (unskilled worker). The minimum wage was USD \$610.42, corresponding to 36 per cent of the skilled worker's salary. It is important to say that these figures do not take inflation into account, but serve to illustrate the difference between the shipbuilding and minimum wages.⁴²

The number of workers who received five minimum wages or less grew between 1995 and 2010 from 32.6 per cent in 1995 to 74 per cent in 2010. In the same period, the number of workers who have received five minimum wages or more reduced from 66 per cent in 1995 to 21.5 per cent in 2010. The workers who received seven minimum wages or more also decreased from 26.3 per cent in 1995 to 5 per cent in 2010.⁴³

42 Salary in Brazil means a wage paid monthly to all workers. The minimum wage in current money in 1985 (cruzeiro) was: Cr\$ 333.000,00; in current money in 2012, R\$ 1,211; in USD \$610.38. The shipbuilding industry wage in current money in 1985 was: Cr\$ 480.000,00 (unskilled worker); in current money in 2012, R\$ 1.745; in USD \$879.53. The shipbuilding industry wage in current money in 1985 was: Cr\$ 786.000,00 (skilled worker); in current money in 2012 R\$ 2.858; in USD \$1440.52. We used <http://www.igf.com.br/calculadoras/conversor/conversor.htm> (accessed on 20 March 2013 to convert cruzeiros into reais).

43 Guedes de Jesus, "A retomada da indústria de construção naval brasileira", 112.

Table 19.7 Working hours and paid overtime, 1963-2012 (selected years; percentage of normal rate)

	Working hours	Normal overtime	Overtime on Sunday	Overtime on holidays	Overtime at night
October 2012	44	50	100	100	20
October 2009	44	50	100	100	0
1985	48	50	100	0	100
1964	48	0	0	0	0
1963	40	100	100	100	100

Source: Original data from Metalworkers Collective Convention (2009 and 2012); Pessanha, *Operários navais*; and Brazilian Ministry of Labour

Table 19.8 Monthly wage in US dollars

	Skilled	Unskilled	Minimum wage
October 2012	USD \$885.12	USD \$351.51	USD \$304
October 2009	USD \$662	USD \$304.08	USD \$277
May 1985	USD \$1440.52	USD \$879	USD \$610

Source: Original data from: Metalworkers Collective Convention (2009 and 2012); Pessanha, *Operários navais*; and Brazilian Ministry of Labour

Table 19.9 Minimum salary as a percentage of shipbuilding salary

Year	Minimum salary as a percentage of shipbuilding salary
May 1985	42.36
October 2009	41.84
October 2012	34.35

Source: Original data from Metalworkers Collective Convention (2009 and 2012), Pessanha, *Operários navais*; and Central Bank of Brazil

It is possible to say that the living circumstances and the status of the workers were better in the past than today. Until the 1980s a shipbuilding worker had a good salary, rights, a good home, and easy credit. They were a privileged and valued category of workers, even more so than the metalworkers. They had better salaries because of the specialised work they undertook, and also the frequent addition of the insalubrity tax, payment for overtime, etc.

After 2000, after the renewed growth of the shipbuilding industry, the situation has changed, but the shipbuilding workers up to the present do not have the possibility of attaining the status that a shipbuilding worker

had had in the past. The older workers remember that time with a mixture of sadness and pride:

I became a shipbuilding worker because it had one of the best wages in Brazil! I bought my own home with my salary. The social rights were better, [as was] the quality for our family life [...] nowadays it is different. A guy became a shipbuilding worker because of necessity, because his father [was one], and because there are many jobs today.⁴⁴

In this way of recuperation of rights, the role of the state – through the Labour Justice and Public Labour Prosecutors – is also very important. Privileged mediators in the relationship between workers and employers, these institutions deal with the demands of workers and give them some assurance that labour laws will be respected.⁴⁵

Collective action: union and political ideology

Over the years Caneco's and Mauá's workers have been important combative groups. On many occasions they were connected with actions of the Metalworkers Union (the union representing shipbuilding workers in Rio de Janeiro and Niterói since 1964), but frequently they did not agree with the union; they had the power to disagree with them, and sometimes “convince” (by arguments and pressure) the collective of workers to disagree with the union line.

All union organisations in Brazil receive a compulsory union tariff, paid by workers and collected by the government. In turn, the government shares this money out between local unions and national union federations (such as the Central Union of Workers – CUT – and Força Sindical, the biggest federations in Brazil). This tariff corresponds to the payment for one workday per year. All the workers are required to pay this tariff; thus all unions have fixed financial support. In addition, workers can also be associated to a union and pay a monthly union fee. The value is stipulated by the workers' collective convention. The Metalworkers' Unions rate is 1.5 per cent of the workers' wage.

44 Willian Cardoso, worker at Caneco in the past and at Rio Nave today, interview with Juliana Marques, 21 March 2013.

45 This relation of workers and their unions with the judicial institutions has also been observed by others researchers. See for example Cardoso, *A década neoliberal*; Werneck Vianna, et al., *A judicialização da política e das relações sociais no Brasil*.

The Metalworkers' Unions of Rio de Janeiro (which brings together Caneco's and Rio Nave's workers) and Niterói (Mauá workers) had been under the influence of the Brazilian Communist Party (PCB) for decades. From the years 1940 to 1970, those communists, often allied to members of the so-called Labour Brazilian Party (Partido Trabalhista Brasileiro, PTB), inspired by Getúlio Vargas, had great influence on trade unionism.⁴⁶ More recently, the Communist Party of Brazil (PC do B)⁴⁷ and the Workers' Party (Partido dos Trabalhadores, PT) have won the elections for the main positions of the Metalworkers' Unions, but some groups from the so-called radical left also have been quarrelling with the unions. The last election in Rio de Janeiro's union was contested by a coalition, with many different political groups, including the radical left.⁴⁸

Protests and strikes

The shipbuilding workers have been a mobilised category of workers from modern times, and Caneco's and Mauá's workers, from two of the most traditional shipyards, have played an important role in the shipbuilding workers' movement.

Different forms of labour protest occurred over the years at the shipyards, such as strikes, shutdowns, and picketing. These protests were organised by the unions (in the past the Naval Workers' Union of Rio de Janeiro, Niterói, and Angra dos Reis), by workers' commissions, or by the workers independently. One of the most important struggles was the Maritimes General Strike, between June and October 1953.

The national context was of Vargas's second government (1951-1954) and the general strike of "maritimes" began only one day after the ministerial reform that put João Goulart (a politician with a strong relationship with the unions) into the Labour Ministry. The general strikers issued twenty-five demands, including the protection of the National Merchant Navy, better working conditions, regulation of the conditions of workers on board ships, the payment of insalubrity tax, etc.⁴⁹

46 See Santana, *Homens partidos*.

47 The Communist Party of Brazil (PCB), founded in 1922, split in 1960 into the Brazilian Communist Party (PCB) and the Communist Party of Brazil (PC do B).

48 According to our research and interviews.

49 Barsted, *Medição de Forças*, 113-120.

This period can be divided into two stages: the end of the first general strike (June 1953) and the time after the end of the second general strike (October 1953). After June, the workers' demands were partially met, but the employers and the state did not fulfil the accord, leading to a second general strike. This strike was repressed, the union headquarters was raided by the police, and the leaders were imprisoned until November.⁵⁰

However, the strike showed the potential of the workers to mobilise and organise, and over the years from 1953 onwards the union won some important rights including remunerated weekly rest, salary payments on holidays, the right to induct the ship workers union directory, 35 per cent for insalubrity tax, payment of 100 per cent for overtime, limitation of weekly working hours to 40 hours,⁵¹ and other rights. The real salaries were markedly higher than the minimum salary (see Table 19.5).

The workers' situation changed abruptly, as we have seen, in the aftermath of the 1964 coup. The shipbuilding workers – who were part of the maritime category – were moved to the metalworkers' union category. It was an old requirement demanded by the shipyard owners, and consequently the workers lost all the rights they had won beforehand, and the category was fragmented by different local unions (Metalworkers Union of Rio de Janeiro, Metalworkers Union of Niterói, Metalworkers Union of Angra dos Reis, and so on). Some of these rights could not be recovered until today. After April 1964, many workers were forced to retire, or persecuted and arrested. All kinds of union associations were forbidden by the military junta.⁵²

Only in 1979 did the first strike occur since 1964, with strong participation and workers demanding the restoration of lost rights. Afterwards the workers around the country, and in particular at the region of ABC Paulista⁵³ in São Paulo, began a protest – on a scale unusual in that period – that made that moment significant for Brazilian labour history.⁵⁴ The pressure on the military government was sustained until 1985, when civilian rule was reinstated; this was strengthened in 1988 when a new constitution was promulgated.

The so-called Citizen Constitution approved important labour rights such as a reduction in the working day; the extension of maternity leave; the right to strike; a ban on dismissal without cause by the employer; union

⁵⁰ *Ibid.*, 173.

⁵¹ Brazil has adopted a work week of 44 hours up to 2014.

⁵² Barsted, *Medição de Forças*, 191–193.

⁵³ ABC comes from the name of three cities: Santo André, São Bernardo, and São Caetano.

⁵⁴ Lula da Silva was the leader of this movement.

autonomy; the establishment of the Unified Health System (SUS), which expanded access to health care in Brazil; Rural and Social Security, which encouraged equal rights for agricultural and urban workers; and others. The constitution was an example of an attempt to universalise social rights.⁵⁵ It remains to be seen whether it would be more honoured in the breach rather than in the observance.

Workers and the crisis in the 1990s: for and against negotiation

The strategies of the Metalworkers Unions in Rio de Janeiro and Niterói in the 1990s, when Brazil was facing an economic crisis and when the participation of the state in the economy decreased significantly, comprised negotiations involving the state, owners, and national and international groups. The unions were also partners of the “Sectorial Chamber of Capital Goods”, for shipbuilding and ship repair, and tried to make deals to maintain their jobs.⁵⁶

The Sectorial Chamber began with contacts among the state, owners, and workers at the Secretariat of Industry and Commerce, in Rio de Janeiro, and afterwards with the Ministry of Labour. This group accelerated discussions for establishing a Short-Term Agreement and made plans to develop a Global Deal for the long term. The first deal was fulfilled on 27 May 1993. Its objectives were: renovation of the Brazilian naval fleet, an increase in jobs, better salaries and labour relationships, expansion of exports, increased productivity, and growth of industry competitiveness, production, and direct revenue.

This Short-Term Agreement established, for the period 1993-1994, the goal of producing 1.6m dwt of shipping, the creation of 7,000 jobs, and the liberation of USD \$232 mn of FAT (Fund for Supporting Worker) money to conclude construction and other actions involving Petrobras and the Merchant Marine Fund. All these activities would ensure more employment, job stability for one year, and an agreed readjustment of salaries month by month. The one year’s job stability was the most contested item, according to the workers. The owners did not want to make an agreement in these terms because of the insecurity of the economy.

55 See Ramalho, “Trabalho, direitos sociais e sindicato na constituição de 1988”.

56 This Sectorial Chamber of Capital Goods was a tentative to negotiate with the owners and state with the pretext of saving the shipbuilding industry in Brazil.

Some shipbuilding workers from older yards such as Caneco and Mauá had not agreed with the strategy of conciliation. The Metalworkers Union of Niterói also disagreed. All were inherently sceptical that good results would be achieved. The Metalworkers Unions of Rio de Janeiro, Angra dos Reis, and Belém do Para⁵⁷ and other metalworkers' leaders were the main actors who tried these strategies of conciliation and negotiation.

The parity commission that was finally formed attempted to find solutions for the shipbuilding industry crisis, and had some success. The sector, which had 5,000 workers between 1992 and 1993, increased to 12,000 after the first deal. But the profound crisis did not permit the fulfilment of the other requests. Many workers, as the deals were not fulfilled, believed that this was a consequence of submission to and conciliation with owners and the state. Afterwards the group that had supported the Rio de Janeiro union's inclination to negotiate lost the union elections to a group firmly against the politics of conciliation. The collective negotiation was an important point of discussion and dispute within the unions and had accentuated the divergences between political groups.⁵⁸

The election of July 1996 in Rio de Janeiro's Metalworkers Union was disputed. Three groups had acquiesced to the union's direction. The first group was formed by the majority faction of the Central Union of Workers and was supported by modern shipyards such as Ishibrás and Emaq. The second group was formed by the CUT's opposition group and was supported by old shipyards. The third group was formed by a group connected to Força Sindical, another central union, more associated with "unionism of results". The first group, which was under the union's direction since 1993, lost the election to the second group, and the Sectorial Chamber came to be remembered as mere submission.

After 2000, in each year, the Metalworkers Unions have conducted a "wage campaign" to attempt to reclaim the owners' gains for themselves and to recover inflationary losses by wage increases.⁵⁹ Even with the recuperation of the sector, the workers, most of them from Caneco, Rio Nave and Mauá Shipyards, fight against low salaries, absence of security deposit, decline of standard of living, etc. For all these reasons, there are frequent

57 The cities of Angra dos Reis and Rio de Janeiro are in Rio de Janeiro state. The city of Belém do Pará is in Pará state.

58 Pessanha, *Operários Navais*, 241.

59 For an analysis of recent cycles of strikes in Brazil, see Noronha, "Ciclo de greves, transição política e estabilização".

strikes, pickets, and protests inside or outside the shipyard, with or without their union's support.

The situation of relative stability in the Brazilian economy, the development of the shipbuilding industry towards the oil and gas sectors, and the increasing role of the state have empowered the workers to continue to fight for their rights. Given the permanent challenges to their labour class position, which associates the harsh working conditions with pride in their professional expertise, the strategies of collective action try to honour the memory of the past and pave the way for effective resistance.

Conclusion

This chapter has aimed to show how labour relations developed in the Shipyards Mauá from the 1950s, Caneco from the 1950s until the 1990s, and then Rio Nave from the 2000s, in terms of production relations and the situation of workers.

After 1950, although they were private concerns, Caneco and Mauá were very dependent on government subsidies, orders, and general support to the industry. Indeed, the role of state was central for the development of shipbuilding. Even the military dictatorship of the 1960s, in part attempting to prop up the authoritarian regime by reinforcing economic centralisation, invested heavily in the shipbuilding industry, ultimately with a strategy of privatisation and the strong exploitation and repression of the workers. When the subsidies and government financial support ended in the 1980s, the shipbuilding industry suffered accordingly, and significant unemployment ensued. The scenario changed only in the 2000s, when the government of President Lula da Silva introduced a strong policy to rebuild and reorient the Brazilian shipbuilding industry through Petrobras's support.

Our research also shows that in spite of the changes to the Brazilian shipbuilding industry – automation, new techniques of welding, and the new methodology of block assembly of sections – the workers have not lost their degree of autonomy and have built a workers' culture connected with their history of struggle, capacity, and work experiences.

It is also possible to state that on many occasions shipbuilding workers have acted like a workers' vanguard, albeit unsuccessfully at times. They organised one of the most famous strikes in Brazilian labour history (in 1953) when they were part of the "maritimes category" of workers and won many rights. However, as a result of this, the dictatorship (in response to an old employers' claim) moved these workers to the "metalworkers category",

which had the effect of their losing the hard-won rights gained after the 1953 strike. During the 1990s those shipbuilding workers who remained in employment were very much on the defensive.

In the 2000s, when the shipbuilding industry was restructured, workers came to be more proactive in attempting to improve their rights as a skilled category of workers. They also attempted to use different types of collective action, including strikes, mobilisations, joint actions, the establishment of Labour Justice and Public Labour Prosecutors, and even conciliation under some circumstances.

Over the years, these shipbuilding workers have built a trajectory of conciliation and tension between tradition and innovation in some of the oldest shipbuilding and repair firms in Brazil, while attempting to maintain their working-class culture in a changing economic and political landscape. However, in the end analysis, world market forces help dictate and determine the future of the industry along with government intervention and protection. Caught between national priorities and international realities, the shipbuilding workers of Caneco/Rio Nave and Mauá face the future.

20 Cockatoo Island, Australia

Industry, labour, and protest culture

Lisa Milner

Introduction

With reference to the broader Australian shipbuilding industry and maritime culture, this chapter analyses both production and labour that has been undertaken at Cockatoo Island, New South Wales (NSW), Australia, during its use as a dockyard from 1850 to 1992.¹

History

The island's earliest use by Europeans was as a penal settlement from 1839. Subsequently, it was used by the NSW state government as a dockyard for ship repair from 1850. In 1870 when shipbuilding proper began, the dockyard was placed under the control of the Engineer-in-Chief for Harbours and Rivers, passing in turn to the NSW Government Shipyard in 1908, and the Royal Australian Navy in 1911.² In 1913, the Commonwealth government purchased the freehold title to Cockatoo Island, along with all facilities and buildings, for £867,716, as the first naval dockyard for the Royal Australian Navy. The navy lost control of Cockatoo Island Dockyard in 1921, when the Shipbuilding Board assumed responsibility for it. In 1923, Cockatoo Island was transferred to the Australian Commonwealth Shipping Board, and operated on a commercial basis, working on navy, Commonwealth Line (merchant), and commercial ships.³

In 1932, the Commonwealth, recognising that its direct control inhibited the ability of its Naval Dockyard to actually survive except through public subsidy, negotiated with several Australian companies, and, in January 1933, a consortium was formed to take over the operation of the dockyard. In February 1933, the Commonwealth government leased the island to a company, Cockatoo Docks and Engineering Company Ltd, which was

1 Cockatoo Island is a small 17-hectare island in Sydney Harbour, New South Wales, Australia.

2 Aplin and Storey, *Waterfront Sydney*, 104.

3 Mackay, *Cockatoo Island*, I, 25.

founded specifically to take over all shipbuilding and maintenance operations, with rent based on a percentage of turnover.⁴ From this time until its closure in 1992, the dock was run as if it was a private concern, with major government contracts, both Australian and international.

Cockatoo Dockyard built Australia's first steel ship, first modern warship, and first all-welded warship, and built the then-largest roll-on/roll-off passenger ship in the world. It was the first naval dockyard for the Royal Australian Navy and continued to support and build ships for the navy for some eighty years through two world wars, and the Korean and Vietnam Wars. It has also supported the Royal Navy and the US Navy. Cockatoo Dockyard was also the nation's largest steam-turbine builder and repairer, servicing turbines for ships, power plants, sugar mills, oil refineries, and other industries. The dockyard has contributed greatly to the non-maritime development of Australia by producing products for power stations, bridges, dams, ports, mines, and major projects including the Snowy Mountains Scheme. From 1931 to 1934, the dockyard also produced seaplanes.⁵ The combination of such a wide range of work in one establishment reflects the strength of the position of Cockatoo Dockyard in the heavy engineering industry of the day.

Cockatoo Dockyard introduced the first formal quality-control system in any Australian dockyard and trained many thousands of young Australians through the dockyard apprentice-training scheme. Its operation as an engineering enterprise developed and implemented standards of excellence which set best-practice benchmarks throughout the country. It was Australia's largest post-First World War Commonwealth employer, and the complexity of its union and guild membership, and the history of its demarcation and industrial disputes, acted as a catalyst for the federal government to establish the first federal wage and conditions award in Australia in 1918, and apply it to Cockatoo Island. The federal award established was the model for many subsequent federal awards that have operated alongside various state award systems in Australia until very recently.⁶

The period of the Second World War can be regarded as Cockatoo Island's "golden age", with very high workloads, extensions of the island's landmass itself along with construction of new foundries, facilities, buildings, roads, tunnels, and so on. The workers on the dockyard at this time were classified as being in a protected industry, which meant that they were required to

4 *Ibid.*, I, 26.

5 National Archives of Australia, Cockatoo Island Dockyard series CA2778.

6 Sydney Harbour Federation Trust, *Management Plan – Cockatoo Island*, III, 50.

stay on at the yard during the war. Importantly, the island became the only dockyard in the south-west Pacific area where major naval repair and construction could take place.⁷

In 1947, an important management change took place on the island, when Vickers Ltd, a large British shipbuilding and engineering company, which had been a shareholder of the Cockatoo Docks and Engineering Company and enjoyed a strong working relationship with the dockyard, bought the majority of shares in the company as part of an expansion of their engineering interests in Australia.⁸ Vickers operated the dockyard until 1986, when Australian National Industries Ltd acquired that company. With modern naval ships requiring less intensive maintenance, particularly with the Oberon-class conventional submarines being phased out,⁹ and the move of the bulk of the dockyard's work from the Royal Australian Navy to Western Australia, the Commonwealth government took the decision to shut down the dockyard. In the run-down prior to closure of the dockyard from the late 1980s, most Commonwealth and company assets were sold, a number of buildings were sold and demolished for scrap, and the docks flooded. After years of speculation, planning, and a massive fourteen-week occupation strike by workers, the island was decommissioned as a dockyard in 1992.¹⁰

After extensive remediation works, Cockatoo Island was opened to the public in 2007. The Sydney Harbour Federation Trust now manages the island. Although some large workshops, slipways, wharves, residences, and other buildings remain, most major buildings were demolished. It currently enjoys UNESCO World Heritage Listing and is one of Sydney's most delightful publicly owned urban parks, with tourism, camping, and cultural events on the island year round. Cockatoo Island retains the largest convict-built dry dock in Australia and one of the largest examples of a convict-built dry dock in the world.

7 Ireland, *Cockatoo Island*, I, 45.

8 For Vickers, see Scott, *Vickers*, and Shore, *Vickers' Master Shipbuilder*. Sir Leonard Redshaw (1911-1989) was one of the most innovative British shipbuilders of the twentieth century. He was a pioneer in Britain of welded submarine and ship construction, and under his command the Vickers Barrow shipyard launched the world's first all-welded passenger liner; the first British liner having all-welded aluminium superstructure; Britain's first nuclear submarine; the nation's first Polaris submarine; the first 100,000-ton tanker built in Europe; the first Type 42 destroyer; and the Royal Navy's first command cruiser.

9 All Oberon-class conventional submarines for the Royal Australian Navy were built at Scotts of Greenock, Scotland; see Johnman and Murphy, "Scott's of Greenock and Submarine Building".

10 Kelly, *No Surrender*.

Shipbuilding and the Australian economy

In earlier years, the shipping industry of Australia was much more important than it is today. Howard Dick writes:

After the mid-nineteenth century, Australia became on a world scale a large generator of export cargo as well as a significant destination for imported goods and immigrants. Unlike many other commodity-producing regions, the resources and the technical and organisational capabilities to sustain a modest international shipping industry were all available in the form of large domestic shipping companies.¹¹

Yet Australia did not support its own large shipping firms for this trade; importantly for this global shipbuilding research study, the output of ships built in Australia has never matched the role of shipping transport.

The Australian shipbuilding industry began in 1789 with the construction of the 10-ton *Rose Hill Packet*. The year 1797 saw the establishment of the colonial government's shipyard, and the following year the first privately owned shipyard began operations. In 1857 the first iron-hulled vessel built in Australia was launched. Ship construction did not expand significantly until, in 1911, a naval shipbuilding programme was introduced at Cockatoo Island. Over the course of the twentieth century shipyards operated in various parts of Australia, notably Whyalla and Adelaide in South Australia, Newcastle and Sydney in NSW, Brisbane in Queensland, and Tasmania.¹²

Since 1970, along with much of the nation's other manufacturing industries, Australia's large shipbuilding capacity has suffered a major decline. The national government has been criticised over the years for not arresting this collapse: Daniel Todd claimed that the government "casually watched its merchant shipbuilding industry expire".¹³ Construction of large vessels has been phased out and the industry is reduced to speciality craft and naval vessels.¹⁴ In particular, the lightweight fast-ferry industry has developed rapidly over the past few decades with a great deal of economic success; this is an area in which Mark Beeson claims Australia is "a world leader, albeit it in a specialised niche".¹⁵ Currently, the Australian shipbuilding sector

11 Dick, "Shipping", 158.

12 Inglis, "Transport".

13 Todd, *Industrial Dislocation*, 241.

14 Inglis, "Transport".

15 Beeson, "Who Pays the Ferryman?"

comprises two main categories: defence-related shipbuilding comprises 65 per cent of the national industry, with commercial shipbuilding, repair, and maintenance making up the remainder.

According to industry analyst Ricky Willianto, “the shipbuilding industry’s lack of participation in the marketplace for large commercial ships proved to be a blessing in disguise over the past five years”.¹⁶ The global commercial shipbuilding sector entered a tailspin due to the severe oversupply of cargo ships in the wake of falling shipping rates during the global downturn. In contrast, the lack of market-led volatility in defence spending created significant stability for Australian industry’s revenue.

The contemporary Australian shipbuilding and -repair industry is very small on an international scale; nevertheless, Australia enjoys one of the highest conversion rates of any significant shipbuilding nation. In 2009 2,611 businesses provided shipbuilding and boatbuilding and related repair services in Australia.¹⁷ There were 12,305 employees at the 2011 census.¹⁸

Shipbuilding at Cockatoo Island

Most vessels constructed at Cockatoo Island were for the Royal Australian Navy, while others were for other Commonwealth departments, state governments, and private clients. From 1870 to 1913 around 144 ships were built, mostly dredgers, barges, and tugs. From 1913 to 1992, 242 ships over 30 feet in length were built, predominantly for the navy, along with approximately 850 small craft.¹⁹

Over the history of the dockyard’s operation, a great deal of change has occurred in the production, maintenance, and repair of ships. From the beginning of ship construction on Cockatoo Island in 1857 until 1864, only timber ships were built and maintained. The period 1864 to 1918 saw the change to steel ship construction, and, with that, the construction of new dockyard facilities. After the island was taken over by the private company in 1933, major physical development of the island commenced, with areas of land reclaimed and new roads built and surfaced.²⁰

16 IBIS, *IBIS World Database* (Online 2003), at www.ibisworld.com.au.

17 Manufacturing Skills Australia, “Metal, Engineering and Boating Industry Statistics as at August 2011”.

18 Australian Bureau of Statistics, *2011 Census of Population and Housing*.

19 Jeremy, *Cockatoo Island*, Appendix 2.

20 Ireland, *Cockatoo Island*, 2, 3.

The Second World War saw a massive increase in activity at the dockyard. Following the fall of Singapore (Britain's main naval facility in the region) in 1942, Cockatoo Island became the only dockyard in the south-west Pacific where naval construction, turbine work, and major ship repairs could be carried out.²¹ Workers fitted out troop carriers and converted some very large passenger ships to troop carriers, among them the *Queen Mary*, *Mauritania*, and *Acquitania*, built naval vessels, and repaired damaged Australian and Allied warships. During this period, the dockyard was managed through a special wartime agreement that supplemented the government's lease of the island to the company; this agreement saw Cockatoo Docks and Engineering Company Ltd receive a yearly management fee based on its production turnover. During both world wars, employment on the island soared, with some 3,200 workers listed in the Second World War years.²²

Cockatoo Island's shipbuilding work during both world wars sustained and improved the dockyard's productivity immensely. Naval orders always played a large role in sustaining a heavy iron and, after the First World War, steel shipbuilding industry in Australia. This was because Australian shipbuilders were never big enough to compete with the yards of Glasgow and Belfast in particular. During the Second World War, the location of the dockyard was crucial for Allied vessels.

It was after the end of that war that the downturn began. Australia's increasing resort over the 1960s and 1970s to purchasing foreign naval vessels for the Royal Australian Navy reflected the poor performance of domestic naval shipbuilding projects. The navy continued to purchase naval vessels from the United Kingdom, and by 1964 had ordered three missile destroyers from the USA. Paul Earnshaw has noted that: "from about 1960 [...] Australia had become a more discriminating customer, obtaining its naval requirements from the most appropriate source".²³

In 1967 a modernisation operation paved the way for the dockyard to work on submarines: these were to be the last major advances for the island. Up until recent times, it was the sole submarine-refitting yard in Australia, and with one of the few slave docks in the world. The slave dock was a purpose-built dock, specifically for use in refitting submarines. Cockatoo Dockyard provided specialised support for the Royal Australian Navy submarines throughout most of the twentieth century, and in particular for the Oberon-class submarines between 1971 and 1991 when the dockyard

21 Mackay, *Cockatoo Island*, I, 18.

22 Sydney Harbour Federation Trust, *Management Plan – Cockatoo Island*, II, 26.

23 Earnshaw, "Australian Naval Shipbuilding", 22.

had one of the most advanced non-nuclear submarine-refit facilities in the world. But not all the changes were positive, as Beeson writes:

By the end of the 1970s shipbuilding was emblematic of a wider malaise that seemed endemic to Australian manufacturing. Nowhere was this pattern of decline more apparent than in the shipbuilding industry, which had become a byword for inefficiency, poor management and antagonistic industrial relations practices. The contraction of shipbuilding was not confined to Australia, but was part of a worldwide trend, which saw the industry decline through a combination of oversupply and contracting demand.²⁴

Cockatoo Island closed due to these global and local changes, as well as political initiatives. By the early 1980s the government recognised the need to reform highly inefficient, government-owned shipyards. At this stage, the Australian government “showed that defence construction projects would no longer be used for job creation when it resisted union demands to build a second tanker at Cockatoo Island, ultimately condemning the yard to extinction”.²⁵

The island has always been owned by the Australian national government, and had a varied history of state and non-state control:

During its life, it has been operated as a government business under the NSW Colonial Government, NSW State Government and the Australian Commonwealth Government control. It has also been operated (under leasehold) as an Australian-owned private company and as a subsidiary company of a multinational company. In each circumstance, the dockyard has both expanded and contracted in its activities subject to both market forces and government policies.²⁶

Australia has a long history of assistance to the shipbuilding industry, reflecting the importance of shipping to the country. From 1940 until 2005, the Australian government has paid some form of bounty or subsidy. The Australian government’s Bureau of Industry Economics review of the bounty concluded: “it seems certain that bounty assistance of the scale

24 Beeson, “Who Pays the Ferryman”, 437.

25 Woolner, *Procuring Change*, 10.

26 Sydney Harbour Federation Trust, *Cockatoo Island: Conservation Management Plan*, 71.

and type that has been given to Australian shipyards [has] contributed significantly to the development of the present industry".²⁷

Workers of Cockatoo Island

Recruitment

The transport and recruitment practices of Cockatoo Island are important to note, as obviously this dockyard was in a very unusual situation, being on an island that was only accessible by ship. Ships built on the island were often used to transport workers; the first of these was the steamer *Biloela*, completed in 1916, with a passenger capacity of 650. But the majority of island workers used commercial services, which began in 1842 with the Balmain Ferry Company servicing the island. In 1867 the Parramatta Steamship Company began stopping at Cockatoo Island on its Sydney-to-Parramatta run.²⁸ In the late 1880s and 1890s a number of newly established ferry operators provided strong competition, for instance in 1895 when the Drummoyne and West Balmain Ferry Company also included a stop at Cockatoo Island on its Sydney-to-Balmain run.²⁹ Up to 1897 the Cockatoo Island trips were free for Cockatoo Island workers, being subsidised by the dock owner – the government. But in 1897 the premier, Thomas Farnell, questioned this situation in the NSW Parliament, suggesting that “a private ferry company could do the work more cheaply”.³⁰ Local Balmain businessman Thomas Henley (who was later to be a Sydney council alderman, member of the New South Wales Legislative Assembly, minister for railways and housing, and minister for state industrial enterprises) agreed, calling the subsidy an “unwarranted expenditure of public money [...] give the men the current rate of wages and they’ll get to work”.³¹ The following year, the subsidy ceased, the workers on the island had to pay their own fares, and Henley bought out the Balmain Ferry Company and established the Drummoyne,

27 Dempster, Maidment, and Poole, *Review of the Shipbuilding Bounty*, 25.

28 “Parramatta River Steam Company”, *Sydney Morning Herald*, 29 August 1873, 1.

29 “The Drummoyne and West Balmain Ferry Service”, *Sydney Morning Herald*, 30 July 1895, 5.

30 “NSW Parliament”, *Wagga Wagga Express*, 12 August 1897, 2.

31 Thomas Henley, “Free Travelling at the Public Expense”, *Sydney Morning Herald*, 14 August 1897, 10.

West Balmain and Leichhardt Steam Ferry Company. Ironically, Henley died in “sensational circumstances” from a fall from a Manly ferry in 1935.³²

A number of existing ferry services were integrated into Sydney Ferries Ltd in 1899, which then became the largest carrier of dockyard workers. In 1913, Sydney Ferries increased their fares by 33 per cent, causing uproar among both island workers and other ferry users. It was reported that “over 300 employees of Fitzroy Dock signed a petition to the naval authorities asking them to provide a free boat. In the event of no arrangement being arrived at the men have decided to remain on Circular Quay wharf on Monday morning till a free boat is sent to take them to work”.³³ On the Monday morning, island workers held a mass meeting in Balmain. The workers did carry out their threat to boycott Sydney Ferries, and ended up chartering a private boat themselves to get to work: “The steamer Bulli moved along at the critical moment and the men travelled to work on her.”³⁴

The ferry ride to and from work was a great opportunity for socialisation and politicisation. From the time when the island was used as a dockyard, labour was recruited at nearby wharves on the Sydney Harbour waterfront, notably Circular Quay, Pyrmont, Mort’s Dock, and Balmain. In the early years, up until the period of the Second World War, when there was little certainty of employment, the maritime and wharveside employers used the corrupt and exploitative “bull” or “pick-up” system for recruitment of casual day-labour, which generally made up the bulk of the workforce. This was a crucial feature in preventing reform of working conditions, with its discriminatory system of recruitment that promoted corruption to a high degree. This system was one of the main areas of union-management dispute from the 1870s until the 1940s, from all unions represented, in many areas – the places of recruitment, their provision with shelters for the men waiting their turn to be engaged for labour, etc. It was not until 1925 that a ruling was made in which the principal place of engagement for Cockatoo Island was to be on the island itself, rather than at a randomly changing series of harbourside sites – yards out in the weather, exposed to the elements, with no facilities. But this still had problems for job seekers, as Issy Wyner, a Cockatoo Island worker, explains:

In effect, it meant that to be picked up for Cockatoo Island, members had to get across the water to the Island, where work started at 7:30 a.m. and, if there was no work, they then had to find their way back to the mainland

32 “Obituary: Sir Thomas Henley”, *Sydney Morning Herald*, 15 May 1935, 13.

33 “The Pass It On Game: Ferry Fares Resented”, *Bathurst Times*, 7 April 1913, 2.

34 “Ferry Fares: Dockyard Employees Protest”, *Sydney Morning Herald*, 8 April 1913, 8.

on whatever company launch might be available and at whatever time it might be running. In other words, men were more or less stranded and unable to seek work elsewhere when Cockatoo had no jobs.³⁵

The recruitment of workers had always been a major issue, which unions took to the industrial courts often. Justice H.B. Higgins of the High Court of Australia, in handing down a new award in 1918, commented on this aspect of the island's working conditions:

It is lamentable that so many men, mostly in the prime of life, should have to stand about, idle, waiting for a job at their usual places of hiring – earning nothing some days, nothing even some weeks, and [...] earning high wages in some weeks by excessive hours of toil. The frequent bouts of idleness must of necessity lead to bad habits and to loss of muscular condition. There is a tremendous waste of human potential energy involved. Yet, under existing conditions, it is essential for the carrying on of this industry that these men shall hold themselves free from other engagements, and ready for the ships when they come.³⁶

It was not until 1946 that the island's major unions achieved a legal roster system of employment, a result of a decades-long battle between union and management. Up until that time, Wyner comments, “employers, of course, rejected any form of Union control over employment and insisted on Foremen control with all its pernicious overtones of selection on the basis of strength or skill, of favouritism (regardless of strength or skill), of buying favours with presents or free services, of nepotism”.³⁷ The roster system's implementation as a result of concerted efforts by the militant unions represented a major breakthrough in improving the industry: it was designed to “visibly demonstrate equity in the distribution of work”.³⁸ Over the years of the operation of the dockyard, recruitment practices continued to improve, as a result of concerted efforts by those same activist unions represented there.³⁹

35 Wyner, *My Union Right or Wrong*.

36 8 Commonwealth Arbitration Reports, 72-73, p. 4, cited in Wyner, *My Union Right or Wrong*.

37 Wyner, *My Union Right or Wrong*.

38 Morris, “The Employer's Free Selection of Labour and the Waterfront Closed Shop”, 51.

39 Taylor, “Sectionalism, Solidarity and Action in Shipbuilding and Shiprepair”; Rimmer and Sutcliffe, “The Origins of Australian Workshop Organisation”; Morris, “The Employer's Free Selection of Labour and the Waterfront Closed Shop”; Murray and White, *The Ironworkers*; Turner, *Industrial Labour and Politics*; Inaba, “Industrial Relations in the Australian Engineering Industry”; Reeves and Dettmer (eds), *Organise, Educate, Control*.

Social origins

Workers at Cockatoo Island were originally prisoners – when the island was used as a penal settlement from 1839, and later as a reform school for boys and girls, until it was used by the NSW government as a dockyard for ship repair from 1850. The prisoners were the ones to begin clearing the island, and to construct buildings and docks.

The period during which the island's activities fully turned from incarceration to shipbuilding coincided with – for the Australian labour movement – an important shift in population. John Jeremy notes that, during this era, “many men came to Cockatoo Island from British shipyards bringing their skills and traditions with them”, and the influx of working-class skills and culture from on the Clyde, the Tyne, and the Mersey could be heard in the myriad of accents on the island, as well as on other inner-city blue-collar worksites.⁴⁰ Importantly, they brought with them their strong labour and unionist traditions. Here was a fairly concentrated input of skilled, consciously working-class men arriving at Cockatoo Island, many already versed in class struggle, steeped in the world of industrial disputes from their Old World dockyards, and immigrating to work with Australian working-class men.⁴¹ The leading founders of the Communist Party of Australia (CPA) in 1920 were Scots: Jock Garden migrated to Australia from the north of Scotland in 1904, while William Earsman had voyaged from Edinburgh in 1908. Adding to this early migration, from the end of the Second World War onwards, the national immigration scheme introduced many “New Australians” from war-torn Europe to major workplaces including Cockatoo Island.

Up until the 1950s, most Cockatoo Island workers lived in proximity to their place of work: the inner-city area of Sydney, Milsons Point, Woolloomooloo, the Rocks, Glebe, and the greater Balmain area, including Rozelle, Woolwich, and Gladesville. Balmain, a notable working-class suburb of great political activity, also housed many other industrial workers, and was the site of the origin of three of the most active unions representing workers on Cockatoo Island. Many of these workers, and their extended families, were politically active, particularly on the left.

The distinctive working-class culture of these inner-city suburbs began to change after the end of the Second World War, when, particularly through the 1950s, Sydney's harbourside precinct experienced many changes.

40 Jeremy, *The Island Shipyard*, 247.

41 See Macintyre, “Bloodstained Wattle or Red Heather?”

The shipping industry was on the cusp of modernisation as automation and mechanisation of port operations started; upgrading of wharves and containerisation were only a few years away. The old wharves had been congested for many years and, as construction began of shipyards and docking facilities to the south of Sydney, the work of inner-city dockyards became a little less apparent. By 1958 the *Bulletin* happily reported that “a welcome change is coming over Australian unionism and labour. It is evident in the industrial peace, prosperity and employment which are at a peak in unions which have shed the Communist leadership”.⁴² Many of the aspects of the blue-collar union movement of the 1950s that were concerned with preserving tradition may be attributed to rising wages and living standards, as well as the anti-communist mood.

The traditional waterside worker community was changing too: in this time of rising wages and heightened suburbanisation, it became more desirable to live outside the inner-city area. The sudden post-war influx of migrants and those returning from the war, combined with a high fertility rate, made for crowded conditions in the inner-city environs. Housing there was cramped and substandard after years of neglect. Rent controls did nothing to persuade landlords to maintain their properties, and there was a desperate fight for adequate and reasonably priced rental accommodation. Partly in response to the rhetoric of progress of the period, a number of inner suburbs were designated as “slums”.⁴³ In their study of the cultural transformations in Australian society since the post-war immigration program, Adam Jamrozik, Cathy Boland, and Robert Urquhart point to the changing nature of the inner city due to this preference, and the consequent upward social mobility of former inner-city Anglo-Australian working-class people moving to the suburbs.⁴⁴

With these rising standards of living conditions and effects of the developing consumer society, along with the rise of the white-collar sector of the workforce, the decline of the organised left, and the loss in popularity of the CPA through the Cold War period, the idea of class was becoming less pronounced. Older notions of the strength of the industrial proletariat were waning, and a different concept of class was developing which focused more on income, consumption, and living standards, all of which drew attention away from the issues of power and structure that still existed.

42 “Changing Unionism”, *Bulletin*, 26 February 1958, 4.

43 Solling, “The Labour Party in Inner Sydney”; Engels, “The Gentrification of Glebe”.

44 Jamrozik, Boland, and Urquhart. *Social Change and Cultural Transformation in Australia*, 169-174.

A number of studies point to the general decline of class consciousness in the post-war era in Australia.⁴⁵ A.F. Davies's 1962 study pointed to an "impression of evaporating proletarian feeling" compared to a 1949 study.⁴⁶ R.W. Connell and Terry Irving have also argued that the debilitated and segmented character of the labour movement led to a change in working-class consciousness:

The political defeats around 1950 were followed by a demobilisation, and the reasons plainly extend far beyond politics into changes in domestic life, new patterns of division in the working class, and changes in the role of the state as well as the cultural ascendancy of the industrial bourgeoisie.⁴⁷

The working class of this period experienced a general reduction in class-distinctiveness and class-consciousness, as working and living conditions were improving, and as the other outcomes noted above were reshaping the nature of Sydney workers' lives. As stated earlier, the nature of the working class was undergoing massive structural and numerical changes. The percentage of workers in trade unions reached its peak in 1954 and then began a decline, and the number and intensity of industrial disputes similarly experienced a general decrease. The growth in home ownership of the period contributed to this general feeling of changing class-consciousness.

Composition of the workforce

Throughout the operation of the dockyard, the age group of workers on Cockatoo Island was wide, from 15 up to 65 (Australia's retirement age, which was set in 1909). The island's apprentices were always large in number: in 1984 there were over 400 apprentices (aged 14 and upwards). There was a strong apprenticeship-training scheme, covering many trades, with a special apprentice-training school established in 1945. Many of the island's older and more senior workers had begun their careers decades before, as apprentices.

Up until the 1980s, almost all workers on the island were men: a small number of women worked in canteen and clerical jobs only. Norma Disher,

45 Notably, Davies, *Images of Class*; Connell, *Ruling Class, Ruling Culture*; Wild, *Social Stratification in Australia*; Connell and Irving, *Class Structure in Australian History*.

46 Oeser and Hammond, eds. *Social Structure and Personality in a City*.

47 Connell and Irving, *Class Structure in Australian History*, 298.

a film-maker for the Waterside Workers Federation, worked on a film on the island in 1956, with no small amount of consternation from male management, and said: “it was really a prohibited area for women. There were no women there at all, except one or two in an office.”⁴⁸ Nonetheless, the first small group of female apprentices were taken on in 1980.

Workplace conditions

As in shipyards around the world, early workplace conditions at Cockatoo Island were very demanding. Wyner describes circumstances in the early days:

Much of this work in dry docks and in slips is dusty, steamy, and swelteringly hot in summer; cold, damp and draughty in winter. Dock work is to a great extent carried out in cramped, stooped positions, in the gloomy area beneath a ship’s bottom as it sits on the dock keel blocks about 3’6” above the dock floor. It is arduous, back-breaking, dangerous [...] inboard work on vessels, too, was, and still is, mostly carried out in a cold, dank atmosphere, such as when cleaning and coating ship’s tanks, where the work is done in a crouched position in the restricted sections of tanks.⁴⁹

Over the years, working conditions were gradually improved with union successes in protests, but the fact was that most work on Cockatoo Island was blue-collar labouring. Lew Hillier writes that “there were no mess rooms – men ate their meals on the wharf or on the deck of the ship in all weather”.⁵⁰

Working conditions were also dangerous. Men worked with some of the largest engineering equipment in the country – lathes, band saws, cutting gear – plus live electricity, molten metal, and the possibility of explosions. It was through awards that unions secured protection for workers in dangerous occupations. From 1904 when it was established, the Australian Industrial Relations Commission created awards that set the minimum standards of employment for workers in various industries.

The union movement continually agitated for health and safety improvements. Painters and dockers, for example, suffered lead and arsenic poisoning from paints and noxious fumes. It was years before employers supplied

48 Norma Disher, personal interview, 22 August 1996.

49 Wyner, *My Union Right or Wrong*.

50 Hillier, *Meet the Ship Painters & Dockers*, 11.

them with oilskins and gumboots to work in the water beneath a ship's keel. In all trades, generally, protective clothing was minimal. In 1957, the Metal Trades Award stipulated the use of protective equipment for welders.⁵¹ Getting clean during and after work was another perpetual industrial issue. For many years, showers were not provided; men covered in dust and grease caught the ferry and walked the streets to their homes. Noise, also, was a constant source of irritation, and for many workers deafness was the consequence. Asbestos dust was an unknown hazard that permeated the workshops and the ships being built or repaired in the docks and on the slipways, and cases are still being brought against the Commonwealth government for asbestos-related diseases and deaths of former Cockatoo Island workers. The use of asbestos in Australian workplaces was banned in 2004 as a result of union campaigns.

In the early years of work at Cockatoo Island, some shifts were for very long periods, of 48 hours or even more.⁵² Cockatoo Island was therefore a focus of union campaigns for shorter working weeks. A standard 44-hour week was won in 1930. The decision of the Australian Industrial Relations Commission in 1947 reduced this to 40. In 1982, the metal trades industry gained the 38-hour week, which then became the national standard. Over the years there were a large number of disputes surrounding overtime (unpaid during the Second World War) and long shifts. Weekend, night work, and 24-hour on-call work were not uncommon.

Wages and awards

Wages were paid to the workers on the island from the 1850s. From the 1890s onwards a very large number of wage rates were paid to members of the various occupational groups employed at the dockyard, and disputes on wages, demarcation, and awards have been conducted on behalf of the island's workers: the large volume of awards covering the workers on Cockatoo Island had been an issue since earliest times. At one stage, in 1919, fifty-one awards covered the waged workers on Cockatoo Island, a situation that made negotiations by management difficult to say the least.⁵³

51 For the health of welders in the first country to build an all-welded ship, see Murphy, "The Health of Electric Arc Welders".

52 Mitchell, "Sydney's Wharfies", 26-28.

53 Australian Government, *Report from the Joint Committee of Public Accounts upon the Commonwealth Naval Dockyard, Cockatoo Island*.

Wages and conditions of overtime and shift work were changed during both world wars to take account of the extra work. During the Second World War, a special Wartime Agreement between the company and the government included provision that no wages would be varied without Commonwealth agreement, a source of friction when wartime prices for staple goods had risen sharply and other non-government workplaces were not so restricted. Under wartime legislation, workers in these industries were able to be directed to undertake work and were not free to resign without approval. While the unions, especially in the early part of the war, largely accepted these conditions, the non-payment of penalty rates for compulsory overtime was a matter of ongoing tensions and disputes.⁵⁴

In 1968, the Port of Sydney Shipbuilding and Ship Repairing Industry Industrial Agreement provided for common wages and conditions throughout the waterfront industries. In 1976, this agreement became a federal award, known as the Waterfront Agreement, and was considered to be reasonably successful at stabilising what had traditionally been a highly disputatious industry.

Local influence and working-class culture

As described earlier, Cockatoo Island workers were overwhelmingly working-class. Many of the houses they could afford to rent were very small “workers’ cottages” and, because Balmain and surrounding suburbs were not far from the centre of the city, they were popular with blue-collar workers. By the late 1880s, due to poor planning and the greed of developers, the suburb was overcrowded and badly organised. Factories were opened next door to houses and schools, and new streets had been created in the most inappropriate places. The depression of the 1930s saw a lot of poverty in the area: in 1933, 38.1 per cent of Balmain workers were unemployed, when the NSW average was 18.4 per cent.

Over the course of the twentieth century, however, Balmain residents enjoyed a wide range of leisure-time pursuits, but everyday life in Balmain was not ideal. The industrial origins of the suburb gave rise to many environmental problems. Sites and factories such as the Balmain Coal Loader and coal mine, Balmain Power Station, Unilever, Colgate-Palmolive, Monsanto, and Caltex, while sources of employment for many Balmain locals, gave the suburb a deserved reputation for noise and pollution.

54 Mackay, *Cockatoo Island*, I, 88.

There has always been a strong working-class culture in inner-city Sydney: the area was characterised as “working class, Labor, and turbulent”.⁵⁵ A tightly concentrated area on a peninsula jutting out into Sydney Harbour, Balmain was accessible by road, ferry, tram, and bus, and had rapidly industrialised with settlement from 1836, with factories and industries springing up. Working-class culture was “not only unchallenged here but perhaps more pronounced than elsewhere” in Sydney.⁵⁶ Rosemary Webb writes of this area, where:

Multiple affiliations and identities came together to meet the demands of their industrial work. The spaces hosting and connecting the communities were critical to this process. Labour organising is highly reliant on the spatial links between labour – for example labour precincts – and working class precincts. The notion of hubs of community reinforcing identity is useful as a way of understanding communities in Sydney’s inner working class suburbs, from Newtown through Ultimo and Balmain – places where workers and their families could live, congregate and easily communicate [...] Inner city residents and workers maintained a strong sense of place, particularly of the places such as meeting halls and streets, which facilitated the habits of lifetime activism.⁵⁷

With its working-class culture, Balmain was a hotbed of political activity, and the people involved in running and attending the Balmain branches of political parties and waterfront unions were among the prominent citizens of Balmain. The Australian Labor Party was formed in Balmain in 1891. Nick Origlass, a Trotskyist, ex-communist, and leader of one of the local Federated Ironworkers Association (FIA) branches, became the local lord mayor. Laurie Short, long-term national secretary of the FIA, and head of the Cockatoo Island Shop Committee, helped form the Workers Party of Australia in Balmain. The 1940s and 1950s in particular saw much political activity in the area, when there was a fight for control of the Balmain Branch of the FIA from the CPA. This political activity continued until the late 1960s, when development and gentrification began, prices for inner-city housing rose, and the cultural face of the area began to change.

The Balmain branches of the CPA, the Unemployed Workers Movement (UWM), the Industrial Workers of the World (IWW), and the Australian

55 Cahill and Irving, *Radical Sydney*, 306.

56 Murray and White, *The Ironworkers*, 130.

57 Webb, “You Could Go to the Trades Hall and Meet Organisers”, 225.

Labor Party (ALP) were particularly active. As stated, the ALP was established in Balmain in 1891, as was the Painters and Dockers (P&D) in 1883. Wyner writes that in those early years as well as later:

Balmain was a main centre for political discussion. It seemed that every known facet of political thought found expression within its boundaries. Clubs, leagues, movements, societies; all had their adherents. The inevitable Sunday night lectures drew large audiences. Discussion circles were to be found wherever men [*sic*] would congregate, such as in Billy Hughes' bookshop in Beattie Street. The general embroilment in political thinking and political activity – within a district based on a hazardous, profit-hungry industry which inexorably drew men in a radical, militant direction – eventually made Balmain the right place, at the right time, for the formation of the [P&D] union and of the Australian Labor Party.⁵⁸

Protests

Australian shipyard workers, dockers, wharfies, the “men on the margins”,⁵⁹ have hugely influenced the industrial and cultural landscape of their nation; as the vanguard of the labour movement in Australia they have been termed “social levers in their own right”.⁶⁰ They have always been crucial to the life and development of island nations, and Australia has been no exception.

The traditional waterfront community was very strong during most of the twentieth century, and the majority of Sydney wharfies lived in and around the port area. Waterside Workers Federation Sydney Branch president Jim “Dutchy” Young grew up and lived in the area. He considers that “there’s a kinship among the working class, especially in that area. There’s two [*sic*] groups stands out for working class solidarity, just like a beacon: the miners, and seamen and dockers. This seems to arise from the tendency to live next door to their employment.”⁶¹ Cockatoo Island and the Sydney waterfront constituted, then, a geographically concentrated force of power: solidarity, while never comprehensive, was heightened by the fact that workers lived together, near their work. The struggles to improve conditions were important parts of the history of the waterfront unions, and were vital to the constitution of their militant, radical, nationalist outlook.

58 Wyner, *My Union Right or Wrong*, 16.

59 Brett, *Robert Menzies' Forgotten People*, 88.

60 Turner, *Industrial Labour and Politics*, xvii.

61 Jim Young, interview with Wendy Lowenstein, in Lowenstein, *Weevils in the Flour*, 242.

Since the development of Australian trade unions in the 1850s, the nation's workforce has been notably militant and energetic in fighting for the rights of working people. One of the distinguishing features of Australian industrial relations is its high union density. The growing wave of union militancy and activism among blue-collar workers in Australia around the early 1900s was matched by the growth in union membership. Later, the 1950s in particular sustained a high level of employment, and even during economic recessions in 1952 and 1956, unemployment was never higher than 3 per cent. Along with peak levels of unionisation, this placed workers in an advantageous position to achieve many of the gains they had been refused throughout the war years. Australian employees' membership in trade unions reached its highest point in 1954 of 59 per cent.⁶² After the lifting of wartime prohibitions on industrial action, the number of disputes was high, particularly on Cockatoo Island; throughout the 1950s, a range of issues, which included the improved economic climate, resulted in a slight decrease in this number. As in most nations, union membership has fallen since the 1970s in Australia; even though union membership is falling, 18 per cent of the labour force was still unionised in 2011.⁶³ Historically, Australia has been one of the most strike-prone nations in the world: Stephen Creigh reported that during the period 1962-1981, Australia was fifth in a list of twenty industrial nations in terms of working days lost per employee.⁶⁴

At various times, Australian trade unions operated within a range of political persuasions and strengths; much union leadership, especially in the blue-collar industries, tended towards the dogmatic and sectarian. Many were also proactive and worked in the interests of their members. Communist activists were often most recognised and influential in a number of unions. From the late 1930s until the late 1950s CPA members were especially prominent in left-wing trade union leadership, most notably in those unions represented on Cockatoo Island. Working-class communists found their way into mainly manual trade unions, and this period was particularly active in protest. The maritime industries operated as particularly strong closed shops: the Painters and Dockers had, back in 1900, won a strike to enforce a closed shop. At Cockatoo Island, many disputes centred around issues of health and safety, and demarcation. Quite a few stemmed from the basic fact that so many unions and industrial awards covered the workers there.

62 Martin, *Trade Unions in Australia*, 3.

63 Australian Bureau of Statistics, *Employee Earnings, Benefits and Trade Union Membership*.

64 Creigh, *Australia's Strike Record*.

There were many, many strikes at Cockatoo Island over its history as a working shipyard, too many to detail in this chapter. I will note just some of the disputes.

Health and safety was the issue at the heart of the Painters and Dockers strike of 1915. The secretary of the P&D reported to a meeting that he had been sent for to deal with a strike of painters and dockers at Cockatoo Island and found that the men had held a meeting during the dinner hour when they decided not to start work unless time was allowed them to clean their hands and kerosene provided. After discussion with management, it was agreed that the men be granted five minutes for washing and that kerosene be provided.

The New South Wales General Strike of 1917 was the largest union movement since the Australian maritime dispute of 1890, and involved at least 14 per cent of the state's workforce. It occurred because the government, through the New South Wales Department of Railways and Tramways, introduced an American costing system, to determine where its workers could increase efficiency; poor working conditions and wage cuts followed, prompted by the continuing home-front demands of the First World War, leading to a wave of strikes in the steel industry. The railway workers were the first to strike, but this soon spread to other unions, including the coke workers, seamen, miners, ship painters, and dockers in Sydney including Cockatoo Island.⁶⁵

Wartime strikes were not as common as in peacetime. However, during 1939, Hillier writes: "with the outbreak of the war things changed very quickly [...] the Union had a stroke of luck when the Government froze wages. Our rates were loaded by 35 per cent because of the casual nature of the work and this gave us a high rate of pay when the men were working full time as well as a great deal of overtime. Not having to worry about wage rates the Union concentrated on conditions for the workers [...] when the war ended was when the disputes started because the employers had to go back to the contract system."⁶⁶

The "Battle of Balmain", as it is known, was a six-week 1945 strike of FIA members begun when that union's Executive Committee attempted to replace local delegates with members from the head office of the union. Here was "an unprecedented rejection of the FIA leadership by the rank and

65 Bollard, "The Active Chorus", 61.

66 Hillier, *Meet the Ship Painters & Dockers*, 17.

file”;⁶⁷ the dispute was intimately tied up with contestation over communist and non-communist factions within the union.

The final strike on the island was most interesting as workers united across industrial and trade lines, and with non-workers, to defend the place of Cockatoo Island: it was a place-based campaign, targeting the local needs of both production and labour. The year 1989 saw a substantial fourteen-week occupation strike by workers to protest against the decommissioning of Cockatoo Island as a dockyard. This was the form of resistance taken against closure of the yard, as well as delocalisation. John Tognolini, one of the strikers, wrote that “support from the ACTU and the NSW Labor Council was token for a couple of weeks, and then turned into outright opposition to the struggle of the Cockatoo Island Dockyard workers to save their jobs”.⁶⁸ The federal government’s decision to decommission the dockyard and sell off the site was at the heart of this strike. Workers had been warned of this since 1987, but were not informed it was imminent until some workers read a real-estate advertisement in the *Sydney Morning Herald* newspaper. The decision to sell off the dockyard stemmed as a result of the Labor government’s “Two Ocean” policy, which meant that the government had decided to relocate the Australian naval dockyard to Western Australia and close Cockatoo Island (which was on the east coast). As the island’s workers were covered by an unusually high number of unions, the collective decision to occupy the site was important.

Throughout the occupation, support (financial, political, and moral) came from many other unions within and outside Australia, as well as Aboriginal and other social groups. The island – normally with no resident workers – was occupied for most of three months, and it was a very notable occupation in Australian labour history, a rare Australian workers’ soviet. However the strike failed to achieve its objective. The Commonwealth government threatened legal action against the occupiers, and, “it broke our hearts to do it”, AMWU delegate Mick Christoforou said, “but we moved a motion to return to work and continue discussing the dockyard’s future”.⁶⁹ In March of the next year, 100 workers were retrenched, and in June the federal government reasserted its decision to sell the island. The final day of work on the island was 4 June 1991.

Claude Sandaljian, chairman of the island’s combined shop committee, said he knew early on that they could not save the dockyard, and it did not

67 Quinlan, “Immigrant Workers, Trade Union Organisation and Industrial Strategy”, 426.

68 Tognolini, “The Cockatoo Island Dockyard Strike-Occupation”.

69 Kelly, *No Surrender*, n.p.

help that the union leaders were against them. “Unless you get national strikes, you’re not going to win; eventually they’re going to get you. But the idea was, we’re not the only ones, we’re just the first ones – others are going to come. If they see that we’re fighting, things aren’t going to go smooth for them. Every time they announce a closure then they’ll have a major strike against them. Unfortunately it didn’t happen, but that was the idea.”⁷⁰ Although the workers were not able to save the dockyard or their jobs, they did achieve improvements in redundancy pay plus bonuses on completion of the final two submarines under refit. And, Sandaljian recalls, “Finally, when the dockyard eventually closed, there was a pool of money in the superannuation fund and we insisted that it be shared by everyone in the dockyard, rather than just to the executives.”⁷¹

International solidarity

In the short time since European settlement, Australia has a rich history of solidarity and activism. Australia has always had a strong union heritage going as far back as the sheep-shearers’ strike of 1894. Because of the nature of Australia as an island nation, far away from Europe and the UK, and connected until the twentieth century to other countries by ship only, maritime and shipyard workers have a particularly long tradition of solidarity with their comrades overseas. The influence of communist and socialist trends within the unions connected with Cockatoo Island and the other shipyards of Australia over the years has strengthened international solidarity. Some unions in these shipyards, however, to the centre or right of the political spectrum, such as the Australian Workers’ Union, supported policies and activities that were more parochial and nationalist than internationalist. Among the Cockatoo Island unionists, the Painters & Dockers members were highly influenced, through the majority of their union officials, by the sentiments of the Industrial Workers of the World. With its Australian branch formed in 1907, this was a highly influential political organisation through much of the first half of the twentieth century.

The regular movement of overseas ship workers in and out of Sydney Harbour brought many opportunities for international solidarity. In the late 1940s, for instance, the communist-led maritime unions played a significant role in helping the Indonesian independence struggle, through shipping

70 Cited in Steph Price, “The Cockatoo Island Occupation”.

71 Sandaljian, “Fifteen Years Since the Cockatoo Island Occupation”, n.p.

bans on the Dutch colonial force. The bans were in place from 1945 to 1949. While communist-led unions initiated the bans, there was widespread sympathy and support for the Indonesians throughout Australia.

Through its growing involvement in world affairs, and particularly through the recent rapid development of transport and communications technologies in the past fifty years, the Australian union movement has given increasing attention to international issues. Paddy Crumlin, the national secretary of the Maritime Union of Australia, was elected president of the International Transport Federation in 2010. This global organisation, established in 1896, now covers 708 unions representing more than 4.5 million transport workers in 154 countries. The political solidarity work that this organisation carries out is notable in its support for workers worldwide. Crumlin takes his role seriously and performs it actively, and works hard to promote Australian dock workers' international solidarity.

Relationships of production

The organisation of production at Cockatoo Island was quite complex, due to the variety of production tasks undertaken, the high number of people employed, and the large number of trade unions involved. The main areas of production were shipbuilding, ship repair and conversion, submarine manufacture and repair, and other engineering production works.

The shipyard was run with a general manager, as well as a manager who superintended the naval operations. They led management teams comprising superintendents in engineering, design, electrical, and other areas. Dockyard executives were active on industry bodies and associations, including the Australian Shipbuilders Association, the Australian Ship Repairers Group, the Australian Welding Research Association, the Institute of Marine Engineers, and the Royal Institution of Naval Architects.⁷²

Morris notes the closed-shop situation of the Australian waterfront industries, where “the possession of [union] registration and a union ticket provide necessary and sufficient employment qualification”.⁷³ The unions, particularly the Painters and Dockers and the Waterside Workers Federation, administered the labour supply to Cockatoo Island by means of a roster system, designed to “visibly demonstrate equity in the distribution

72 Jeremy, *Cockatoo Island*, 199.

73 Morris, “The Employer’s Free Selection of Labour and the Waterfront Closed Shop”, 61.

of work".⁷⁴ The roster system was a far cry from the earlier pick-up or "bull" system of employment regulation. This roster system was adopted in 1946 and was accorded legal status; its centralised allocation of workers was more effective from the management's point of view (not adding to the cost of labour) as well as more equitable for unionists. Richard Morris notes that: "employers retained unrestricted formal control of job availability for ship painters and dockers. Unlike the arrangements in shipping and stevedoring, no joint machinery evolved in shipbuilding and ship repair to determine port or industry-wide manning levels and manpower quotas."⁷⁵ However, as time passed and the industry declined in Australia, management began to view the roster system as "a source of inefficiency and overmanning" up until the closure of Cockatoo Island as a dockyard.⁷⁶

Throughout the whole of its history, the demands of shipbuilding and expanding engineering works continually modified Cockatoo Island physically, and consequently the methods and organisation of production on the island were modified. In particular, the outbreak of war in 1939 saw a number of modernisation and modification tactics in order to cope with the added work.

There were up to fifty trades represented at times among the workforce of Cockatoo Island: boilermakers, blacksmiths, ship painters and dockers, gas fitters and plumbers, electricians, shipwrights, storemen and packers, timber workers, and – the biggest group of all – ironworkers. At the period of its highest employment, the workers on Cockatoo Island were represented by twenty-two trade unions; however, most were covered by six: the Federated Ironworkers Association, the Federated Ship Painters and Dockers Union, the Boilermakers' Society, the Amalgamated Engineering Union, the Australian Metal Workers Union, and the Waterside Workers Federation. The membership of these unions – and other blue-collar unions – had increased at the turn of the twentieth century with an improving labour market, a growth in shipping, and their own stronger organising and collective bargaining activities.⁷⁷

In Australia as in many other developed nations, union membership has declined rapidly in the past forty years, due to complex causes relating to the changing composition of employment, management strategy, and governmental statutory changes, including individual contract legislation, and the unions that were represented on Cockatoo Island have all declined

74 *Ibid.*, 51.

75 *Ibid.*, 53.

76 Morris, "The Employer's Free Selection", 54.

77 Sheldon, "Compulsory Arbitration and Union Recovery", 422.

in membership since the 1960s. Compulsory arbitration of some kind has been in force in Australia since 1906.

The Australian Council of Trade Unions (ACTU), the peak organising body of the nation, has had a very mixed history with the unions represented on Cockatoo Island. At some times the ACTU completely supported the actions of unionists there, and at others there was discord, as in the 1940s during the “Battle of Balmain”, when FIA Balmain delegates withdrew from the ACTU’s Congress, and during the 1989 occupation strike, when the ACTU withdrew their support for strikers. Lindy Kelly, who was on the island for fourteen weeks, writes of the “ACTU sellout”.⁷⁸

The Cockatoo Island dockyard has been the most prolific, complex, and industrially vital shipbuilding site in Australia’s history. It was Australia’s largest post-First World War Commonwealth employer, and the complexity of its union and its history marks its industrial history as one of the most disputatious in the nation.

78 Kelly, *No Surrender*, 40.

Asia

21 Evolution and development of the shipbuilding industry in Bharati Shipyard Ltd, Maharashtra (India), from the 1970s to 2010

Employer, employee, and production perspectives

S.M. Fahimuddin Pasha

Introduction

This chapter is in three parts. The first gives a general account of the post-colonial development of the Indian shipbuilding industry with special reference to Maharashtra. The second part focuses on Bharati Shipyard Ltd (BSL), the second-largest private sector shipbuilding company in India. The third and final section deals with the historical progression of employer, employee, and production relationships in BSL. It will also highlight the current situation of the company and the working condition of its employees.

Historical background of the Indian shipbuilding industry and Maharashtra

As Daniel Todd has noted, “outside of Communist states, India is in many ways the apotheosis of state instigated and controlled industrialisation [and] that interventionist approach gave the tone to the country’s shipbuilding industry”.¹ After 1918, the output of Indian shipbuilding was insignificant. However, the outbreak of the Second World War prompted India’s then largest shipping company, Scindia Steam Navigation, to begin to lay out a new shipyard, later known as the Hindustan shipyard, at Visakhapatnam, for the construction of vessels up to 8,000 dwt. Its foundation stone was laid in 1941.² When India gained its independence

¹ Todd, *Industrial Dislocation*, 211.

² The Scindia Steam Navigation Company Ltd was established in 1919. On 5 April 1919 its first ship, the SS *Loyalty*, sailed on its maiden voyage to the United Kingdom. For the early history

from British colonial rule in 1947, it soon recognised the importance of self-reliance. Thereafter, the new Government of India initiated several steps to promote shipping and shipbuilding. In 1949, the government issued a statement of intent to reserve shipbuilding for state enterprises, but gave private shipbuilding companies a decade's grace to exit the industry. Scindia relinquished its control of the Hindustan shipyard to the Indian state in 1952, but held a minority stake in the yard, which was already heavily dependent on government orders, and was "dogged with problems preventing it from producing ships at competitive prices".³ With Hindustan under state control, a series of five-year plans followed to expand new construction there. By October 1961 the Shipping Corporation of India (SCI) had been formed at Bombay (Mumbai) as a result of a merger of the Eastern and Western Shipping Corporations. SCI was now a public-sector enterprise company and began its operations with nineteen vessels.⁴ Initially the Indian government acquired existing shipyards and took over operation of the facilities of Garden Reach Shipbuilders and Engineers, in Calcutta (Kolkata), and Mazagon Dockyard in Mumbai in 1960; both these yards were owned by subsidiaries of the British-owned Peninsular & Oriental Shipping, and after nationalisation largely concentrated on naval work.⁵ The Indian seizure of Goa from the Portuguese in 1961 gave it a large ship repair yard, Estaleiros Navais de Goa. However, the major steps to further develop the Indian shipbuilding industry were taken in the early 1970s.

The Cochin Shipyard in the southern state of Kerala had undertaken a prolonged period of modernisation from the early 1960s, with the aid of Mitsubishi Heavy Industries of Japan, but cost overruns and tardiness had dogged its progress. In 1972 Cochin became a public-sector enterprise unit. In the same year, yet another public venture, Rajabagan Dockyard Ltd, opened in Kolkata. Two major private-sector companies, Bharati Shipyard Ltd (1973) and ABG Shipyard (1985), were established in Maharashtra (a

of the company, see its company history, *The Scindia Steam Navigation Company Limited*. See also Rao, *A Short History of Modern Indian Shipping*. The maiden voyage of the SS *Loyalty* was commemorated with the establishment of a National Maritime Day of India, celebrated for the first time on 5 April 1964, and annually thereafter.

3 Todd, *Industrial Dislocation*, 211.

4 SCI is now a huge conglomerate. Jayanti Shipping and Mogul Lines were merged into SCI in 1973 and 1984 respectively. Since 2008, the Indian government has given SCI greater financial autonomy.

5 Mazagon Dock's first modern warship, a Leander-class frigate, INS *Nilgiri*, was commissioned in 1972. It was built under licence with the aid of two leading British warship-building companies, Vickers and Yarrow.

western coastal state of India). These establishments paved the way for private capital in the shipbuilding industry of India and also registered small profits from their operations. The fact that both these units were profitable from the time of their inception hinted that there was a potential for growth in the Indian shipbuilding industry and also that there was scope for private ventures. However, in the state sphere, Indian shipbuilding remained relatively inefficient. The entire thrust of government policy to make India self-sufficient in shipping and shipbuilding without resorting to autarky faced huge practical constraints. Construction times were far in excess of international competitors, leading to huge cost overruns and subsequent losses on commercial contracts.⁶ Indian shipyards were not profitable in aggregate, but the industry could always console itself that it operated in a protected market.

Considering the growing importance of the shipbuilding industry, the Government of India decided to unify and synergise shipbuilding activities in the country. During the 1970s and 1980s the country attempted to achieve a measure of parity in technology and infrastructure through collaboration and alliances with leading shipbuilders of the world. Along with other coastal provinces, the western state of Maharashtra secured the opportunity to develop its shipbuilding industry.

Unfortunately, much of the benefit accruing from this sense of progress was neutralised due to circumstances such as a lack of domestic managerial experience and expertise in modern shipbuilding. The public-sector enterprise units, which were the largest among the shipyards, were entangled in overbureaucratic governance, and managers had little experience of managing labour-intensive large shipbuilding activities. Poor labour management and excessive bureaucratic control resulted in delayed decision-making and corruption, which obviously had a detrimental impact on the industry. The situation was further aggravated by the presence of militant labour unions. Given the rather chaotic nature of public-enterprise shipyards, the government later changed its policy and accepted the concepts of liberalisation and privatisation in 1991. To counter the impact of adverse taxation schemes and high interest rates, the Government of India provided special subsidies to shipbuilding by actively promoting a PPP (public-private partnership) in the industry. Accordingly, 2002 is considered as a watershed year for the

6 Todd, *Industrial Dislocation*, 214, points out that a construction time for cargo vessels of three to five years was common in India against eighteen to thirteen months elsewhere. Also, real costs incurred were far in excess of contract prices, and the lack of viability to shipyards specialising in commercial newbuild vessels became a stark fact of life.

shipbuilding industry not only in Maharashtra, but also in other states across India. Some of the important provisions charted out were:

- The Government of India introduced a subsidy scheme in 2002 which provided for 30 per cent funding on the order value of ships for eight public- and nineteen private-sector shipyards. The subsidy neutralised the distortion in the domestic economic environment which previously had adversely affected Indian shipbuilders. This also made Indian shipbuilding industry “competitive” as it matched with the direct or indirect support (subsidies) provided to shipbuilders in other countries.⁷ It was predicted, however, that the Indian shipbuilding industry might not be able to enjoy the benefits for long as the subsidy rates were expected to be revised down to 20 per cent and later to 10 per cent in as the years to come.⁸ Ultimately, after a five-year run, the programme on subsidy was ended on 14 August 2007, due to the high fiscal deficit faced by the government. This had very real effects on Indian shipbuilding’s international competitiveness. The subsidy scheme had increased India’s share of world shipbuilding orders from 0.02 per cent to 1.24 per cent, but after the expiry of the subsidy India’s share declined to 0.01 per cent. To date, despite widespread criticism by Indian shipbuilders, the Ministry of Shipping has not yet re-established a shipbuilding subsidy scheme. However, with the recent change in government, subsidies may be reconsidered.
- For the first time, in 2002, the Government of India opened its doors to the major private-sector shipyards, BSL and ABG, to partner with it. The partnership was based on the PPP model where the private players were jointly working on government projects. This policy enabled both BSL and ABG to take orders from the Indian navy.
- In the year 2002, the Government of India also made specific changes in FDI (foreign direct investment) policy by introducing the New Exploration Licensing Policy (NELP) VII to boost the production of oil and natural gas, by providing a level playing field for both public and private companies in the shipbuilding industry.

The impact of above initiatives was reflected in the performance of Indian shipyards until the ending of subsidy in 2007, which is summarised in Table 21.1.

7 “Indian Shipbuilding Industry Well Positioned for Further Growth”, Exim Bank, *Machinest. in*, 2 February 2011, http://machinest.in/index.php?option=com_content&task=view&id=3053&Itemid=1 (accessed 20 June 2014).

8 “Indian Shipbuilding Industry: Poised for Take-off?”, *Global Conference and Exposition on Shipbuilding KPMG in India*, 2008, 3.

Table 21.1 Performance of Indian shipbuilding yards (USD \$ mn), 2002-2007

Period	Growth of export tonnage in dwt	Orderbook	Turnover	Investment
1997-2002	0.006	163.2	203.4	8.6
2002-2007	0.2	2,975.4	731.4	168.6
Percentage difference	233%	1,723%	259%	1,860%

Source: KPMG and Report of Working Group for Shipbuilding and Ship-repair Industry for the Eleventh Year Plan (2007-2012), March 2007, http://www.investingintamilnadu.com/india/doc/infrastructure_opportunities/Indian_Ship_Building_Industry.pdf (accessed 23 March 2013)

A comparison of the Ninth Five-Year Plan (1997-2002) and the Tenth Five-Year Plan (2002-2007) shows a significant development in the Indian shipbuilding industry. This paved a new path for achieving increased turnover for both the private and public sectors. Despite the ending of subsidy in 2007, turnover reached USD \$1.6 bn in 2010⁹ and increased thereafter. A positive impact on the shipbuilding companies located in Maharashtra region was also witnessed. Brief performance details on Maharashtra shipbuilding companies and turnover in 2012 are shown in Table 21.2.

Bharati Shipyard Ltd: a major player in the shipbuilding industry of Maharashtra

BSL is a major company in Maharashtra and an exemplar of the private shipbuilding industry in India. It began its operations in Ratnagiri in 1973, as a small venture in private hands. At present, the client base is from both India and abroad. It constructs ships to internationally accepted standards, and has attained the status of the second-largest private shipbuilding company in India. The company was founded by Prakash C. Kapoor and Vijay Kumar, graduates of the ocean engineering and naval architecture programme at the Indian Institute of Technology, Kharagpur. Kapoor and Kumar were also colleagues at Mazagon Dock Ltd in Mumbai. Ratnagiri is around 330 km from Mumbai. In its first few years of operation, BSL built fishing vessels, trawlers, and barges but over time they have expanded their product range. At present, BSL builds many sophisticated vessels such as offshore supply vessels (OSVs), multi-purpose support vessels (MSVs), and anchor-handling tugs and supply vessels (AHTS). The headquarters of BSL is located in Mumbai and its activities are carried out in six yards: Ghodbunder

9 The Indian Shipbuilding DIBD-OMII, *Own Man in India*, April 2012.

Table 21.2 Status and performance of shipbuilding companies in Maharashtra

Companies	Sector	Year established	Major activities	Total turnover in Maharashtra in USD \$ (2012)
Mazagon Dock	Public-sector undertaking	1934*	Manufactures warships and submarines for Indian navy, offshore platforms, tankers, bulk carriers, platform supply vessels, ship design, building, and repair	616 mn
ABG Shipyard Private	Private	1985	Commercial vessels that include self-loading and self-discharging bulk carriers, container ships, floating cranes, split barges, anchor holding tugs, offshore supply vessels, warships, ship design, building, and repair	407 mn
BSL Bharati Shipyard	Public company	1973	Design and construction of sea-going, coastal, harbour, inland crafts, and vessels, building tractor tugs, cargo ships, tankers, and other support vessels	284 mn
Goa Shipyards	Ministry of Defence, Government of India	1957	Warship for Indian navy and Indian coast guard	205 mn
Pipavav Shipyard	Private	1997	Large crude carriers, Cape-size bulk carriers, LNG carriers, and warships along with Mazagon Dock	157 mn
Chowgule & Company Ltd	Private	1951	Cargo vessels, mini bulk carrier, ore carrier barges, fishing trawlers, and others	110 mn
Total turnover				1.779 bn

Note: * Mazagon Dock was established in 1801 and registered as a public company in 1934.

Source: Companies Website and the Indian Shipbuilding DIBD-OMII, *Own Man in India*, April 2012

(Maharashtra), Ratnagiri (Maharashtra), Dabhol (Maharashtra) Mangalore (Karnataka), Kolkata (West Bengal), and Goa.

The Kolkata and Goa BSL yards are engaged in shipbuilding and ship repairing activities. Technically complex and larger vessels are built in Dabhol and Mangalore. While the Kolkata and Goa yards build Aframax-size vessels, the Dabhol and Mangalore yards are engaged in building vessels

of Handymax size. Ratnagiri is the oldest yard of BSL, and it is spread over 25 acres (101,171 m²) of land. Recently Ghodbunder has become its feeder yard. Ratnagiri yard has its own skilled workforce along with an in-house training facility. In 2013, the number of employees on the BSL payroll was 1,093, of which 608 were blue-collar workers (not sub-contracted) in the six shipyards. In the three Maharashtra shipyards the number of not sub-contracted workers was 301.

Employer, employee, and production perspectives in BSL Maharashtra

This section describes employer, employee, and production perspectives at BSL. The production perspective discusses the past and also highlights the various production activities carried out in Ratnagiri, Dabhol, and Ghodbunder.

The employer's account of establishing the company and management structure

Kapoor and Kumar are two technocrats-turned-entrepreneurs who established BSL and became its joint managing directors. Kapoor is responsible for the development and operations of the company and for ensuring that it adheres to internationally acceptable standards of shipbuilding quality. As a co-director Kumar is involved with the design, marketing, and quality standards of BSL products and is actively engaged in bringing in export orders. The shipyards are managed by departmental heads. The three main departments at BSL are maintenance, electrical, and mechanical. Senior human resource and administration managers are in overall charge of their respective yards. Department heads are either supervisors or engineers under whom fitters, electricians, welders, gas cutters, and others work. There is provision for one labour officer and one safety officer who could supervise welfare activities and safety issues, but these posts usually remain vacant.¹⁰

10 This information has been gleaned from workers in the three Maharashtra yards who wish to remain anonymous.

Figure 21.1 Location of BSL shipyards in Maharashtra region



Employees: a historical account of work and employment relationships (wages, working conditions and industrial disputes)

BSL initially began at Ratnagiri with thirty-six employees in 1973. Presently the size of the overwhelmingly sub-contracted workforce ranges from 1,500 to 2,000 at Ratnagiri, 400 to 450 at Ghodbunder and, 500 to 525 at Dabhol. Prior to the 1980s, almost all the workers were from the local community of the western and southern parts of Maharashtra. These workers were mostly hired as permanent workers; however, after the 1980s, workers were hired by sub-contractors on a temporary, contract basis. The industry also witnessed a surge in the number of migrant workers sourced from the states of Uttar Pradesh, Bihar, Jharkhand, and elsewhere. At present the majority

Table 21.3 Employment and wage status in BSL, 1973-2011

Year	Formal workers	Contract workers	Daily wages (INR) for a contract worker
1973 Ratnagiri	36	46	12
1981 Ratnagiri	42	31	23
1991 Ratnagiri	44	600	36.10
2001 Ratnagiri and Ghodbunder	123 + 22	758 + 321	90
2011 Ratnagiri, Ghodbunder, and Dabhol	258 + 0 + 43	1528 + 0 + 513	140

Source: Records of Bhartiya Kamgar Sena

of workers are migrants, skilled and semi-skilled, who are primarily engaged in welding and gas-cutting steel. The other group of the migrant labour force is composed of manual labourers.¹¹ One BSL worker at Ratnagiri highlighted the contract system in the company:

You will find around seventeen contractors in Ratnagiri, who are having not more than twenty or twenty-five workers. Most of these contractors are dummy and are promoted by BSL management only. As a matter of fact, many of them are not even contractors, but are general workers who are shown as contractors on paper. This is to escape from the statutory obligations related to employee welfare, in case the number of workers reaches over 100. We have been trying to resist this practice since 1991; however, our attempts [are] always in vain.¹²

Other than contractual terms, the workers also expressed their concern on the inadequacy of the wages received. The evolution of wages from 1973 to 2011 in BSL is shown in Table 21.3.

In 1991 workers were getting INR 36.10/- (€0.51); in 2001, INR 90/- (€1.3); and in 2011, INR 140 (€2). The latter figure of INR 140 is the statutory minimum wage, and in practice it is far below accepted living wage standards; consequently, workers find it difficult to survive on it. The situation is further worsened by the fact that the workers allege that they do not get paid on time, are duped by contractors and sub-contractors, and are provided with spurious excuses such as that the company is not making profits and therefore it is difficult to make the worker's payment. Yet the company's 33rd

11 Interviews conducted during May 2013 in Ratnagiri.

12 Amol Swant, Trade Union Leader and suspended worker, interview May 2013, in Ratnagiri.

Table 21.4 Company expenses on employee benefits

Employee benefit expenses	1 April 2011 to 31 March 2012 in mn euros*	1 April 2010 to 31 March 2011 in mn euros
a) Salaries and incentives (including labour charges)	21.21	23.71
b) Contribution to		
i) Provident and other funds	0.50	0.53
ii) Superannuation scheme	-	-
c) Gratuity fund contributions	0.14	0.25
d) Social security and other benefits plans for overseas employees	-	-
e) Staff welfare expenses	0.66	0.65
Total	22.51	25.14

Note: * Original data were given in INR lakh which has been changed into million euros.

Source: BSL Annual Reports 2010-11, 2011-12

Annual Report (2009-2010) states that each executive director was drawing INR 2.895 Crores (INR 28.95 mn = €413,571) as annual remuneration.

The 2010-2011 and 2011-2012 Annual Reports of BSL indicates expenditures on employee benefits and in three categories contributions are down, but in welfare it is slightly up (Table 21.4).

Low and irregular wages have resulted in several instances of industrial unrest and disputes in the company, which has hampered production. The first strike was called by workers in 1991 protesting against low wages, and a major strike was held in July 2001, when it was alleged that the company had refused to pay the minimum wage and had allegedly forced workers to sign on to fake muster rolls stating that they were receiving the minimum wage. According to workers, the company paid only INR 65/- (€0.93) whereas the workers were demanding at least the prevailing (2001) minimum wage of INR 90/- (€1.3) per workday. The matter went to a conciliation officer but no tangible solution transpired; subsequently the workers lodged a case against BSL in the Mumbai High Court, which remains pending.¹³

Table 21.5 summarises major labour unrest and disputes in BSL from 1991 to 2013.

On safety issues, the company has attempted to maintain a good profile and are known to follow workplace-safety guidelines strictly, particularly after the strike of 1991. At present, it is observed that workers are well equipped with safety equipment such as gloves, shoes, and goggles for

13 The case was still pending in the court as of June 2014.

Table 21.5 Major unrest and disputes at Bharati Shipyard Ltd, 1991-2013

Year	Participant	Reasons	Result
1991	Bhartiya Kamgaar Sena	Demand for provident fund, bonus, adequate safety measures and abolishing of contract labour	The issue was discussed with the Labour Commissioner and State Contract Labour Abolition Authority. As a result, the company agreed to provide adequate safety measures. Some of the workers attained formal employment. From 1996 onwards, workers were also entitled to membership of the Provident Fund.
2001	Bhartiya Kamgar Sena	Workers allegedly forced by management to sign the fake muster roll where it stated that workers were getting minimum wage. When workers refused, they were fired by management.	The case is still pending in the Maharashtra High Court, and workers remain hopeful that their jobs will be reinstated.
2013	No trade union representation	From August 2012 to April 2013, BSL Ratnagiri was closed. Workers were informally appraised that the company was losing money, hence the need to close the Ratnagiri Unit. However, management stated in the press that it was closed due to renovation work.	More than 60 per cent of workers lost their jobs and the company refused to absorb them. They also did not get bonuses and other benefits. Now workers are seeking support from external unions to address the issues.

Source: Record of Bhartiya Kamgar Sena, court case, and interviews with workers

those cutting steel plates. Safety helmets and overalls are provided for those who lift heavy materials. In the yard everything is arranged systematically including raw materials and equipment. To prevent accidents due to negligence, ignorance, and haste, instructions for workers are displayed on the safety posters and warning signs are present at vantage points in the yard. There are some cases of minor burns and cuts but no fatal accidents were reported, except in 2010, when two workers lost their lives in Ratnagiri yard.¹⁴ After investigating the case, the company introduced medical staff and a dedicated ambulance.

Although BSL has insisted on safety over many years, it does not provide sufficient social protection to many of its workers. As mentioned earlier, a large segment of workers are outsourced and thus do not have permanent

14 In the year 2010, two workers died when hit by a heavy object falling from a crane.

jobs. Outsourced workers are not covered under any social protection scheme other than a provident fund.¹⁵ Even though workers are engaged in hazardous jobs and their lives are always at risk, there is no provision for workmen's compensation, and neither workers nor their families are covered under accident or medical insurance policies. Accordingly, during contingencies, they do not have a safety net that would protect their family against hardship and deprivation. Overall working conditions at BSL are unsatisfactory. Although working hours and overtime duties conform to statutory requirements, other aspects of work and employment relations are deplorable. Basic amenities such as clean drinking water and sanitation are not provided, and there is a fear among workers that drinking water is impure and that toilets are unhygienic.¹⁶ There is no canteen facility for workers to have cooked meals and rest during lunch recess. The only canteen in BSL is out of bounds to workers and is reserved for managerial and supervisory staff.

Production: evolution and development of BSL yards in terms of clients and production relations

BSL carries out its activities from the following yards of Maharashtra.

Ratnagiri: The yard has a highly skilled workforce with its own in-house training facility. It is well equipped with modern plant, machinery, and equipment such as automatic welding machines, automatic shot blasting/painting machines, computer numerically controlled plasma-cutting machines, etc. Presently, the company is installing a ship-lift facility, of 12,000 tonnes' lifting capacity at the yard. The yard is also certified to International Ship and Port Facility Security Code (ISPS) standards. The Ratnagiri yard is presently capable of fabricating and erecting fourteen vessels of various sizes simultaneously. In recent years, modernisation and expansion of the yard have been carried out during which the yard was closed from August 2012 to April 2013. This closure was a prime example of lack of transparency. Workers were told that the unit was closed due to a liquidity crunch, but in press reports it was stated by the management that renovation was taking place in the yard.¹⁷

15 The Provident Fund is a lump sum given to workers when they retire or terminate from their job.

16 As there are no personnel to clean them on a regular basis. This information is based on yard observation and interviews conducted during May 2013 in Ratnagiri.

17 Press clippings and interviews conducted during May 2013 in Ratnagiri.

Ghodbunder: Bharati's Ghodbunder yard was established in 1998, and supports the operations of the Ratnagiri facility by acting as a feeder yard. It is located near Mumbai and spread over 12 acres of land; it is equipped with four slipways that are suitable for building hulls of up to 125 m in length. The yard is involved in fabrication, pre-outfitting, and major piping work. It has modern equipment including mobile cranes, CNC plasma-cutting machines, panel line fabrication, automatic welding machines, etc.

Dabhol: BSL has undertaken greenfield expansion in the Dabhol area spread over 300 acres of land on the banks of the River Vashishti. It is one of the most technologically advanced yards in India. In 2007, BSL took over the entire equipment and infrastructure of the then bankrupt British shipyard Swan Hunter at Wallsend, Newcastle upon Tyne, which was dismantled and transported to India for installation at the Dabhol yard. The Dabhol yard was designed by First Marine International of the United Kingdom, and is capable of building larger vessels up to Aframax and Handymax size, and jack-up drilling rigs. It has two cranes with 180 tonnes' lifting capacity, a large fabrication hall where blocks of 450 tonnes can be assembled, and a floating dock of about 155 m x 40 m, with 16,000 tonnes' lifting capacity. This floating dock is one of the largest in India.

In 1985, the company won its first export order for construction of five barges from Yemen, through Mazagon Dock Ltd. From then, their product range has been upgraded from simple inland cargo barges to deep sea trawlers and other sophisticated tugboats, and other vessels. In 1991, the company won an order for two specialised tugboats with installed power of over 4,000 bhp from the Cyprus Port Authority, and in 1997 they received orders for two manoeuvrable tugs from Reliance India Ltd.¹⁸

In 1999, in one of the major landmarks for BSL, it won a contract from Qatar Shipping Company to build a series of 55-tonne bollard pull tugboats. This contract was for ten years and was worth USD \$15 mn. Another milestone in the history of BSL was its listing on the Bombay Stock Exchange (BSE) and the National Stock Exchange in December 2004.¹⁹

In 2005 BSL further expanded its operations, when it acquired a 51 per cent majority stake in the small Goa-based Pinky Shipyard Ltd; in 2006, BSL won a contract from Reliance Industries Ltd, which made the company's

18 Official website of Bharati Shipyard Ltd, <http://www.bharatishipyard.com/history.html> (accessed 10 March 2013).

19 *Ibid.*

orderbook position of INR 1,586 crore (approximately USD \$352 mn) 4.45 times the turnover of the financial year, 2005-2006.²⁰

A joint agreement with Apeejay Shipping Ltd for setting up a large modern shipbuilding yard on India's east coast, expected to become operational in 2009, was signed on 15 October 2007. The proposed shipyard would be capable of building vessels up to VLCC size, would also have ship repair facilities, and would require an initial investment of RS 2,000 crore.²¹ Also in 2007, as noted above, BSL announced its intention to acquire plant and equipment from the British shipyard Swan Hunter, and its dismantling and relocation to India were expected to take up to a year.²²

BSL built the first self-elevating jack-up drill rig to be constructed in India in 2008, and in March 2009 secured a defence contract to build fifteen interceptor vessels for the Indian coast guard worth RS 2.8 bn.²³ In 2010, BSL acquired a majority stake worth USD \$13.7 mn in Tebma Shipyard, a south Indian-based company, with shipyards in Karnataka, Tamil Nadu, and Kerala states.

As BSL's managing director, Vijay Kumar, stated:

The company [BSL] has a robust order position, with 70 per cent of its orderbook for export, the majority (90 per cent) of which is for clientele in European countries, including Surf Bourbon, Ultra Petro in Argentina, MK Shipping of Holland, and Sea Cargo from Norway.²⁴

The majority stake in Tebma gave BSL access to readymade shipyards. Its collaboration with Apeejay Shipping at the greenfield yard in Dabhol, noted above, obviously had liquidity implications for BSL. Moreover, BSL with its reliance on overseas orders was not immune to the ongoing effects of the world financial crisis of 2008. With two greenfield sites under construction at Dabhol and in Mangalore, the latter capable of building ships up to 60,000 dwt, BSL's growth strategy was dependent on increasing overseas orders and on maintaining liquidity. At 2010, BSL was incurring essential capital expenditure on its greenfield sites and was in the process of re-evaluating future capital expenditure based on actual demand from customers.²⁵

²⁰ *Ibid.*

²¹ *Ibid.*

²² *Ibid.*

²³ *Ibid.*

²⁴ Kumar, "Launching India into the Global Shipbuilding Competition".

²⁵ BSL Annual Report, 2009-10.

By December 2011, however, the not-unexpected liquidity crunch had hit BSL hard, and for a variety of reasons the company – some 70 per cent of its customers being European – was unable to meet its financial obligations. In part this arose from the continuing effects of the 2008 crisis. European bankers, in view of increasingly stringent capital adequacy requirements demanded by the European Union, revisited their lending policies to customers. This had the effect that stage payments for vessels ordered were deferred or delayed to BSL, and was compounded by the amount of capital expended up to 2012-2013, on two partially operational greenfield sites at Dabhol and Mangalore. Up to this stage, there was a mismatch between capital expended and returns on capital at these sites, exacerbated by rises in domestic interest rates, which adversely affected net profits. Consequently, on 16 December 2011, BSL entered a corporate debt restructuring (CDR) programme led by the State Bank of India and a consortium of twenty-six other banks formed by the Finance Ministry controlling working capital, salaries, and contractual payments. Some of the salient features of the CDR were the granting of a moratorium on debt repayments for a period of eighteen months from the cut-off date of 1 October 2011, and the rescheduling the repayment schedule of term debt (including funding of interest accruing) and extending it over a period of ten years from the cut-off date.²⁶

These measures were originally envisaged to be completed in form and in substance by March 2012. However, BSL could not adhere to the schedule, and it was therefore modified to make up for the loss of time which had in turn delayed the company's process of revival and resulted in a loss of revenues and profits. Accordingly, the revised agreement was formally adopted in February 2013. Some of the salient features were as follows: the granting of a moratorium period to June 2012 for facilities other than term debt; the funding of interest accruing on certain facilities other than term debt to June 2012; and the immediate release of funds to BSL via new loan facilities as envisaged in the original scheme. This scheme was dependent on the finalisation of BSL accounts.²⁷

26 BSL Annual Report, 2012-13. Other requirements were the conversion of 10 per cent of the outstanding debt into 1 per cent compulsory convertible debentures; concessionary interest rates on all loan facilities; conversion of certain devolved letters of credit and bank guarantees into a working capital term loan repayable in instalments; the granting of two new loan facilities to facilitate completion of yard and vessel construction activity; and promoters to infuse into BSL 15 per cent of the amount sacrificed by banks and 25 per cent of the new loan facilities as margin money in the form of equity.

27 BSL Annual Report, 2012-13.

In this scenario, it was likely that the consequences for the BSL labour force would be severe. BSL had been and is extremely wary of taking the risk of absorbing informal (sub-contracted) workers on the company payroll as they do not wish to get engaged in interacting with an organised workforce. The closure of the Ratnagiri yard from August 2012 to April 2013 is an example of a lack of transparency by BSL. As noted above, workers were informed that due to the liquidity crunch the unit was closed, but in the press it was stated by the management that renovation was taking place in the yard. By July 2013, sub-contract workers hired by labour contractors to work at BSL Mangalore had not been paid for six months, and these workers had been on strike for twenty days. The labour contractors passed the buck to BSL as the former had not been paid either. By 15 November, the chief general manager, Ram Mohan, had stated that the problems were related to a global slowdown in shipbuilding and that BSL had "a liquidity crunch". Foreign companies had cancelled "a lot of orders" and had taken back advances.²⁸ His statements should be seen against the backdrop of corporate debt restructuring and a loss before tax for the period 2011-2012 of RS 4858.64, which had grown to RS 59,975.52 in the financial year 2012-2014.²⁹ It is clear that BSL had overextended itself and that post-2008 this policy came back to haunt and eventually humiliate them through CDR. One must also wonder if its pared-down management structure also contributed to this denouement. At present much depends on the attitude of the Indian state as to whether BSL can survive in its present form.

In the Indian context more than 152 labour laws exist that impose restrictions on the industry and supposedly enforce decent work and employment conditions. While most of these laws are intended to protect vulnerable workers, the net effect is that industry finds loopholes and bypasses these laws by not employing workers directly on companies' payroll. Instead, the employers take the path of least resistance and hire workers through contractors and sub-contractors. Contractors, small entities are mostly outside the purview of labour union laws, do not have to comply with many statutory labour welfare measures. BSL, like most companies in other industries, practise this method and keep their labour costs low. The end result is that the informal (casual) labour is exploited excessively. It is of little surprise, therefore, that the Indian shipbuilding industry still lags behind in the areas of infrastructure, technology, and skill sets. The industry seriously needs to improve its working conditions and employment relationships, particularly among the lower echelons of workers.

²⁸ *The Hindu*, 23 July and 15 November 2013.

²⁹ BSL Annual Report, 2012-13.

22 Shipbuilding and shipbuilders in Thailand

*Nicola Mocci*⁷

Introduction

Since the 1980s, development policies in Thailand have encouraged foreign investment in the production of labour-intensive goods (textiles, garments, footwear, and vehicles), most of which are destined for export. This has led to such a rapid growth in the country's gross domestic product that in 1993 the World Bank called Thailand one of the "high performing Asian economies",² while other scholars have called it an "economic miracle"³ and celebrated the birth of the fifth "Asian tiger".⁴

However, if, on the one hand, Thailand has invested public funds to attract foreign direct investment (FDI) through the construction of special economic zones, that is to say, production areas that benefit from among other things tax incentives and infrastructure for labour-intensive manufacturing, on the other hand, it has done little to incentivise capital-intensive production, such as shipbuilding.⁵ This has meant that the Thai shipbuilding industry, entirely run by national capital with limited public participation, has struggled to hold out against the emerging competitors from the Philippines and Vietnam, even though Thailand's geographical features – 3,219 km of coastline, set in the middle of the South-east Asian seas, between

1 This research was made possible thanks to the contribution of many people to whom I extend my heartfelt thanks. Among these, I have to thank F.M., whose generous and unselfish interest allowed me to obtain a wealth of precious data on the Thai shipbuilding sector, as well as the chance to contact several members of the TSBA (Thailand Shipbuilding Association), among whom are Mrs Warawan Nganthavee, General Secretary of the TSBA and Managing and Executive Director of the Asian Marine Services Public Company Ltd; Mr Wirat Chanasit, President of the TSBA and General Manager of the Italthai Marine Ltd; and Mr Sompop Chokchaiyakool, Vice-President of the TSBA and Director of the Marsun Company Ltd. Further thanks are also due to the workers and shipyard managers who opened the diaries of their lives and memories to me, sharing their knowledge and experiences. At their request, I shall keep their names anonymous. Finally, my special thanks to Prof. Michelguglielmo Torri, Prof. Alessio Patalano and Prof. Paolo Puddinu for precious suggestions.

2 World Bank, *The East Asian Miracle*.

3 Warr, "The Thai Economy".

4 Muscat, *The Fifth Tiger*.

5 Todd and Lindberg, *Navies and Shipbuilding Industries*, 131.

the Indian and Pacific Oceans – and its long tradition of shipbuilding offer ideal conditions for development.

That this situation arose is basically the result of the implementation of an economic and industrial policy in the second half of the nineteenth century that chose to neglect shipbuilding. In this period, the lack of solid state support for the transition from sail to steam and from wooden to steel hulls brought about a loss of know-how and a progressive decline in the sector. From then until today, the Thai government has never subsidised the shipbuilding sector, and indeed most of the Royal Thai Navy's (RTN) ships are purchased from abroad. As a result, the majority of the shipyards found in Thailand are small, family-run businesses, with limited capacity and low competitiveness compared to other shipyards in the region.

As regards industrial relations within the naval shipyards, we should remember that, for decades, the national context has been characterised by policies that tend to restrict trade union activities and impede the development of any form of workers' movement. Based on this premise, the reduced size of shipyards favours the strengthening of paternalistic attitudes on the part of the employers, while doing little to better working conditions.

On the basis of these preliminary considerations, this chapter has two main aims: the first is to reconstruct the history of the shipbuilding sector in Thailand, as a means of evaluating why this sector has undergone less development than other industrial sectors. The second, which is contingent upon the first, is an analysis of how the shipbuilding industry has changed over the past thirty-five years, using a historical perspective of industrial relations to consider the role of the institutions, the private companies, the workers, and their union representatives in these changes. This chapter will attempt to show how the strengthening of a paternalistic approach to industrial relations just noted, instead of improving working conditions in terms of contract guarantees, safety, and levels of income, actually led to a generalised downward trend.

These changes will be observed from both a subjective and an objective point of view. The objective plane deals with the radical material changes undergone by today's production industry within the frame of technological modernisation. On the other hand, the subjective plane considers how the workers perceive these changes and how they view themselves, which, in turn, regard both what modern shipbuilding work is actually about, and also the poor organisation of Thai unions in terms of representatives and representation.

As regards methodology, the analysis has tried to combine the tools of historical-political analysis with those used in a survey conducted in the

principal Thai shipyards and institutions. Historical analysis was mainly carried out on the basis of secondary sources, while the sociological research made use of semi-structured open groups and individual interviews with the workers, the employers (shipbuilding association), and the non-governmental organisations that operate in various capacities in the field of shipbuilding.

Research was carried out in three of the largest (and relatively modern) Thai shipyards: Asimar, Italthai, and Marsun.⁶ These were chosen in view of their similar technical characteristics as well as the managers' and workers' readiness to be interviewed and provide information. The data in the survey mainly refer to the 2010 calendar year. The interviews were part of two different fieldwork surveys, one dating to 2010 and the other to 2011. For reasons of personal safety, the workers preferred not to have their names published, and consequently their statements remain anonymous.

The chapter is divided into three parts: part one gives a broad outline of the history of Thai shipbuilding. The second analyses the model of Thai development that came into effect from the 1980s onwards, and the scientific debate that revolved around the dynamics of this development from both a national and a regional perspective. The third focuses on shipyard labour, and how it has been transformed since the 1980s, offering both subjective and objective data.

The history of shipbuilding in Thailand

Shipbuilding in ancient times

Until halfway through the nineteenth century, the Kingdom of Siam could boast the best shipyards and the most advanced construction techniques in the whole of South-east Asia. Its military fleet was one of the most powerful and best-equipped in the region, and it also had a great number of commercial vessels which guaranteed cabotage and long-haul navigation. Thai shipyards had gained their expertise over the centuries due to an exchange of knowledge with other shipbuilders from the region and through the acquisition of

6 Asian Marine Services was established in 1981. In 1995 it was listed as a public limited company and changed its name to Asian Marine Services Public Company Ltd ASIMAR in 1995. Italthai Marine Ltd was established in 1978 when the Italian-Thai Development Corporation and Italthai Holding Co., Ltd, partnered with Oriental Marine and Laminates Co., Ltd, to construct and repair small and medium-sized steel, fibreglass, and aluminium ships. Established in 1980, Marsun Company Ltd (MCL) has delivered more than 232 various types of vessels. These include passenger ferries, motor yachts, fast patrol craft, research vessels, landing craft, oil-spill recovery vessels, multi-purpose craft, patrol gun boats, and fast-attack missile craft.

innovative European techniques from the sixteenth century onwards.⁷ Furthermore, Siam could count on raw materials, such as excellent-quality wood, and cordage and fabric for sails, to build vessels for medium- and long-haul cabotage, as well as river vessels.⁸ In the seventeenth century, the Chantaboun shipyards were renowned throughout the seafaring community of East Asia as being the yard which built the best ships. In fact, the Chinese, who held the monopoly of maritime trade in East Asia until midway through the nineteenth century, used to commission their junks from the Thai shipyards.⁹

Between the fifteenth and eighteenth centuries, in the golden age of Ayuttaya, the kingdom's capital, the Siamese shipyards could also rely on the collaboration of Dutch shipbuilders, who had come to Asia at the request of the Siamese king. The arrival of European ships in this period had set in motion a process of vessel modernisation and the hybridisation of Asian building techniques with those of the West.¹⁰ This led to an improvement in ship hulls, which were able to increase their carrying capacity and the armaments on board.¹¹

Until the second half of the nineteenth century, when Western steamboats with their steel hulls first arrived in Asia, the Siamese shipyards were second to none, and these characteristics allowed them to maintain an extremely prominent role in the region, and compete with other shipyards in the area, such as those in Vietnam.¹²

With the arrival of the industrial revolution and the introduction of structural innovations such as steel hulls and steam engines, the Siamese shipyards could no longer keep abreast of the wave of modernisation, and lost their importance once and for all. It is true to say that the process of modernisation set underway by King Mongkut in the Kingdom of Siam in the mid-nineteenth century, and continued by his son King Chulalongkorn until 1910, had aspired to compete with the Japanese system brought about by the Meiji Revolution in the same period. These modernising kings had focused their attention on political and administrative reform, and had

7 Manguin, "Trading Ships of the South China Sea".

8 Poujade, *Les Jonques des chinois du Siam*; Cooke, "The Junk Trade and Commodity Production in Eastern Cambodia"; Li, "Ships and Shipbuilding in the Mekong Delta".

9 Cushman, *Fields from the Sea*, 2.

10 Wyatt, *A Short History of Thailand*, ch. 5; see also Baker and Phongpaichit, *A History of Thailand*, 10.

11 Andaya, "Interaction with the Outside World and Adaptation in Southeast Asian Society", 377-378.

12 During the reign of Rama I (1782-1809), the competitiveness of Siamese shipyards had improved, also thanks to the presence of Cham workers, who had emigrated from Vietnam to Ban Khrua, near Bangkok. See Walsh, "The Vietnamese in Thailand", 167.

allocated substantial resources to strengthening the army and to fending off the attacks and attempts at colonisation on the part of the West.¹³ They had also shown particular interest in education and universities, summoning distinguished professors from European countries, and sending young students to study at the most prestigious universities in Japan and Europe. Substantial funding had also been set apart for the construction of major infrastructure works and to improve the transport system. This was the context which saw the building of the first railways and the elimination of the vast network of canals in river cities such as Bangkok, which were replaced with new road systems.

Even the shipbuilding sector, at least in the first part of King Mongkut's reign, benefited from the sovereign's economic support, as he also summoned expert shipbuilders from Europe.¹⁴ In *Tait's Edinburgh Magazine* of 1858, we read the following about Siamese dry docks: "A sudden bend in the river brought us in sight of the dry-docks of Siam, where, at the time, one or two stately, square-rigged ships, built strictly upon the English model, and under English supervision, were undergoing repairs."¹⁵

Nevertheless, all the efforts on the part of the government to encourage the Siamese shipyards to be competitive proved to be inadequate and ineffective.

Shipbuilding from 1910 to 1970

At the beginning of the twentieth century, Siam was already integrated into the system of international and economic relations of the imperial powers. In comparison to the other kingdoms in the region, it boasted a privileged position, since it had managed to maintain its political independence, and not submit to colonisation by France and Britain. During the First World War, Siam took the side of the Allies, despite the existence of a strong pro-German tendency that opposed this alliance. Siam declared war on Germany in 1917, which actually proved to be to its great advantage, especially after the conflict, when it received a great number of German merchant ships as spoils of war.¹⁶

The end of the absolute monarchy, following the coup of 1932, caused the new Siamese government to tighten its political and commercial relations

13 Tuck, *The French Wolf and the Siamese Lamb*.

14 Moffat, *Mongkut, the King of Siam*, 26.

15 *William Tait's Edinburgh Magazine*, January-December 1858, Vol. 25.

16 Hall, *A History of Southeast Asia*, 198.

with Japan. The new government bought warships from Japan and also some from Italy, in an attempt to modernise and reinforce its fleet.¹⁷ In 1935, Japan and Siam set up a co-operation programme that foresaw the development of Siam's extensive cotton plantations by Japanese companies, and in return the Bangkok government agreed to purchase locomotives to modernise its railway system, as well as two submarines.¹⁸

In 1938, under the ex-leader Pridi Banomyong, the country took part in the Japanese project to create the so-called co-prosperity sphere, and this co-operation then continued during the years of military rule by the ex-Kingdom of Siam under its new name of Thailand. Furthermore, in this period, the alliance with Japan allowed the Thai government to annul the concessions that had previously been granted to the Europeans in the nineteenth century. During the nationalisation of foreign companies prior to the Second World War, Pridi's government had tried to gain control of merchant shipping. This was intended to create a state shipping company through the purchase of steamers from Japan and Italy. At the same time, a series of laws had been issued to limit the number of foreign shareholders in the shipping companies: in fact, 70 per cent of these companies' assets had to be Thai, ships had to sail under the Thai flag, and 75 per cent of the crew had to be of Thai nationality.¹⁹

After Japan's defeat in the Second World War, Thailand once again took the side of the West. The alliance with the United States allowed the country to receive substantial funding for reconstruction work, in exchange for allowing its territory to be used as a logistic base for military operations in Vietnam. In a short time, the Bangkok government managed to create an industrial economy but, once again, the government's plans did not include the ship-building sector. In fact, during the Cold War period, Thailand continued to buy its ships abroad or use second-hand ones donated by the Western states.

The creation of a new development model

Economic success in Thailand and in the other countries in South-east Asia began in the 1980s, using Japanese development as its reference model and with funding from American and Japanese capital.²⁰ In fact, in the post-war

17 Mishra, *The History of Thailand*, 220.

18 "Strengthening of Japanese Ties with Siam".

19 Hall, *A History of Southeast Asia*, 996-997.

20 McGregor, *Southeast Asian Development*.

period, the Japanese government with the economic and financial backing of the United States had set in motion a process of reconstruction and economic recovery which, on the one hand, privileged the exportation of value-added products and, on the other, favoured the accumulation of dollar reserves. The latter allowed the Japanese government to keep the value of its currency down, meaning that it was able to guarantee a continuous market for its products, whose quality was always improving especially in terms of technological innovations.

From the 1970s onwards, the Japanese development model had also been applied in other states in East and South-east Asia. “Thanks to systematic state intervention and highly organized forms of capitalism”, these countries were able “to realize the potential advantages of coming late, especially by combining ever increasing technological sophistication with relatively cheap labour and orienting production to exports for the world market”.²¹

The industrialisation process triggered by these new emerging economies – South Korea, Hong Kong, Taiwan, and Singapore, followed by Thailand, Malaysia, and Indonesia – was based on Japanese economic strategies, even from the point of view of the “endless purchasing” of goods in US dollars: “Their aim was to hold down their own exchange rates *vis a vis* the dollar and repress US interest rates, so as to subsidize US borrowing and consumption, in order to sustain their own export.”²²

This phenomenon is often aptly explained through the “flying geese paradigm”, based on the image of how geese fly in a V formation. Japan lies at the point of the V while the other Asian countries make up the rest of the formation. In political-economic terms, this means that the development process is characterised by relocating labour-intensive sectors to poorer countries, while the richer ones specialise in new products.²³ In Thailand, in particular, this process started after the Second World War, when the country had modified its agrarian economy so as to diversify production.²⁴ However, projects regarding shipping, necessary to improve port infrastructure and facilitate maritime transport, got underway only in 1986, with the elaboration of a Japanese financial plan, under the JICA

21 Brenner, “What Is Good for Goldman Sachs Is Good for America”, 9.

22 *Ibid.*, 2, 36.

23 The “flying geese” metaphor was first elaborated in 1932 by the Japanese scholar Kaname Akamatsu, who then presented it to British academia in 1961, applying it to the case of his country, and within the idea of a product cycle: Akamatsu, “A Historical Pattern of Economic Growth in Developing Countries”.

24 Bowornwathana, “Responses of Public Administration of Thailand to Global Challenges”, 367.

(Japan International Cooperation Agency) to expand the Eastern Seaboard Development Programme.²⁵ The project foresaw the creation of an industrial area on the east coast of Thailand and the construction of infrastructure for the transport of goods. In a short time, Japanese and American multinational companies started to produce textiles, garments, and vehicles on Thailand's east coast. As several members of the Thailand Shipbuilding Association (TSBA) recall, the shipbuilding sector also expected to receive the same concessions and incentives as the other manufacturers, and was ready to move and increase its production on the eastern coast of Thailand. The members had already expressed a need to abandon the Samut Prakan region, at the mouth of the Chao Praya River, which was no longer suitable for creating the new dry docks, necessary to "get nearer to the new docks of globalisation". However, the shipbuilding sector was excluded from all these investment projects, and the companies were all obliged to remain in dry docks in Samut Prakan (except for Unithai, the only company that managed to build its shipyards in the port of Leam Chabang).²⁶

There were two main reasons why the United States had supported Japan in the period after the Second World War, and why, in turn, Japan itself had offered aid to the emerging South-east Asian economies after the 1970s: the first was of a strategic-political nature, linked to the need to promote the growth of capitalist economies in a context where some of the major satellites of the communist bloc gravitated. The second was for economic reasons, since it strengthened the position of the US dollar as a base currency for foreign exchange.

However, even though this process allowed the United States to increase its political hegemony in the Asian region, it is undeniable that it also brought about a series of negative consequences. "The nurturing of successful capitalist economies may have fulfilled a crucial strategic objective in the struggle with communism, but it also created sources of relentless competition which would steadily undercut America's economic strength at home and abroad."²⁷ Ultimately, the competitive mechanism triggered by the United States made it necessary to reduce production costs, forcing the American businesses into a "profit trap", that is to say, that stage of capitalism when profit rates are so low that it is no longer profitable to invest.

25 JICA, Annual Evaluation Reports 2000, Chapter 3: Ex-Post Evaluation IV JICA/OECF Joint Evaluation"; Shimomura, "In Search of Endogenous Elements of Good Governance".

26 Interviews with Mrs Warawan Nganthavee, 4 July 2011; Mr Wirat Chanasit, 10 July 2011; Mr Sompope Chokchaiyakool, 11 July 2011.

27 Beeson, "The United States and East Asia", § 16.

In turn, this phenomenon which came into being in the United States from 1973 onwards, gave rise to two main consequences: on the one hand, it became essential to find new geographical locations to guarantee higher profit rates, which usually entailed outsourcing production to places where costs were lower, while, on the other, it forced investors to reduce wages and increase worker productivity.

In the 1970s, the South-east Asian countries offered the Western multinational corporations a way out of the profit trap. As a result, Singapore, Taiwan, Hong Kong, and South Korea, and later Thailand, Indonesia, Malaysia, and the Philippines, all started to build the infrastructure necessary for accommodating the manufacturing industries of the Western world. The certainty of low labour costs, smooth industrial relations, regulations protecting property rights and adequate infrastructure for transport and logistics have allowed this region to base its economy on the exportation of products.

This “developmentalist” model based on the idea of the state playing an active role in “governing the market”,²⁸ which has also been adopted in Cambodia and Vietnam since the 1990s and, even more recently in Laos and Myanmar, has certainly gone a significant way in contributing to the generalised growth of the per capita income in Asian countries. However, it has also brought about several negative consequences, such as urban sprawl and environmental degradation, a drain of human resources from the countryside to the towns, the reduction of areas for farming, the division of labour in a context where welfare systems are either non-existent or in an embryonic state, and the stifling of workers’ rights. With the economic crisis of 1997-2000, these problems were further exacerbated, which is a sign that the myth of the “developmentalist” model, seen as the only alternative to the neo-classical model of development based on a free market, needs to be revisited. The former model, therefore, is a paradigm that reduces state-society relations to state-capital ones and, as a consequence, to relations between the government and business.²⁹ Ultimately, the state becomes the guarantor of the bourgeois-capitalist class and, consequently, the working class is in a condition of subordination. This is something that emerges from the empirical data on Thailand’s economic successes, which actually hide an increasing amount of inequality.³⁰

28 On the developmental model and its mythicisation, see Johnson, *MITI and the Japanese Miracle*; Amsden, *Asia’s Next Giant*; Wade, *Governing The Market*.

29 Chang, “Fetishised State and Reified Labour”.

30 Glassman, “Economic Crisis in Asia”; Rigg, “Of Miracles and Crises”; Radice, “The Developmental State Under Global Neoliberalism”; Ludden, “Imperial Modernity”. On the lengthy debate

For example, as regards the labour market, statistics indicate that the number of part-time workers in Thailand has grown from 7.7 per cent of the workforce in 1990 to 10.3 per cent in 2004.³¹ Unfortunately, the statistics are unable to capture other forms of labour flexibility in the formal labour market, such as labour agencies and hiring of casual and temporary workers, which trade union organisers and labour activists claim are also widespread in a country with very weak unions.³²

Shipbuilding in Thailand, 1980s-1997

As already stated, at the beginning of the twentieth century, the shipbuilding and ship repairing sector never received any particular kind of financial or fiscal incentives or developmental support from the Thai government or from foreign investors. The reasons for this exclusion are basically linked to two factors: first of all, the government's choice to integrate the economic system into the new liberalist global order, which led them to allocate public funds for the construction of the infrastructure necessary for accommodating FDI only in those sectors in which the transnational capitalist class had expressed an interest to invest.³³ Indeed, the shipbuilding sector, which has been progressively incorporated into the financialisation of the shipping sector, is subject to the changes that are imposed by the transnational capitalist class.³⁴ It is therefore the large shipping companies, together with financial and insurance groups, that decide which shipyard is commissioned to build new ships or carry out maintenance work. In Thailand, this is clearly evident in the fact that Thai shipowners themselves find it more convenient to buy their ships in Vietnam or in China, not only because they offer lower prices, but also because the country lacks a national financial and insurance system that guarantees sales.

The second factor, inextricably linked to the first, is an internal matter and refers to the endogenous critical state of the Thai industry, which is

on the reasons behind the successes and failures of the Thai model, see Doner, *The Politics of Uneven Development*.

31 International Labour Organization, Thailand Labour Market Indicators, 2007, http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_bk_pb_136_en.pdf.

32 Ofreneo, *Industrial Relations Challenges in Globalizing Labour Markets In East Asia*, 25ff. See also ILO, *Global Employment Trends 2012*.

33 Sklair, *The Transnational Capitalist Class*.

34 Bologna, *Le multinazionali del mare*.

characterised by the shortage of raw materials, such as steel and skilled human resources, as well as the lack of a solid financial and insurance sector to start a shipbuilding chain.

There is also a third factor. According to several scholars, Thai shipbuilding was halted by the military strategy the country adopted when it chose to ally itself with the liberal bloc. In this way, Thailand limited its need to strengthen its maritime fleet and incentivise ship production for its own purposes.³⁵ However, this does not explain why other countries, such as South Korea, which was likewise allied with the liberal countries, were able to become leaders in the shipbuilding field during the Cold War period.

Moreover, in this regard, it is worth noting that the Thai government over the past fifteen years has allocated enormous resources for the modernisation of the Thai navy's fleet, but only a residual part of the budget has been used to commission national shipyards to build a few small vessels.³⁶ Most of the funds for military spending have been used to buy large new vessels, built in shipyards abroad, or to purchase second-hand ships from Allied countries (especially from the United States). Examples include an aircraft carrier purchased from a Spanish shipyard just a few months prior to the crisis of 1997, or the more recent government approved spending plan to buy three frigates from the Korean conglomerate, Daewoo, each costing USD \$468 mn.³⁷ On the other hand, the members of the TSBA have been trying for years to receive approval of a government plan to modernise Thailand's fleet of oil tankers, which foresees the replacement of 113 of the 191 vessels, at a total cost of around THB 50 bn (USD \$1.55 bn).³⁸

35 Heginbotham, "The Fall and the Rise of Navies in East Asia".

36 The Royal Thai Navy has a requirement for a force of modern medium-sized patrol boats to conduct basic security and law enforcement (primarily counter-smuggling and piracy) operations in coastal waters. However, the Royal Thai Navy has almost always commissioned even medium-sized boats from abroad. For example, in September 1996, the RTN signed a contract with the Australian Submarine Corporation (ASC) and Silklane International Corporation to build three patrol boats, with an option for seven more. See "Patrol Vessel Programmes and Requirements in South East Asia".

37 "Thai Navy Signs Contract with DSME for First of Two Multipurpose Frigates".

38 The project to replace the ships is linked to the government's need to comply with a rule issued by the International Marine Organisation (IMO), of which Thailand is a member, which forbids oil tankers exceeding 500 grt and ships aged over twenty-five years from cruising, effective from 2012: "Shipbuilding and Repairing Association Hopes to Snare Replacement Market for Coastal Ships". At the end of 2011 a solution was still to be found. One of the main problems reported by the members of the TSBA is the strong competition of the Japanese shipyards, which had declared their readiness to offer the Thai government free design for the building of new oil tankers: "Federation of Thai Industries Chairman Comments on Shipping Industry".

Several times in the past thirty years, the members of the TSBA have tried to persuade the government to implement development policies in the shipbuilding sector, but to little or no avail. For example, in 1993, under pressure from the TSBA, a series of meetings with the government's Maritime Promotion Commission took place to discuss and find a solution to two of the sector's most pressing problems: the lack of skilled workers and the high cost of construction materials. As regards the former issue, the TSBA asked the government to subsidise scientific studies at universities, such as courses in naval engineering.³⁹ In order to solve the latter problem, they called for tax cuts on construction materials, 90 per cent of which were imported from abroad with an obvious increase in production costs. The possibility of a brighter future for the sector seemed quite promising at this period, as the members of the TSBA themselves reported in various documents, but the 1997 crisis swept away all these optimistic forecasts.⁴⁰

In a study carried out in 1997, the members of the TSBA had already indicated that the lack of technology transfer and education/training had to be one of the priorities addressed in relaunching the sector.⁴¹ Ten years later, in 2008, the government entrusted the Office of Industrial Economics with the project of co-ordinating the integration of the shipbuilding industry with the electrical appliances and electronics industry including Chulalongkorn University, aimed at adding value to these sectors amid the global economic crisis.⁴² However, five years on, the progress and the results obtained from this co-ordination project remain extremely limited. Problems related to

39 In 2004, Thailand had one of the lowest secondary-school graduation rates among Association of South-East Asian Nations (ASEAN) member countries. Although Thai universities and colleges graduated some 200,000 students annually (a six-fold increase in comparison to a decade ago), graduate skills are often misdirected or fail to match international standards. Fewer than 20 per cent of degrees awarded are in science and technology, and less than 10 per cent of the roughly 30,000 registered lawyers are qualified in specialised business fields: "Thailand: Labour Market". Ten years later, the lack of skilled human resources seems to have worsened to the point that, according to Thailand's Labour Ministry, the demand for labour exceeded supply for the first time in 2013, and the World Bank says that shortages of skilled labour are particularly serious and have become the biggest obstacle to doing business in Thailand: "Thailand Risk: Alert – Skilled Workers May Be in Short Supply".

40 Office of the Marine Promotion Commission and JICA, *Seminar Report on Industrial Cooperation Between Japan and Thailand for Development of Shipbuilding Industry*, 117.

41 JICA and ARG Co., *Report on the Survey on the Current Status and Industrial Cooperation of Shipbuilding Industry in Thailand*.

42 "State and Private Sectors to Jointly Develop Shipbuilding Industry"; "OIE Plans to Integrate Shipbuilding Industry with Electrical Appliance and Electronics Industry".

the lack of skilled workers and incentives for the production of construction material continue to be two of the main critical issues for the sector.⁴³

After the fall of 1997-2000

After the 1997-2000 crisis, the chance of state funding for the shipbuilding sector became even more remote. As a consequence, the sector is unable to compete in the regional market, in a context where both regional market leaders, Japan and South Korea, but also emerging competitors, such as China, Vietnam, and the Philippines, receive substantial support from their own state.⁴⁴ Thai shipbuilders have, therefore, practically no chance of competing with these producers, and production in the past decade appears to be generally stagnant.⁴⁵

The Thai shipbuilders have used various strategies to overcome both the difficult situation of the great crisis of 1997-2000, and also the latest international economic crisis which began in 2008. In fact, most of the shipyards have invested in two fundamental elements: diversification and production quality. As regards product diversification, the Thai shipyards have specialised above all in the maintenance, repair, and conversion of ships (but not ship-breaking).⁴⁶ In this case, their experience and reduced

43 Interviews with Mrs Warawan Nganthavee, 4 July 2011; Mr Wirat Chanasit, 10 July 2011; Mr Sompope Chokchaiyakool, 11 July 2011.

44 In the 2004-2010 period, the shipbuilding sector in Asia collapsed in South Korea (-34 per cent) and in Japan (-16.3 per cent), while there was a sharp growth in China (+39.5 per cent) and a substantial growth in the Philippines (2.7 per cent), in Vietnam (+0.9 per cent), and in India (+0.9 per cent): Shipbuilders' Association of Japan, *Report 2013*.

45 The members of the TSBA have reported various critical situations in the Thai sector; investors are deterred by high taxation of imported raw material, as for example, steel, aluminium, glass, engines, high tech, etc. Thai steel plants, in fact, can only produce thick sheet (more than 6/7 mm), which is no good for shipbuilding. Other countries in South-east Asia for example, Vietnam and South Korea, have raw materials, so shipbuilding in Thailand is more expensive than in those countries. Thai plants can only produce welding machines for the shipbuilding industries: interview with Mrs Warawan Nganthavee, 4 July 2011. It is important to note that in 2013 Thai shipping companies commissioned Chinese shipyards with the construction of cargo ships: Shipbuilders' Association of Japan, *Shipbuilding Statistics*, September 2013.

46 Thailand's experience in ship repair and maintenance work was strengthened by the fact that the vessels in the Thai military and merchant fleet had either been bought second-hand or had been conceded by Western countries after their dismissal. Furthermore, in order to deal with the 1997-2000 economic crisis, Japan, the United States, and Italy offered great support by financing the repair of ships from their military fleets. Japan, Italy, and Thailand have long been linked by international military treaties.

costs, especially in terms of labour, have been the determining factors in their success at an international level, because maintenance and ship repair costs have been constantly increasing globally ever since 2001, and look to become one of the most expensive items in the running of a ship.⁴⁷

In terms of product diversification, the Thai shipyards have specialised in:

- a The construction of floating platforms for research and offshore crude oil extraction, and of offshore support vessel sector (OSV) structures. Currently, the more than 250 offshore platforms operating in the Gulf of Thailand and companies engaged in this kind of work need about 1,000 new platforms.⁴⁸
- b Steel processing for uses other than in shipyards: for example, Thai shipyards produced and supplied the steel for covering structures at the new Bangkok airport.
- c Logistics: for example, Unithai, has operated the only fully equipped private Chao Phraya River terminal since the mid-1990s.
- d The production of yacht service facilities, for example, Yacht Solutions and Italthai Marine have signed a memorandum of understanding, agreeing to create Thailand's first dedicated super-yacht facility in Bangkok, and another is currently being built at Phuket.⁴⁹

The second element in which the Thai shipyards have invested has been improving product quality. Since 1998, Thai shipyards, unlike the ones in Vietnam, China, the Philippines, and India, have begun to invest in quality systems, guaranteed by international certification through the TSBA's shared programme, known as the Continual Quality Improvement Project which, in this case, has benefited from state contributions (e.g. ISO 9001:2008, ISO 14001 and OHSAS 18001 Policy).⁵⁰ It is not by chance that the Thai shipyards have received commissions from Western nations (Germany,

47 Bologna, *Le multinazionali del mare*, 163.

48 The market for the construction of floating platforms has grown considerably over the past ten years, after the discovery of enormous offshore reserves of gas and petroleum in the South China Sea, and following technical advances in the extraction of gas and crude oil. Thai shipyards have benefited from three factors in this sector compared to other countries in the area: high production quality guaranteed by international certification, low costs, and shipyards located close to the drilling zones.

49 *The Nation*, 18 April 2013, <http://www.nationmultimedia.com/business/Briefs-30204190.html>.

50 Unofficial translation based on Board of Investment Announcement No. Sor 3/2552, Amendment of Activity and Conditions of the Manufacture of Solar Cells and Building or Repair of Ships, http://www.boi.go.th/english/download/law_regulations/667/Sor%203-2552_eng_.pdf

Table 22.1 Thai shipbuilding capitalisation, 2010

Capital in THB mn (THB 1 mn=USD \$33.500)	No.
100	3
20 to 100	24
20	51
Total	78

Source: Thailand Shipbuilding Association archives

Table 22.2 The five biggest shipbuilders in Thailand, 2010

Unithai	Dock 1	50,000 dwt
	Dock 2	180,000 dwt
Asimar	Dock 1	7,000 dwt
	Dock 2	20,000 dwt
Italthai Dock		4,000 dwt
Marsun Dock	Dock	3,000 dwt
Bangkok	Dock 1	4,000 dwt
	Dock 2	3,000 dwt

Source: Thailand Shipbuilding Association archives

Britain, Ireland) and from Arab countries, where international certifications and quality controls on the safety of ships are indispensable.

In 2011, Thailand's shipbuilding and ship repair industry was made up of seventy-eight companies with a very low capitalisation.⁵¹ Most of these firms had been set up at the beginning of the 1980s, and they were all situated in Bangkok's historic industrial district at the mouth of the Chao Phraya River (Samutprakan), an area which was embedded in the midst of the vast outskirts of the capital, and which was totally unsuitable for the development of any kind of industrial activity. Only the Unithai shipyard is located in the modern industrial area of the Leam Chabang container port, to the south-east of Bangkok.⁵²

⁵¹ <http://www.tsba.or.th/>.

⁵² Unithai Shipyard and Engineering is the largest shipyard in Thailand. The twenty-year-old Unithai Shipyard covers 688,000 m² with two floating docks and lifting capacity of 30,000 tonnes. The facility can service vessels up to 292.2 m long with its afloat repair service. Unithai Shipyard and Engineering is located within the country's main international deep sea port of Laem Chabang, which is at the heart of Thailand's chemical and oil tanker, container, dry bulk, car, and offshore trade. In addition, as it is within two days' sailing from Singapore, minimal deviation is required for vessels to reach the yard.

In 1998, only two shipyards were capable of building vessels up to 4,000 grt and only one shipyard, Unithai was capable of repairing vessels up to 150,000 grt.⁵³ Table 22.2 shows how Thai shipyards have improved their production capacity over the past fifteen years. However, nationally, only twenty-three have a shipyard and project staff. Most of the others are master-craftsmen who build small wooden riverine ships, fishing boats, or small fibreglass boats.

Only two companies enjoy state capital (Italthai and Bangkok Dock), while the others all rely on private capital. Most of these have their own capital, while a number, such as Asimar and Globeco SpA (Italy), are registered as joint ventures for the construction of anti-pollution vessels, or the Bangkok Dock and British Shipbuilder BVT Surface Fleet for the building of offshore patrol vessels (OPV).

In 2012, the Thai shipyard industry contributed 0.1 per cent to the country's annual GDP, a meagre amount if we consider that the manufacturing sector contributes 43 per cent, services make up 44.1 per cent, and agriculture 13 per cent.⁵⁴ The local shipbuilding industry posted domestic sales of THB 4.24 bn and exports of THB 2.82 bn in 2010 (sales increasing to THB 10 bn in 2008, versus THB 6 bn in 2005) while ship repairing generated sales of THB 3.65 bn.

Workers in Thailand: theoretical issues

The social history of Thailand has been analysed over the decades from various perspectives with scholars generally being divided into two different clusters:⁵⁵ first, the more influential liberal-pluralist group, associated with the modernisation theory of development. In this case, workers are seen as being integrated into the industrial and political structure, thanks to a series of grants from the state itself. Secondly, there is the Marxist approach which is far less accepted and more radical.

In many cases, studies on industrial relations in Thailand have often provided a somewhat distorted version of the country's social history, particularly of the workers and their class struggles. One of the main reasons behind this idea is linked to the spread of essentialism, so

53 Office of the Marine Promotion Commission and JICA, *Seminar Report on Industrial Cooperation Between Japan and Thailand for Development of Shipbuilding Industry*, 116.

54 <https://www.cia.gov/library/publications/the-world-factbook/fields/2012.html>.

55 Brown, *Labour, Politics and the State in Industrializing Thailand*.

characteristic of the ideology of Eurocentric orientalism. This therefore provides a theoretical approach using a comparative perspective on workers in developed countries and those in developing ones. For example, in studies prior to the 1960s, the negative attitude of Europeans towards Thai workers clearly emerges, with descriptions ranging from “innately passive”,⁵⁶ “never feeling oppressed as a group”,⁵⁷ “having scarce awareness of their class or political group”,⁵⁸ to showing “no or little interest in politics”.⁵⁹ These descriptions were essentially based on cultural elements, such as: (a) the wrong idea of the Theravada Buddhist legacy,⁶⁰ (b) the *sakdina* ideology legacy (*sakdina* ideology produces a superior-subordinate relationship between the ruling elite and the common people, between employers and employees, or (c) the lack of colonisation in Thailand, which created a lack of revolutionary consciousness or class consciousness.⁶¹

Other authors, such as Frederic Deyo, have attributed the lack of class unity among Thai workers to how their work is organised into labour-intensive, export-oriented activities which in his opinion have actually hindered the formation of workers’ groups in the struggle against the government. Furthermore, the facts that most of the workers employed in the industry are low-skilled and often female, and that the sector itself offers little chance of internal mobility or promotion, are, according to Deyo, further factors that prevent organisational action.⁶²

In fact, Thai social history has been characterised by intense social struggles, which have involved all categories of workers since the early part of the twentieth century, at a time when labour unions in the transport sector were being formed and strengthened. In fact, in 1919 and later in 1923, Bangkok’s tramway and railway workers organised to obtain better working conditions and pay. As Andrew Brown has noted, the continuous and often successful attempts on the part of the Thai government authorities to block and weaken the workers’ movements are actually proof of the great capacity of Thai workers to unite and fight for their rights.⁶³

56 Wilson, “Thailand and Marxism”, 83.

57 Blanchard (ed.), *Thailand, Its People, Its Society, Its Culture*, 288.

58 Thompson, *Labour Problems in Southeast Asia*, 243.

59 Fogg, “Labour Organization in Thailand”; Mabry, *The Development of Labour Institutions in Thailand*, 47-48.

60 Lowler and Suttawet, “Globalization and Deregulation in Thailand”, 216.

61 Phiriyarangsarn, “The Formation of a Workers’ Strategic Group”, 271.

62 Deyo, *Beneath the Miracle*, 8.

63 Brown, *Labour, Politics and the State in Industrializing Thailand*, 9ff.

From the 1970s on, and especially in the 1980s, when – due to a rapid growth in GDP – everybody was talking about the “Asian miracle”, industrial relations suffered a further short circuit, similar to the one of 1958.⁶⁴ In fact, the new developmentalist model implemented by the government at the end of the 1970s not only did nothing to improve industrial relations, but actually caused them to deteriorate. This had nothing to do with the fact that most of the workers employed in the new industrial districts were women and young men who, as some scholars have suggested, consequently, were not particularly interested in taking part in any kind of industrial action.⁶⁵ The shipbuilding sector, as we shall see in the next section, mainly employs men, and a certain amount of mobility is possible within the companies.

The attenuation of the conflicts within the shipbuilding companies, in my opinion, was a result of the government’s attitude which, on the one hand, favoured autonomous paternalistic management methods within the individual companies, while, on the other, it systematically tried to suppress or hinder any workers’ attempts to create unions.

There are countless examples of this; suffice to say that the Thai government has not ratified the most important international conventions for the protection of workers’ rights.⁶⁶ As Bruno Jetin has observed, in the long and medium term, it can be shown that the high rate of profit during the boom years was not based on a continuous process of modernisation, but rather on a redistribution of income in favour of capital.⁶⁷

Workers in Thailand shipyards

In 2010, direct workers in the sector numbered 8,700, while 163,530 indirect workers were employed.⁶⁸ The largest shipyards employ a few hundred workers (in 2010, the Italthai shipyards counted around 600 workers plus 550 sub-contractors; the Asimar shipyards, 305 workers plus 120 sub-contractors;

64 In 1958, Sarit Thannarat’s coup, for example, abolished the 1956 Labour Act, and all unions were banned under the claim that they were obstacles to economic development and gateways for communism in Thailand: Wehmhörner, “Trade Unionism in Thailand”, 481.

65 On this topic, see Deyo’s analysis in *Beneath the Miracle*.

66 Thailand has never ratified the following conventions: Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87); Right to Organise and Collective Bargaining Convention, 1949 (No. 98); Workers’ Representatives Convention, 1971 (No. 135); Labour Relations (Public Service) Convention, 1978 (No. 151).

67 Jetin, “Distribution of Income, Labour Productivity and Competitiveness”.

68 ISMED (Institute for Small and Medium Enterprises Development) report at <http://www.ismed.or.th/>.

Table 22.3 Age range of workers in ASIMAR Shipyard

Age	Number
Over 60	2
49-59	39
39-49	67
29-39	105
19-29	91
Up to 19	1
Total	305

Source: Thailand Shipbuilding Association archives

the Marsun shipyards, 180 workers, no sub-contractors), while most shipyards have around 15- 20 workers. These figures are obviously very low when compared to the huge manufacturing companies which often have a workforce of 7,000-8,000 workers.

In the three shipyards considered herein, the workers are predominantly male (89 per cent male; 11 per cent female; in particular, Italthai 520 men and 80 women; Asimar 289 and 16; Marsun 160 and 20). Around 80 per cent of females are employed in administration. There are a few exceptions, such as in the Marsun shipyards, where a few more women actually work in the shipyard itself, as they specialise in the treatment of fibreglass.

The average age of the workers in these three shipyards is 34, and there are no minors under 18 years of age. The following tables show the data regarding the ages of the workforce in the Asimar shipyard:

As regards employment contracts, 95 per cent of the workers in these three shipyards have a permanent contract, while 5 per cent are on a temporary contract. Immigrant workers usually receive apprenticeships as opposed to permanent contracts.

Wages at the Asimar shipyards

The average net income in 2012, excluding bonuses, in a shipyard like Asimar is shown in Table 22.4.

The clear difference between the workers' pay and a project manager's salary is easily seen in Table 22.4. This is because Thailand does not have enough skilled workers in this sector, both due to the limits of university education and also because the other industries, such as the multi-nationally run textile and garment manufacturers, are able to offer better pay and

Table 22.4 ASIMAR net salaries 2012

Positions	Net salary (USD)	
Project manager	2,600	per month
Assistant project manager	975.29	per month
Engineers	812.74	per month
Supervisors	812.74	per month
Foremen	58.52	per month
Workers	16.25	per day

Source: Thailand Shipbuilding Association archives

benefits to skilled workers.⁶⁹ For example, recently graduated engineers prefer to try and get work with one of the Japanese or Korean multi-national companies, since a part of their initial training will most likely be carried out in Japan or South Korea.

As regards workers' pay, it is interesting to note that the shipbuilding industry actually offers a slightly higher amount than the minimum wage, which rose to THB 300 on 1 January 2013; the minimum wage had previously been THB 165.

Workers usually work 8 hours a day, with an hour-long lunch break, from Monday to Saturday, except at periods of intense labour when they also have to work on Sundays. Most of the employees in this sector generally benefit from 10 days' holiday, as well as the thirteen national holidays (religious festivals, the king's and queen's birthdays, historical anniversaries). However, each company usually stipulates bonuses, holidays, maternity leave, or priesthood leave,⁷⁰ etc., with the individual workers from year to year.

It is obvious that the small size of the shipyards has led the employers to adopt a paternalistic attitude, which is often hidden or justified by Buddhist-traditional practices. Official trade unions are completely missing from the sector, and as I was told by Kan Matsuzaki, Asia Pacific's shipbuilding

69 In 1993, the problem of the lack of qualified manpower caused such great problems for Thai shipyards that they had to cancel important orders: "Troubled Thai Shipyard Moves to Lower Costs".

70 It is worth noting that in Thailand employees' religions are officially respected; the Labour Protection Act allows male civil servants to take leave to become monks. There are no official limits to the period of leave, so supervisors make this decision (Sections 29 and 30, Office of the Prime Minister's Regulation on Civil Servant Leave, BE 2555 (2012)). This is not restricted to government employees. Since 2007 the act has allowed female employees leave to practise dhamma for 1-3 months (Sections 1 and 2, National Buddhism Office's Guideline on Female Employees Taking Leave to Profess Dhamma, BE 2550 (2007)). Male and female Muslim civil servants may take leave only for the hajj.

director of the IMF (International Metal Workers' Federations, the largest metalworkers' union in the world), "there are no trades union representatives in the shipbuilding sector in Thailand, because the sector is so small, and any matters are dealt with autonomously within each shipyard".⁷¹ In fact, several shipyard managers also told us that, until the period prior to the 1997-2000 crisis, trade unions used to exist and were indeed extremely active, with at least 50 per cent of the workers being unionised.⁷² These managers stated that the economic crisis was an extremely critical period, since more than half of the employees in the sector lost their jobs, but it was also a moment when the unions were weakened.⁷³ In fact, in the 2000s, the percentage of unionised workers in the whole of Thailand is around 2-2.5 per cent⁷⁴ and, based on the workers' and managers' declarations, there are no workers in the shipbuilding sector who are affiliated to a trade union.⁷⁵

The shipyard managers are clearly delighted with the fact that there have been no strikes or protests, nor any signs of workers' unrest in their companies. In their opinion, the reasons behind this apparently peaceful management of relations can be traced back to the "family-run" shipyards and how the workers are treated "as members of the same family". They are always saying "we are all in the same boat".

This paternalistic attitude is reinforced every day, both during the various phases of the employee's working life and also outside work. It clearly emerges in working life from the very moment work begins. In fact, work in all shipyards begins with group prayers with Buddhist monks who participate at these functions. Indeed, traditionally, Theravada Buddhism obliges believers to support these monk beggars with gifts of food or money. After prayers, before work starts, every shipyard holds a national assembly. In some, for example, there is a flag-raising ceremony with the singing of the national anthem, while in others, they sing and dance the companies' mottoes.⁷⁶ Although these assemblies are an excellent way of uniting the

71 Interview with Ken Matsuzaki, 7 July 2011.

72 Interview with managers N. 1 and N. 2, both of whom are from the same shipyard, 4 July 2011.

73 Interview with managers N. 1 and N. 2, both of whom are from the same shipyard, 4 July 2011.

74 "Thailand Risk: Labour Market Risk", Economist Intelligence Unit – Risk Briefing, 9 October 2013.

75 Interviews with Marsun and Italthai workers, 22 March 2010; Mrs Warawan Nganthavee, 4 July 2011; Mr Wirat Chanasit, 10 July 2011; Mr Sompope Chokchaiyakool, 11 July 2011.

76 For example, every morning in the Asimar shipyard, the workers gather together in the shipyard's largest square, standing in front of the director who conducts the assembly. Everyone stands more or less in a position that demonstrates the hierarchy between colleagues and the

group, many workers have claimed that they can never show any discontent or raise specific problems. In fact, whenever workers wish to express criticism or dissatisfaction, or even when they want to request something from the company, they have to follow a series of unwritten rules. First of all, from time to time, groups of seven to ten workers, depending on their role and level of expertise, have to elect a leader to present their requests to their superiors. Only the latter can take the matter to the management, and only when they are unable to solve the problem themselves.

It is worth pointing out that national legislation does not take into account any official space or time for workers to hold assemblies, meaning that most issues are either discussed in the shipyard during breaks or outside the shipyard.

Traditionally, every shipyard can count on a core group (around 60 per cent of the workforce), made up of the most skilled workers, who manage the work handled by the teams of sub-contractors or temporary workers.⁷⁷

As regards activities outside work, this paternalistic attitude is clearly seen on every occasion in which the company takes part in the family life of the workers. The company proposes all kinds of different activities, such as recreational, cultural, welfare, religious, propaganda ones, etc. For example, workers look forward to taking part in the periodic public prize-giving ceremonies, when workers' children are awarded scholarships. Then, additional very popular and much-awaited occasions are the gatherings on public holidays, when the workers' families are offered gifts. Generally, most of the shipyards take pride in offering cultural or recreational activities, such as the organisation of group holidays and sporting events, or those to support and show solidarity with the religious communities or the poor, etc. These are usually activities aiming to keep employees happy and create

sector to which they belong. The managers and administrative staff stand in the centre, general operators on one side, and the squad leaders and specialised workers on the other. The oldest normally stand in the front lines, while the others gradually distribute themselves in the lines behind. During the assembly, the managers usually inform the workers of the work to be done and work schedules, as well as about the after-work activities sponsored by the firm, such as sport, cultural activities, etc. After this, in theory, every worker should be able to express any eventual opinions, criticisms, or protests regarding work or working conditions, but nobody usually takes the floor. The last section is dedicated to the most important motivational part of the assembly in which all the workers dance or sing together the company's four mottoes. A different body movement is linked to each motto. Asiamarine's mottoes are: (1) competence and planning; (2) continuous improvement; (3) customer forecast; (4) team working. The working day starts when the assembly finishes.

77 Interviews with twelve skilled workers and six general workers (of whom three are Cambodian) from the three shipyards analysed here.

Table 22.5 Ratio of white-collar to blue-collar workers

Positions	Average	Ratio
Project manager	3	Average 1:10
Assistant project manager	3	
Engineers	15	
Supervisors	18	
Foremen	36	
Workers	360	

Source: Thailand Shipbuilding Association archives

emotional ties with the company and the territory. It is also worth noting that the largest shipbuilding companies are listed on the stock exchange, and that it is in their interest to advertise what they offer outside working hours to send a positive image of the shipyard to stockholders. In these cases, for example, local and national media often report news of the charitable work that the managers carry out in the community on religious holidays (for example, donating money for the building of or maintenance work on a pagoda, or donating foodstuffs to the people hit by the floods in 2011, etc.).

Most of the disputes within the companies are related to bonus negotiation, namely, those non-contractual payments in money and/or in leave, which are normally renegotiated on a yearly basis or periodically, between the company and groups of workers on the basis of production trends. The structure of the Thai shipyards with their characteristic significant horizontal specialisation and low vertical specialisation is clearly mirrored in this particular period, since bonuses increase along with one's hierarchical role in the shipyard, and leaders gain more importance when they are able to negotiate more substantial bonuses. In fact, the leaders are in charge of daily work assignment, and they are also the ones who authorise leave and days off.

In Asimar (for sub-contractors) the average work ratio of the white- to blue-collar workers is about 1:10, as shown in Table 22.5.

The sub-contractors

The family size of the shipyards, together with the massive use of sub-contractors, is one of the factors that allow the companies to enjoy trouble-free industrial relations. The situation is maintained by the managers who systematically make use of sub-contractors, whose number has dramatically

Table 22.6 ASIMAR salaried and sub-contracting personnel

Job categories	Percentage	
	ASIMAR	Sub-contractors
Piping	10	90
Steel structure	10	90
Sand blasting	0	100
Painting	80	20
Built-in furniture	0	100
Air-conditioning	0	100
Electrical system	50	50

Source: Thailand Shipbuilding Association archives

increased compared to the years prior to the 1997-2000 crisis. In this period, companies used to sub-contract a minimal percentage of work, around 20-30 per cent, compared to today's figure of around 80 per cent.

Table 22.6 shows data from the Asimar company as a prime example of this policy.

In recent years, this incredible rise in the sub-contracting of work has caused a clear distinction between internal and external workers, and led to a vast disparity in both the treatment of workers and working conditions. In fact, in most cases, external workers do not benefit from any of the contractual guarantees or bonuses received by the internal employees. For example, they often do not receive the minimum wage and are not insured in case of accidents. More often than not they are hired on a daily basis or for piecework, and cannot even take any kind of leave. If a woman worker is pregnant, she does not get any compensation. This is not only a way to reduce labour costs, but also a way to stop workers from organising a trade union to act against the company.

Regular employees are aware of the different treatment and privileges they receive compared to the sub-contractors or temporary workers but, however much they regret this situation, they are also quick to say that it is still better than in many other manufacturing industries. In the other sectors, where there are thousands of workers, employees are often sacked as soon as production drops, unlike the workforce in the shipyards which is usually more stable. These facts indicate that the workers are aware of the general progressive situation of employment insecurity in Thailand, even though they do not engage in any kind of collective action, such as creating spaces where they can discuss and share ideas with workers from their own and other industries. On the other hand, the sub-contractors

have identified a number of issues with their working conditions, especially in terms of wage differences, compared to regular workers, as well as the constant need to move from one shipyard to another, and to follow different rules and procedures. Furthermore, they have complained about the lack of continuity from one job to another or, by contrast, the excessive concentration of working hours at certain periods that require a greater commitment. Even in this case, there is no sharing or discussions with other workers.

The working conditions in most of the shipyards are generally good. All the shipyards have adequate space for the workers, a canteen area, locker rooms, and bathrooms. Worker safety is a top priority, both in terms of on-site training from experts and the personal protective devices used by the workers themselves.

The depoliticisation of workers and perception of their work

Most of the workers interviewed seemed to have little interest in national political issues. The majority of interviews took place in 2011, just over a year after the terrible spring of 2010, and in the days following the general election to appoint members of the National Assembly. The two main opposing parties in these elections were the Pheu Thai Party (PTP), also known as the red-shirt movement, founded by the tycoon and ex-prime minister Thaksin Shinawatra, and the People's Alliance for Democracy (PAD), also known as the yellow-shirts. Since the elections had just happened, and were fresh in the workers' minds, it was far easier to approach the matter, albeit only superficially, due to both the workers' diffidence, as well as their lack of knowledge or interest in politics. It is worth pointing out that the interviews were not intended to be a structured survey on each person's political views, but were rather a more general attempt to gauge their level of interest. As a consequence, the results presented here have only an indicative value.

The managers and skilled workers clearly expressed their preference for the PAD, showing mistrust in the PTP's proposals, which they considered populist and demagogic. In contrast, the unskilled workers showed a preference for the proposals of the PTP, especially those related to the provision of health care for everybody at a cost of THB 30 (around USD \$1 a year). In fact, it is worth mentioning that health care in Thailand is private, meaning that the majority of the population cannot afford the most expensive treatment, unless they have private insurance to cover expenses.

Whatever the case, all the interviewees showed a far greater interest in the topic of work in the shipyards than in politics. In fact, direct employees

feel far more privileged compared to the other paid workers in the industry, because shipyard labour offers the chance to earn bigger salaries and more bonuses, and, especially, to be able to live in the suburbs of a huge city like Bangkok. Indeed, most of the workers own a home and a car or motorbike, and most families have two or more wage-earners, since both parents and children work. All the workers were obviously pleased that their children could benefit from higher education, even though very few actually had a child at university. It is worth pointing out that many workers originally came from the countryside, and had moved to the metropolitan area in the 1980s and 1990s. They consider their jobs to be stable, in the sense that most workers intend to remain in the shipyard until they retire. The reasons behind this viewpoint are based on their confidence in Thailand's economic expansion in general, and in that of the shipbuilding sector in particular due to its gradual growth over the past few years.

However, all the workers and managers are well aware that the massive use of sub-contractors is a threat to work stability. For this reason, the perception of work stability is radically different for direct and indirect workers. There do not appear to be any conflicts between the two groups of workers, just as there are no attempts at dialogue to try and unite and better their situation.

The immigrant “problem”

All Thai shipyards employ a number of immigrant workers who mainly come from Cambodia, Laos, and Burma. In the three shipyards analysed here (Asimar, Unithai, and Marsun) we find that around 10 per cent are immigrant workers (80 per cent Cambodian, 15 per cent Burmese, 5 per cent Laotian), who are all male.

In most cases they are illegal immigrants, in other words, they do not possess regular work permits. Workers who are directly employed by the shipyards obviously benefit from far better contractual conditions than sub-contracted workers, as regards wages, bonuses, and contract length.⁷⁸ Most of the immigrants are unskilled workers who either do the most menial jobs (e.g., cleaning) or the toughest ones (welding). The immigrants are often taken on as apprentices on a year-long contract, which gives companies a series of tax breaks. However, at the end of this contract, workers are normally offered the same kind of contract again without being given any choice in the matter.

78 Interviews with Cambodian immigrant workers on 5 July 2011 and with shipyard managers.

Table 22.7 Occupational structure in ASIMAR

Type of worker	Speciality	Males	Females
Skilled workers	Welder	100%	0%
	Fabrication workers	100%	0%
Non-skilled workers	Cleaning	20%	80%
	Scaffolding	0%	100%

Source: Thailand Shipbuilding Association archives

Indeed, immigrant workers actually act as a kind of buffer as they are usually the first to be fired at periods when there is less work. They are mainly men between the ages of 18 and 30 who live in shared houses in groups of ten to twelve people, so as to cover the cost of the rent, allowing them to send most of their wages back to their families in their own country. According to government figures, the number of migrants working legally in Thailand stood at around 650,000 in late 2010. However, the government also estimated that 1-1.5 million more were living and working illegally at that time, whereas other sources put that number as high as 3 million. Thai researchers in mid-2008 estimated that the Thai economy needs about 1 million foreign workers, though the economic downturn has hit migrant workers especially hard.⁷⁹

Sawit Keawan, who heads the State Enterprise Workers Relations Confederation (SERC), petitioned the International Labour Organization (ILO) in Geneva over the issue, claiming that Thailand “systematically [violates] international law by failing to protect rights of migrant workers from Myanmar [Burma]”. One such discriminatory practice alleged by the SERC, which is made up of forty-three major Thai trade unions, is the refusal of the Thai state to allow migrants to access the Workmen’s Compensation Fund, which is the usual method of compensating those injured in the workplace.⁸⁰

Conclusion

As a conclusion to the present analysis, two points can be made. The first is that, as a rule, in newly industrialising countries shipbuilding has often been a primary source of exporting potential, and therefore of foreign-currency

79 “Human Resources: Employment of Foreigners”.

80 “Burma’s Unions Criticise Thailand over the Rights of Migrant Workers”.

accumulation. However, in order to reach these objectives and to build ships to sufficient scale, a great deal of initial and subsequent working capital is needed either from private, or in most cases, from state sources. In theory, technology and sufficient know-how can, to a large extent, be bought in or acquired, and labour, which in an Asia country is usually plentiful, can be trained to attain the desired objectives. In the Thai case, however, the state has made a different choice, concentrating its resources on other economic activities, and causing the de facto de-development of what used to be a main and Asia-wide competitive industry.

The second point to be made concerns the labour situation in the reduced shipbuilding industry that is presently active in Thailand. Most of the country's shipyards, big or small, have deliberately chosen to organise their work on a family scale, adopting a paternalistic attitude, whose officially declared aim is to improve direct training, safety, and, ultimately, worker productivity. Apart from these openly declared purposes, these dynamics clearly often have another effect, namely, the depoliticisation of workers through the constant erosion of the rights of their organisations, which simultaneously prevents any of the evident underlying labour conflicts from rising to the surface.

23 The lower labour market and the development of the post-war Japanese shipbuilding industry

Takeshi Haraguchi and Kazuya Sakurada

Introduction

Japan's shipbuilding industry experienced a dramatic surge of growth from the post-1954 "first export-ship boom", and by 1956 it had surpassed Britain to become the top-ranked shipbuilding country in the world – a position it would retain for the rest of the century.¹ Shipbuilding was seen as a fundamental industry for Japan's pursuit of high economic growth. Thereafter until the mid-1970s, the Japanese shipbuilding industry continued to expand its share of the world market, dominating over 50 per cent of world shipbuilding production. However, the tendency to overaccumulation of market share progressively increased but was put under considerable pressure from the general slump in demand resulting from global oil price crisis of 1973 and 1974. In this context, rationalisation and reorientation of its productive facilities became a critical mission for the Japanese shipbuilding industry in the subsequent decades.²

The aim of this chapter is to clarify particular characteristics of the Japanese shipbuilding industry, in light of its experience of dramatic expansion and decline. Specifically, we focus on two areas: first, the 1970s, and secondly on the labour market; particularly the lower labour market.³ The rationale for this is that the basis of shipbuilding expansion in Japan was formed on sub-contract labour, and in the mid- to late 1970s these labourers

1 This alarmed British shipbuilders greatly – so much so that the president of the industry's trade association, Sir James McNeil, stated, "for the first time in peace-time history, the United Kingdom had had to take second place to a foreign power, viz., Japan [and that] all-time record launchings were established by Germany, the Netherlands, Italy and Norway". In McNeil's view the figures indicated "a most definite comparative trend". See Johnman and Murphy, *British Shipbuilding and the State Since 1918*, 112.

2 For the industry generally, see Chida and Davies, *The Japanese Shipping and Shipbuilding Industries*.

3 In this chapter, "lower labour market" is defined as the labour market in which hiring is precarious and wages are low; it is divided from the directly hired full-time labour market. Such hiring includes temporary labour, contract labour, and day labour.

were the first to be sacrificed in the restructuring of the shipbuilding industry. Moreover, little attention has been paid to the supply of sub-contract labourers in the shipbuilding industry and its relation to Japan's lower labour market generally.

In terms of structure, this chapter sets out how the production system of the post-1945 Japanese shipbuilding industry was formed and how it shifted, examining aspects of national policy, corporate systems, and technological innovation. Having clarified the status of sub-contract labourers characteristic of the Japanese shipbuilding industry, focusing on the 1970s, we then discuss how shipbuilding labourers engaged in resistance, and what kind of opposing strategies were taken by companies in response to this. Finally, we consider Osaka's riverside shipbuilding industry as a case study, and discuss specifically how the capital-labour conflict played out. Further, by focusing on Kamagasaki, a location well known as a lower labour market in Japan, we clarify what relations exist between the shipbuilding industry and the lower labour market.

Formation and shifts of the production system in the post-1945 Japanese shipbuilding industry

Historically, up to and through the Edo period, the Japanese shipbuilding industry was limited to the construction of wooden ships for coastal navigation. With the Meiji Restoration, however, Japan's social and economic modernisation moved at a rapid pace, but this was a process imposed from above by the government. Regarding shipbuilding, through government policy, the technological know-how and management methods for building steel ships were imported from overseas. In this, the navy yards of Yokosuka, Kure, Sasebo, and Maizuru played a leadership role. Moreover, the major shipbuilding centres of Nagasaki, Ishikawajima in Tokyo, and Kobe were opened up when government shipbuilding sites were sold off to the private sector (Figure 23.1). The development of Japan's shipbuilding industry, against this historical background, was from 1945 onwards consistently dominated by the intervention of the government where a group of companies founded as the *zaibatsu* of the Meiji period continued to rule the industry from the top down.⁴ In the post-1945 shipbuilding industry, the "big seven" (Mitsubishi

4 In comparison, small and medium-sized shipbuilding companies exist all over the country with a focus in west Japan, but they are particularly concentrated around the Seto Inland Sea. This area was dominated by pirates during the Middle Ages, with shipyards on each island. The

Figure 23.1 Locations of shipyards in Japan, 2010



Heavy Industries, Ishikawajima-Harima Heavy Industries, Kawasaki Heavy Industries, Mitsui Engineering and Shipbuilding, Hitachi Zosen, Nippon Kokan KK, and Sumitomo Heavy Industries) formed the core. These companies all dated back to the early Meiji period; thus, the path taken by the

shipbuilding technology of the Middle Ages was passed down for many years, becoming the basis of the Seto Inland Sea area small and medium-sized shipbuilding companies. See Ogawa, “Zosen tosan chitai/Shikoku wo iku”.

Japanese shipbuilding industry was, from the viewpoint of national policy and corporate systems, consistent in nature from the pre-war period.

However, in other aspects the difference from the pre-war era to the post-war one was significant. The point of change was in the process of government rebuilding through the period of American occupation of defeated Japan from the end of the Second World War through 1952. Through this process, Japan's society and economy were strongly influenced by the United States, the latter mainly from the aspect of technological innovation. Japan's post-war shipbuilding industry through continuity of national policy, corporate systems, and technology transfer created the conditions for explosive development. The following three chronological divisions will look in detail at the development of the shipbuilding industry in each period.

1945 through the 1950s

Japan's ship construction can be generally divided into "planned shipbuilding" and "self-funded shipbuilding".⁵ Of these, it was planned shipbuilding that formed the basis of the post-1945 shipbuilding industry. Planned shipbuilding meant that government determined the quantity of ships built, and the funding plan for every fiscal year. Planned shipbuilding began in 1942, the year when, as the Pacific War broke out, increased production of ships and aircraft carriers became an urgent national requirement. After the war was lost in 1945, Allied GHQ (General Headquarters) policies focused on Japan's demilitarisation, and planned shipbuilding was abolished. However, as the Cold War with the Soviet Union surfaced and the situation in China worsened, GHQ's policies took a turn in the opposite direction: in order to set Japan up as a bulwark of anti-communism. Along with advancing remilitarisation, they also worked towards economic independence. Against the background of this American stance, planned shipbuilding was restarted in 1947. When the Korean War broke out in 1950, Japan's geo-political importance increased further. Made independent from Allied GHQ occupation by the 1952 Treaty of San Francisco, the Japanese government developed a diverse policy of ship protectionism and encouragement to expansion centring on planned shipbuilding. In particular, from 1954 onwards a new

5 Self-funded ships built with commercial banks' funding were, compared to planned construction ships built with government funding, disadvantaged regarding rates of interest, etc. Planned shipbuilding was funded from 1947 by the Reconstruction Finance Fund and later, in the mid-1950s, by the Japan Development Bank. See, for example, *Ten Year History of the Japan Development Bank*. See also Kohama, *Industrial Development in Postwar Japan*, 132-135.

interest support system⁶ was put into place regarding planned shipbuilding investment, and extremely advantageous conditions came to prevail for cost reductions in the shipbuilding industry.⁷ Earlier, in 1952, the Shipping and Shipbuilding Rationalization Council (SSRC) was established, and went on to play a decisive role in the oversight and management of Japan's shipbuilding industry.

In addition to the policy structure above, an important change during this period was in technology transfer. The pre-war Japanese shipbuilding industry had relied on British technology. In contrast, post-war Japan was placed in an economic relationship with the United States. Within these relations, welding block-construction technology was rapidly introduced from the USA. Specifically, in 1951 the American shipowner, Daniel Ludwig's National Bulk Carriers (NBC), leased a large area of the Kure shipyard, carrying out bulk ship construction using American welding methods there until 1962 (Figure 23.2).⁸ As the Japanese government had made the availability of American shipbuilding technology a condition for these shipbuilding facilities, NBC's techniques spread throughout each company in the shipbuilding industry.⁹ Through the spread of this technology, the construction period for steel ships was reduced to a third of what it had been before the war.¹⁰ In this way, by the early 1950s, large ships could be constructed to short deadlines, and at low relative cost. At the same time, planned shipbuilding, which had provided a foothold and then impetus for the revitalisation of shipbuilding after 1945, showed a sharp reduction from that year, when "self-funded construction" came to expand to a scope equivalent to planned shipbuilding. Furthermore, as the first export-ship boom arrived in 1955, Japan's shipbuilding industry used its short turnaround times as an advantage to rapidly increase its share of the world market.

1960s through mid-1970s

The Japanese shipbuilding industry, through its second (1962-1964) and third (1965-1970) export-ship booms, accepted an unprecedented quantity of

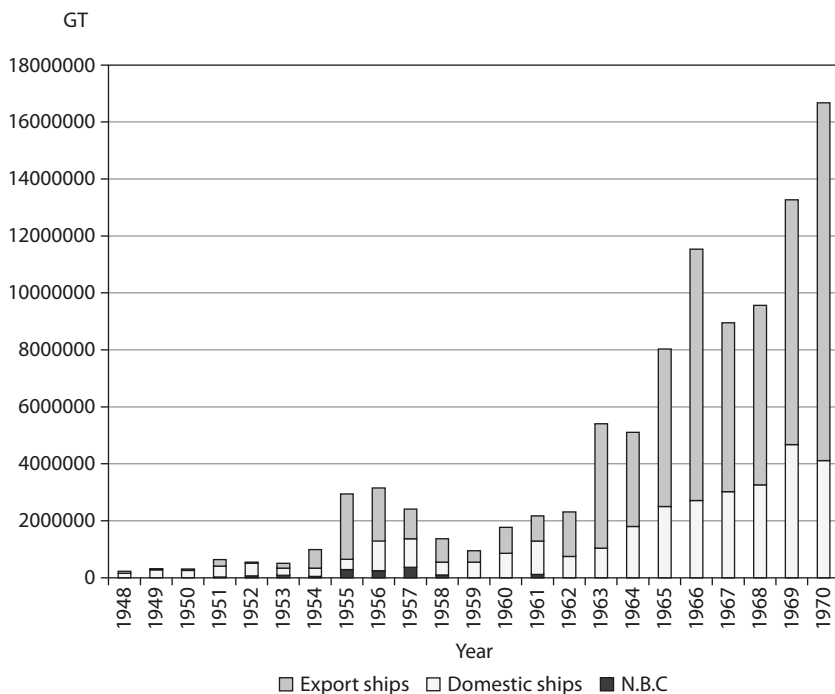
6 This was intended to encourage investment by commercial banks in the gap between government investment interest and commercial interest, through government support of commercial banks.

7 Shipbuilders' Association of Japan, *Nihon zosen kogyokai 30-nenshi*, 105.

8 For this, see Davies, "The Role of National Bulk Carriers in the Advance of Shipbuilding Technology in Post-War Japan". NBC employed around 2,000 workers.

9 Mizota, *Zosen jukikai sangyo no kigyō system*, 67-75.

10 Shipbuilders' Association of Japan, *Nihon zosen kogyokai 30-nenshi*, 32.

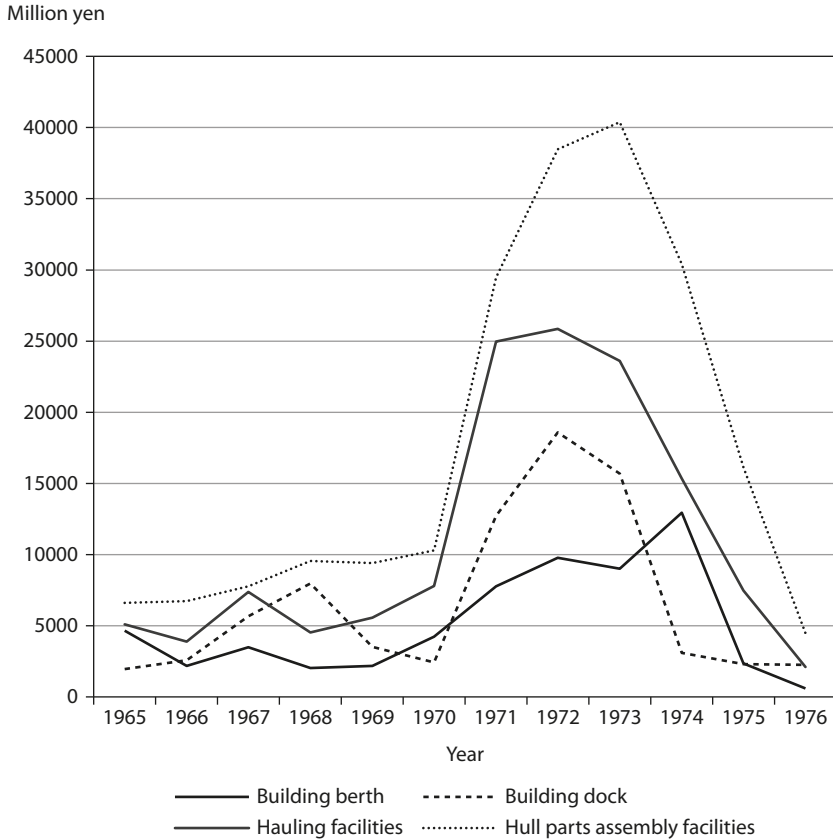
Figure 23.2 New ship construction permissions, 1948-1970

Source: Shipbuilders' Association of Japan, *Nihon zosen kogyokai 30-nenshi*

orders for ships for export, and accordingly hugely increased its productive capacity (Figure 23.2). During this period, the structure and quality of the post-war shipbuilding industry solidified, and we now consider this from various aspects.

First, national policy: planned shipbuilding had already taken shape by the 1950s, and national support for the shipbuilding industry grew stronger in the 1960s. The “income-doubling plan” of 1960 involved not only large-scale intervention by the government in various industries, but also intervention into national life as a whole, as the policy which triggered the period of so-called high economic growth. The shipbuilding industry, thanks to its position as one of the major industries in this economic plan, received increased government funding, and with national backing developed even more strongly its plan for expanding construction of ocean-going ships. Under this policy, planned shipbuilding continued to revise its highest post-war output levels. The focus within this policy on giving precedence to the improvement of international revenues, and

Figure 23.3 Investment in facilities by major shipbuilding companies



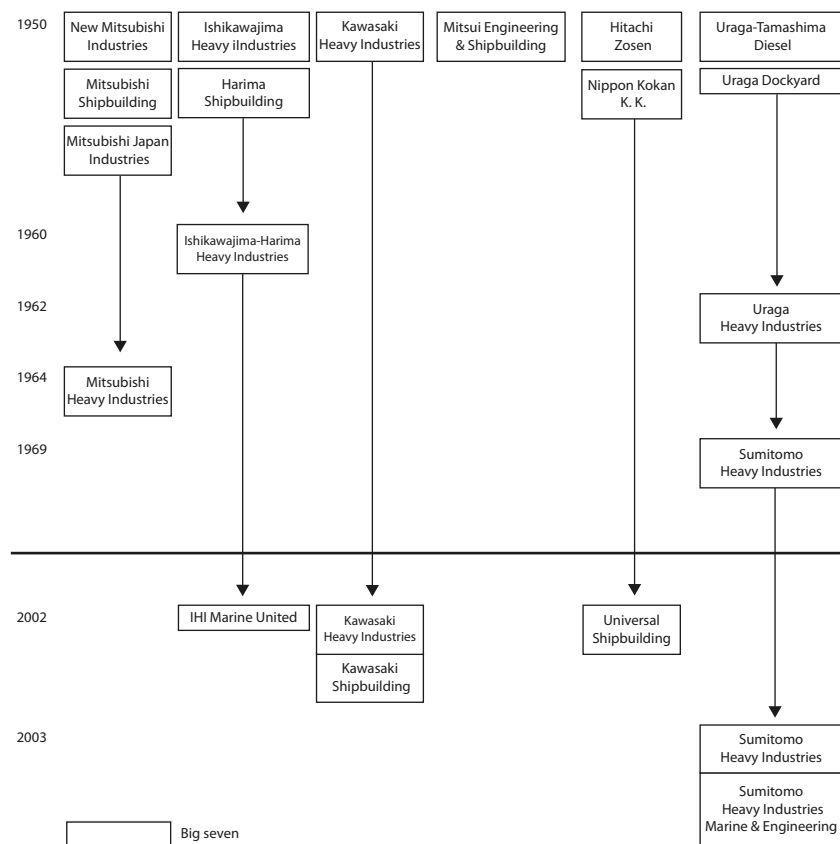
Notes: 1965: 28 factories; 1967-68: 29 factories; 1969-70: 30 factories; 1971: 33 factories; 1972: 36 factories; 1973-76: 37 factories

Source: Shipbuilders' Association of Japan, *Nihon zosen kogyokai 30-nenshi*

the expansion of possession of foreign currency, increased orders and construction for export ships.¹¹

Secondly, one notable characteristic of this period of shipbuilding was large-scale investment in facilities, plant, and equipment. In particular, during the third export-ship boom which began in 1965, not only did export-ship orders expand to unprecedented levels, the worldwide expansion of petroleum shipping led to the scale of oil tankers suddenly becoming super-sized (over 250,000 dwt) to reap economies of scale. Under these conditions, the Shipping and Shipbuilding Rationalization Council took the

¹¹ *Ibid.*, 49.

Figure 23.4 Structure of large Japanese companies

position that super-sized facilities were needed. With this kind of backing from the government, shipbuilders, in particular large corporations, carried out concentrated construction of super-sized shipyards from 1966 through 1968. Moreover, as the 1970s began, the competition over facility expansion and new construction became ever fiercer, reaching its peak (Figure 23.3). In the period from 1972 through 1973, medium-sized shipbuilders joined the large corporations in expanding their facilities.¹² In this way Japan's

12 This situation produced the following points as context. First, in the world context, the economy thrived over these two years, and a rush of orders to Japanese companies took place. Secondly, domestically, positive finance based on the 1972 governmental plan of "remodeling the Japanese archipelago" heated up the domestic economy (*ibid.*, 66-67).

shipbuilding capacity reached 19 mn dwt in total, a scale which approached 50 per cent of world shipbuilding capacity.¹³

Third, at this time shipbuilding companies' mergers and reorganisations were progressing (Figure 23.4). In 1960, Ishikawajima Heavy Industries and Harima Shipbuilding merged to launch Ishikawajima-Harima Heavy Industries (IHI), and in 1963-1964 New Mitsubishi Industries, Mitsubishi Shipbuilding, and Mitsubishi Japan Heavy Industries – once a single corporation which had been split in three by the post-war GHQ *zaibatsu* dissolution orders – merged to restart Mitsubishi Heavy Industries (MHI). Thus the “big seven” restored in the 1960s made a mutual industry alliance pact; and small and medium-sized shipbuilding corporations also followed governmental industry reorganisational policy and merged. Through this process, a structure emerged in which the big seven took overwhelming precedence over the small and medium-sized shipbuilders.

Finally, at this time the large corporations were moving into overseas expansion. IHI was the first to move, establishing Ishikawajima do Brasil Estaleiros (Ishibras) in Brazil in 1959, and Jurong Shipyard in Singapore in 1963.¹⁴ From 1965 on, the pressures of labour shortages, difficulties in finding new locations, and rising construction costs for shipyards caused other shipbuilders to look to overseas expansion. From the late 1960s on in particular they advanced overseas in diverse forms, including technological support and direct investment (Table 23.1).

The mid-1970s on

Competition over facilities expansion and new construction in the Japanese shipbuilding industry took place on a dramatic scale from the late 1960s to the early 1970s, leading to an unheard-of new record for ships laid down in 1974. This kind of rapid increase in construction capability led to a progressive increase in the crisis of overaccumulation. In the mid-1970s, this contradiction burst to the surface, and building performance began to slow sharply (Figure 23.5). At the height of the industry facilities' expansion in 1973, there were already concerns regarding the worldwide oversupply of tankers, and as early as 1974 there was a sharp decrease in tanker export contracts post-OPEC. After this year, the Japan shipbuilding industry's construction in hand continued to decrease, and contracts were cancelled one after the other. Planned shipbuilding, the basis of the post-war Japan's

¹³ *Ibid.*, 66.

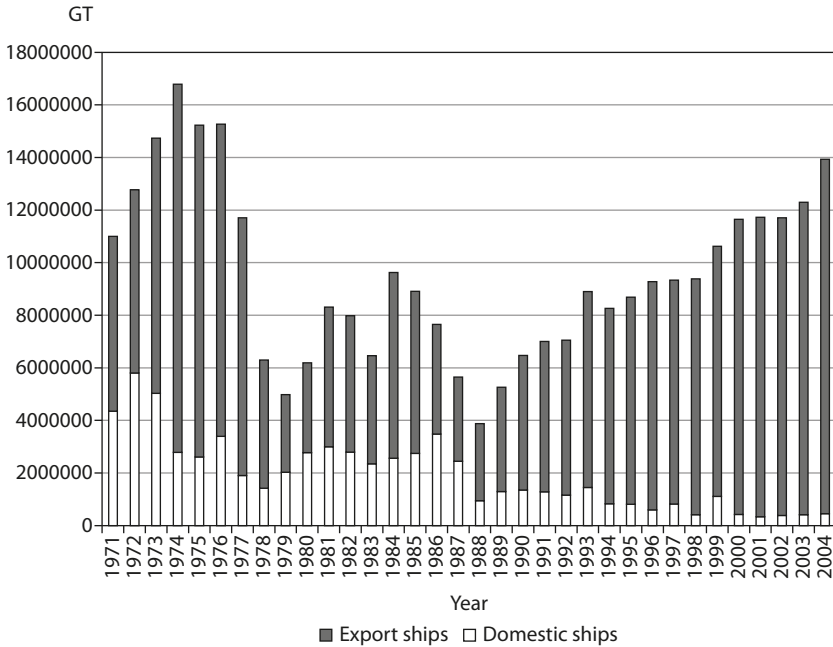
¹⁴ For this period, see Sato, “Zosen dokusen no saihei, kaigai shinshutsu, gunjika no jittai”.

Table 23.1 Overseas expansion by large Japanese companies, 1979

Company	Country	Establish-ment year	Local company	Capacity	Number of workers	Merger partner
Ishikawajima-Harima Heavy Industries	Brazil	1959	ISHIBRAS	26,000D/W 400,000D/W	4,964	Government
	Singapore	1963	JSL	(repair) 90,000D/W (repair) 300,000D/W	2,506	Government
		1968	JSBL	25,000D/W 100,000D/W	-	Government/JSL
	South Korea	1977	Samsung Heavy Industries	(Heavy Machinery) 5700,000W	1,117	Samsung Group
Hitachi Zosen	Singapore	1970	HRD	(repair) 300,000D/W	1,202	Robin Shipyard
Mitsubishi Heavy Industries	Singapore	1973	MSHI	(repair) 400,000D/W	1,000	Government/DBS Bank
Sumitomo Heavy Industries	Malaysia	1973	MSE	(repair) 400,000D/W	150	Government
Kawasaki Heavy Industries	South Korea	1975	Hyundai Mipo Dockyard	(repair) 400,000D/W (repair) 150,000D/W	1,026	Hyundai Heavy Industries
	Philippines	1977	PHILSECO	(repair) 300,000D/W(plan)		Government
Mitsui Engineering & Shipbuilding	Lebanon	1976	AHI	-	470	UAE

Source: Sato, "Zosen dokusen no saihen, kaigai shinshutsu, gunjika no jittai"

Figure 23.5 Steel ship construction results (completed tonnage)

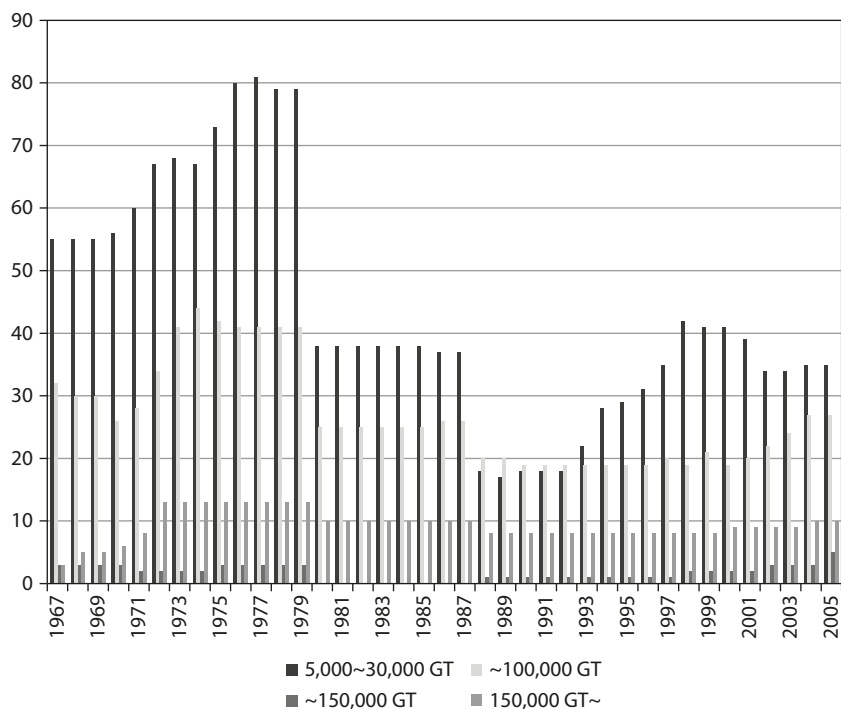


Source: Ministry of Land, Infrastructure, Transport, and Tourism (former Ministry of Transport), *Shipbuilding Statistics Directory*, each year, Seizando Shoten

shipbuilding industry, also showed a sharp gap between plans and actual construction in 1975, for the first time after the war, and this situation continued through the 1970s. Here, the policy of large-scale shipbuilding through planned shipbuilding, which had been carried out consistently since the war, finally gave way.¹⁵

In addition, the overwhelming domination of world market share by the Japanese shipbuilding industry could not but cause difficulties with other countries, in particular the West European shipbuilding countries. These difficulties came to the surface from the late 1960s through the 1970s, and developed into a clear opposition in 1975. At the shipbuilding session of the OECD of that year, Japan's expansion and low-priced orders were sharply criticised by West European countries in particular. Faced with this kind of global pressure and domestic economic realities, the SSRC,

¹⁵ Shipbuilders' Association of Japan, *Nihon zosen kogyokai 30-nenshi*, 75. Another pillar of national policy, ship construction investment interest support, was wound up in the mid-1970s.

Figure 23.6 Number of berths/docks by capacity

Source: Ministry of Land, Infrastructure, Transport, and Tourism (former Ministry of Transport), *Shipbuilding Statistics Directory*, each year, Seizando Shoten

which until then had sung the praises of intensive increases of shipbuilding capacity, dramatically changed its mind in 1976, and proposed a production-capacity reduction policy. When the Japanese government recognised the shipbuilding industry as a “structurally depressed industry” in 1978, in July of that year, the SSRC produced a policy of reducing construction capacity by an average of 35 per cent. Based on this policy, government leadership forced reductions of 40 per cent by the big seven, 30 per cent by seventeen mid-sized companies, and 27 per cent by sixteen medium-sized and small companies (Figure 23.6).

What should be emphasised in the process described above is that, first, the power relations between the big seven and the other medium-sized and smaller companies became even more imbalanced. During the recession, the large companies, in order to make up for the reduction in orders of oil tankers and other large ships, advanced into the construction of smaller cargo ships, which had until then been the speciality of smaller companies. Because of

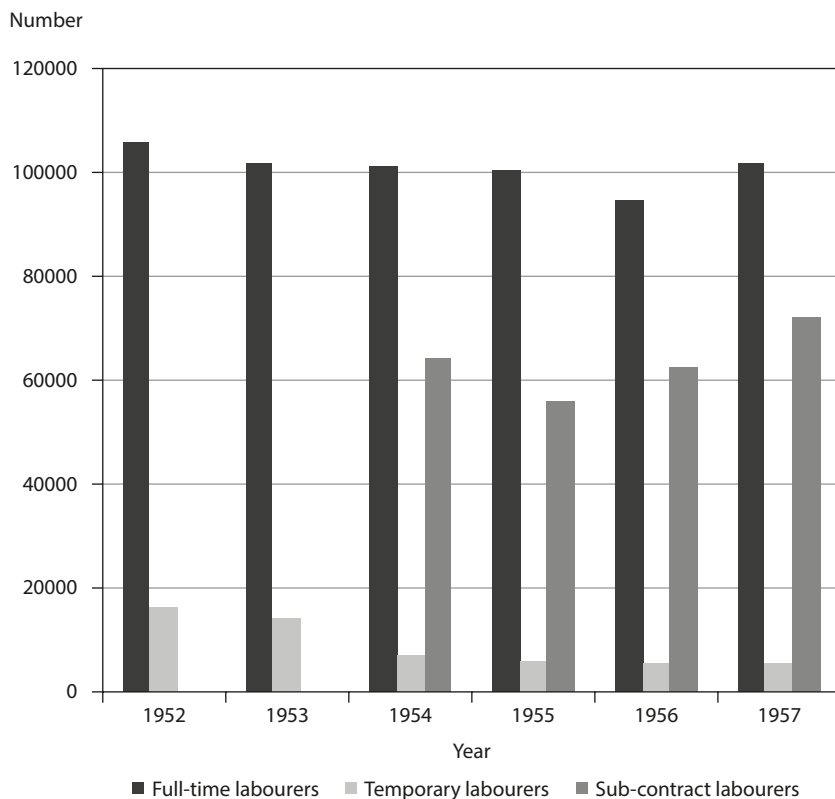
this, the management crises of the small and medium-sized companies worsened further, and from 1977 on they began to collapse one after the other. Furthermore, for non-diversified small and medium-sized shipbuilders with only one or two docks, the reduction in production capacity simply meant bankruptcy on the spot. In this economic climate, medium- and mid- to small-sized companies had no option but to form groups to manage the reductions. On the other hand, the big seven, more diversified and with huge capital reserves, through a shift to production to the heavy (land-based) machines division including military industries and nuclear power industries, were able to maintain and expand their profits. As the 1980s began, the situation of the shipbuilding industry recovered; however, in this period, shipbuilding companies were reduced to the two extremes of the big seven and the other groups. The big seven not only succeeded through the process described above in reducing overcapacity in the shipbuilding division, but by the 1980s had established a solid position as general heavy machine companies. Second, the production-capacity reductions of the 1970s pushed through not only facility reductions but also large-scale reductions in labour. In this period, both large and small to mid-sized companies saw shipbuilding labourers being laid off in large numbers.

Labour relations and the labour movement

From the mid-1970s onwards there was a large-scale reduction in the shipbuilding labour force. This was a political process in which the characteristic relations of capital and labour in Japan's shipbuilding industry were clearly on display. We clarify this process by asking two questions. First, when carrying out the process of labour-force reductions from the mid-1970s on, how did capital use the structure of the shipbuilding labour market, composed of full-time labourers and sub-contract labourers? Secondly, faced with spreading resistance against labour-force reductions from the labour movement, what opposing strategies did capital take?

The composition of the labour force and sub-contract labourers

In the shipbuilding industry, which has always been prone to periodic slumps in demand, there was a tendency to keep regular labour to the minimum necessary, and to compensate for this with short-term hired labour for temporary hiring needs. The specific practice of this has changed over time due to legal issues and the supply of labour generally.

Figure 23.7 Numbers of shipyard labourers in 1950s Japan

Source: Shipbuilders' Association of Japan, *Nihon zosen kogyokai 30-nenshi*

The short-term hired labour force before the war was usually supplied through local labour brokers. However, during the post-war occupation era, the Employment Security Act was passed, planned to eliminate labour brokerages from the labour market, thus the traditional supply route was largely cut off. More precisely, as will be explained below, work introductions through labour brokers received tacit permission as exceptions in certain limited urban labour markets. However, it is certain that the shipbuilding industry at least was no longer able to depend on these for the whole of its labour supply. In this situation, the method taken by the shipbuilding industry to procure its labour was the practice of using temporary labourers or sub-contract labourers.¹⁶ This trend became notable particularly after the 1955 first export-

16 Echigo, *Nihon Zosen Kogyo ron*.

ship boom. As shown in Figure 23.7, from 1952 through 1957, the number of full-time labourers remained roughly stable (71,812 in 1954 to 70,353 in 1957); in comparison, the number of temporary and sub-contract labourers shot up after 1955 (temporary labourers: 11,325 in 1952 to 19,455 in 1957, sub-contract labourers: 97,282 in 1952 to 124,850 in 1957). As a result of this, by 1957, 43 per cent of all labourers were actually sub-contracted/temporary.

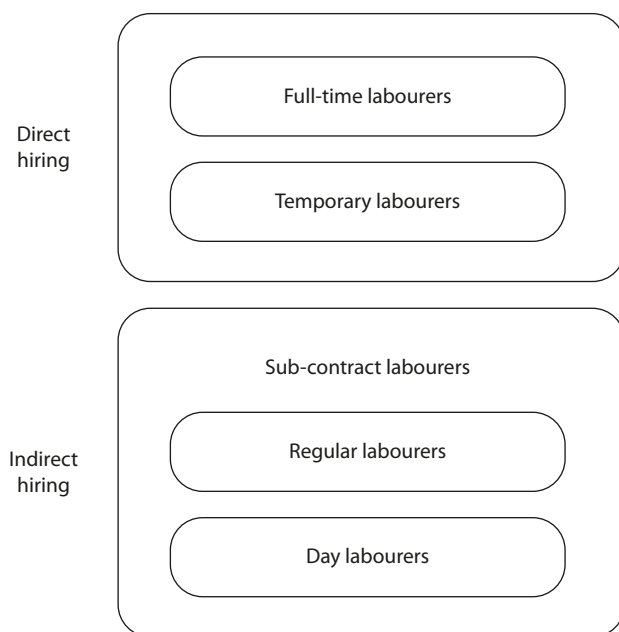
In this way the basic composition of the labour force of Japan's shipbuilding industry was established in the 1950s. However, its inner status changed even more in the 1960s. The labour movement led by the All-Japan Shipbuilding and Engineering Union (SEU), described later, developed a campaign to eliminate the temporary labour system, and eventually succeeded in having temporary labourers hired as full-time labourers.¹⁷ The effects of this were that numbers of temporary labourers decreased sharply from the 1960s on, but those of sub-contract labourers increased sharply in turn. Specifically, while there were 88,135 temporary labourers and 13,531 sub-contract labourers in December 1955, by 1965 there were only 6,700 temporary labourers and as many as 63,859 sub-contract labourers. The method by which companies farmed out business to contractors and used the sub-contract labourers hired by those contractors was essentially indirect hiring. Through using this indirect hiring method, companies were able to pass off trouble related to hiring and firing to contractors, and thus to create an environment in which labour-force adjustments such as reductions could be carried out more smoothly.¹⁸

Furthermore, in this process from the 1950s to the 1960s, in the layer below full-time and sub-contract labourers, a lower labour market was constructed. As stated above, through the post-war Employment Security Act, the use of labour brokers was officially forbidden. However, the government was unable completely to eliminate the existence of labour brokers¹⁹ and changed in the 1960s to a policy of tacit acceptance, exceptionally, of their existence. Specifically, the informal lower labour market in which labour brokers were active was tacitly permitted in extremely limited areas within major cities. In this context, contractors, having kept the hiring of full-time labourers to the minimum necessary, came to acquire the labour needed on and off through labour brokers from the lower labour market. Lower day labourers like this were usually given the most dangerous tasks on site. Moreover, because many of the labour brokers were so-called Yakuza, it was

17 SEU, "Zenzosen kikai 40-nenshi", 32-34.

18 Mizota, *Zosen jukikai sangyo no kigyō system*, 52.

19 As early as 1952, the Employment Security Act was revised, and regulations on labour brokers were relaxed. Through this, labour brokerages run by labour bosses revived.

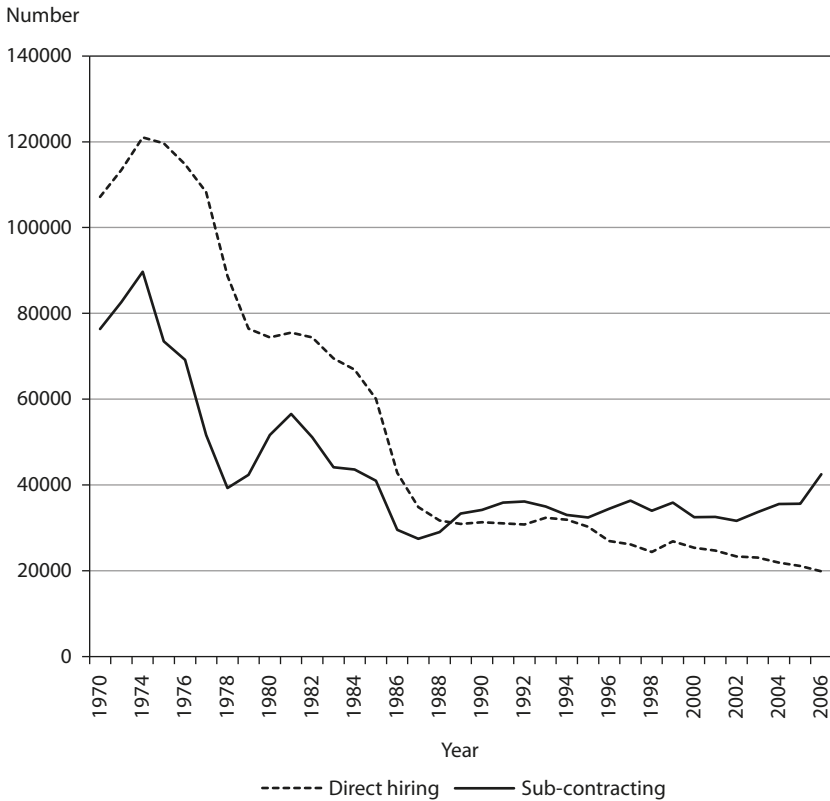
Figure 23.8 Model of labour-force composition in Japan

not uncommon for labourers to be forced to work in illegal conditions, or to be faced with violence or, in extremis, lynching.²⁰

The structure of the shipbuilding labour market constructed through this process can be shown in a model such as that in Figure 23.8. Since the mid-1970s, as capital carried out its process of reducing the labour force, it made adroit use of this labour-market structure. As shown in Figure 23.9, the number of shipbuilding labourers rose until 1974 and fell thereafter, but within that it was sub-contract labourers who were sharply and hugely reduced. In this way, companies first drove sub-contract labourers who had been indirectly hired into unemployment, trying to achieve labour-force readjustment. While the exact details are not clear, many of the sub-contract labourers driven into unemployment are thought to have been absorbed by the lower labour market. However, this measure alone was not able to do away with the issue of overstaffing, and reductions in numbers of full-time labourers began to follow those in sub-contract labourers. Behind these reductions were, for example, cases in which full-time labourers were required to retire from their positions, to be hired again by related

20 Kamata, *Document zosen fukyo*, 64-98.

Figure 23.9 Numbers of shipyard labourers in Japan from 1970 on



Source: Ministry of Land, Infrastructure, Transport, and Tourism (former Ministry of Transport), *Shipbuilding Statistics Directory*, each year, Seizando Shoten

contractors. In this situation, even though labourers were doing the same jobs at the same workplace, because their positions had been changed from being directly hired to sub-contracted indirectly hired, they were forced to accept lower wages. Through this kind of use of the multiple layers of the structure of the labour market, capital was able to achieve a large-scale reduction in the labour force.

The labour movement in the process of labour-force reduction and the opposing strategies of capital

The shipbuilding labour movement saw two peaks of struggle after the Meiji era. The first was from after the First World War through the early

1920s. In this period, against a background of good economic conditions from 1917 through 1921, and the international situation concerning the Russian Revolution and its effects, the domestic situation including the Rice Riots (1918) and the spread of socialist ideologies, the shipbuilding industry saw a large number of struggles led by the labour union movement. In particular, the 1921 Mitsubishi Kobe/Kawasaki Shipyard Struggle went down in Japanese labour history as the largest strike before the Second World War. The second peak was from the end of the Second World War through the 1950s. As the Allied GHQ first promoted labour unions as part of its policies of democratisation,²¹ such organisations were formed all over the country. Regarding the shipbuilding labour movement, at this time a large-scale production-control struggle took place. As Andrew Gordon writes, this production-control tactic “was certainly the most radical form of activity ever undertaken by Japanese workers”.²²

The process of labour-force reduction from the mid-1970s onwards was one which drove a large number of labourers into the crisis of unemployment, and naturally the labour movement attempted to resist this process. However, compared to the major influence exerted upon labour relations by the two past labour-movement peak periods described above, it must be said that the struggles of the 1970s were unable to make a decisive impact on capital. Rather, in the mid-1970s, the labour movement had been placed in an overwhelmingly disadvantageous position with regard to capital. The primary factor therein was, as already stated, the fact that an overwhelming majority of labourers had been shifted into the position of sub-contract labourers through indirect hiring. For Japan’s shipbuilding labour movement, based on company divisions, the shift from direct hiring (full-time/temporary labourers) to indirect hiring (sub-contract labourers) was a major blow. The second factor, as will be shown below, was the marginalisation of the fighting labour movement through the splitting of unions.

In 1946, after the war had been lost, unions were formed one after another at shipyards around the country, and a national organisation, the All-Japan Shipbuilding Union, was formed. The SEU joined the General Council of Trade Unions of Japan, the national sector body set up in 1950, and under its auspices took a leading role in a combative shipbuilding labour movement. The movement to end temporary labour was one of its activities. Against

21 However, as a defence against the 1 February 1947 General Strike, GHQ ordered a halt in democratisation in the fear of expanding communism. From this point on, GHQ policy shifted from supporting to repressing labour unions.

22 Gordon, *The Evolution of Labor Relations in Japan*, 332.

this spreading and increasingly combative labour movement, capital concentrated its attacks during the corporate reorganisation period of the 1960s, in order to knock the feet from under the movement. One essential strategy was to form “a second union” in order to encourage workers to disengage from the SEU, thus involving the workers in the production-improvement movement represented by the quality-control (QC) movement. When, as noted above, Mitsubishi Japan Industries, New Mitsubishi Heavy Industries, and Mitsubishi Shipbuilding merged to create MHI, a “second union” under company direction was immediately formed. Starting from there, union splits and departures in Mitsubishi affiliates came one after the other, and by 1967 the SEU had lost 20,000 members in Mitsubishi and its affiliates.²³ Union splits due to the formation of “second unions” spread through the major companies in the 1960s and the medium-sized companies at the start of the 1970s, until the national sector Japan Confederation of Ship Building and Engineering Workers’ Unions was formed by co-operating unions in 1972.

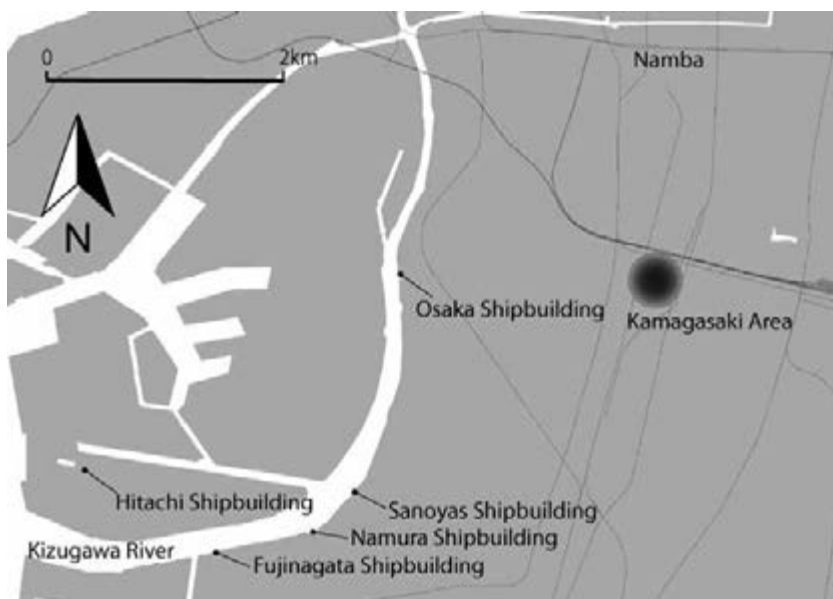
The anti-union strategies used by capital intensified, and by the early 1970s, the SEU had become if anything the minority, marginalising the labour movement. Nor did it stop there; rather, the labour-force reduction process which began in the mid-1970s was also a political strategy that drove the fighting labour movement even farther into its corner. That is, as labourers’ layoffs increased, the first to be fired were the SEU members. Through this kind of political process, from the mid-1970s onwards a large number of workers came to lose their jobs.

The case of Osaka: Kizugawa Shipbuilding and Kamagasaki

We now consider the specific situation of the shipbuilding industry in 1970s Osaka as a case study (Figure 23.10). The Kizugawa riverfront in Osaka was a shipbuilding area from as early as the Edo period. From the Meiji period on, shipbuilding industries established in the Kizugawa area included Fujinagata Shipyards (merged into Mitsui Shipbuilding in 1967), Sanoyas Shipbuilding, Namura Shipbuilding, Osaka Shipbuilding, and Hitachi Shipbuilding. These five companies were collectively known as “Kizugawa Shipbuilding,” and were particularly active in the expansion of the shipbuilding industry during the high economic growth period, as well as serving as a core industry of the regional economy. However, from

23 SEU, “Zenzosen kikai 40-nenshi”, 41.

Figure 23.10 Locations of the Kizugawa Shipbuilding companies and Kamagasaki



the late 1970s on, the shipyards managed by these five companies were relocated or closed one after the other, and there are now only two remaining, dedicated to ship repair rather than construction. Going through a dramatic reorganisation process compared to other regions, the experience of this area allows a clear view of the contradictions expressed here with regard to Japan's shipbuilding industry.

Near this area is a lower day labour market area. This is a day labourers' gathering area known as Kamagasaki, where the labour markets are concentrated among more than 200 flophouses. The number of labourers living there is said to have been roughly 30,000 in the early 1970s. The day labourers paid rooming fees to flophouses to live there, travelling – being sent by labour brokers – to various kinds of sites in construction, dockwork, and manufacturing. These labour brokers, as stated above, were banned by the passage of the Employment Security Act after the war, but came to be tacitly permitted as exceptions by the 1960s. Kamagasaki is one of the special areas where this exceptional situation was permitted. The Kizugawa Shipbuilding companies got by through not only hiring sub-contract labourers from contractors, but also by using this kind of lower day labour

Figure 23.11 Numbers of job offers for day labourers in Kamagasaki



Source: Nishinari Labour and Welfare Center, *Business Report*, each year

market.²⁴ Looking at Figure 23.11, we see that the type of work entered by the Kamagasaki day labourers was dominated by manufacturing up through the mid-1970s. Actual numbers are unclear as objective data do not exist, but it is thought that a large portion of this work was related to the shipbuilding industry. In this way, at Kizugawa Shipbuilding, the multi-layered structure of the labour force modelled in Figure 23.8 appeared more sharply than in any other region.

From the late 1970s, at Kizugawa Shipbuilding relocations and closures of factories and docks came rapidly. Namura Shipbuilding constructed a large-scale dock at Imari in Saga Prefecture in 1974, and in 1977 introduced a policy to concentrate its new construction projects at the Imari factory, eliminating new construction from the Kizugawa factory in 1979. Sanoyas Shipbuilding built a new yard at Mizushima in Okayama in 1974 and, as well as concentrating its new construction there, reduced the scale of the Kizugawa factory and limited it to repairs. Fujinagata Shipyards also planned in 1978 to do away with its new construction division, shifting to an onshore machine factory. These transfers and closings were undertaken as

24 Kamata, *Document zosen fukyo*, 64-98.

Table 23.2 Numbers of labourers at Namura Shipyard

	Full-time labourers	Sub-contract labourers
1974	2543	1399
1975	2624	1134
1976	2410	1092
1977	1387	486
1978	1315	658

Source: Labour Research Association, "Zosen fukyo wo kojitsu ni shita futo na shimei kaiko"

part of a strategy to reduce the labour force on a large scale. Taking Namura Shipbuilding as an example, the number of labourers from 1974 to 1978, both full-time and sub-contract, was cut by roughly half (Table 23.2).²⁵

An important point, as discussed above, is that this reduction of the labour force was carried out as part of a political strategy intended to deal a blow to the fighting labour movement. By the early 1970s, the SEU's labour movement was already being marginalised. For example, at Sanoyas Shipbuilding, through the formation of a "second union," the 1,200 members of the SEU local recorded in 1972 were reduced by October 1973 to 230.²⁶ Once the SEU's base had been weakened through labour reductions, those workers who were active with the SEU even as a minority, or those who objected to company policies were made targets of firing and transfers. The resistance movement formed to deal with this situation was first to expand the movement from company level to community level. The union activists who had been marginalised at each company tried to work towards the solidarity of the workers at each of the five Kizugawa Shipbuilding companies, forming a common struggle group. Further, by connecting the withdrawal and shrinking of the shipbuilding industry directly with the weakening economy of the region, they called on neighbouring merchants and manufacturers and formed the Citizens' Council to Protect the Employment of Shipbuilding Labourers and the Management of Merchants and Manufacturers. Secondly, with this kind of community-level movement base as a backbone, they embarked on legal attempts to protest against unfair firings of union activists ("targeted firings") and to demand their nullification. The legal struggles were successful, and in the 1980s they received judgments that the firings were invalid. However, they were unable to put

25 Labor Research Association, "Zosen fukyo wo kojitsu ni shita futo na shimei kaiko".

26 Kamata, *Document zosen fukyo*, 87.

a stop to the overall trend of labour-force reduction which accompanied the transfers and closings of factories and docks.

One more point to be noted in this process is the fact that, even within the structure of the labour force, labourers positioned at the lowest level also tried to organise themselves. Satoshi Kamata's decisive reportage revealed their poor working conditions and described detailed facts in his in-depth interviews with labourers. One labourer related that he had joined a sawmill in the Sanoyas shipyard as a full-time worker, but sawing had been outsourced and they were sub-contracted too. He related how hard sub-contract work was "without any social securities such as health insurance or unemployment benefit, nor severance payment", as well as discriminative composition of the working class he recalled that "there are many Korean migrants, outcast Barakumin, and also Okinawan immigrants in the shipyard".²⁷ Another labourer related how many industrial accidents occurred at Sanoyas, "with more than ten fatal accidents in ten years I have been working at this shipyard. Most of the fatalities are sub-contracted workers. Someone falling off scaffolding, another crushed to death by a fallen gas tank while working inside a cargo hatch. The danger of the shipbuilding industries has been hidden by [the fact that the] victims [were] sub-contracted."²⁸

In order to fight against these conditions, a labour union of sub-contract workers was formed at Sanoyas Shipbuilding only in 1976. Sub-contract labourers were fragmented as they were hired by various contractors, but roughly thirty of them facing unemployment assembled, and with the cooperation of the SEU formed their union. Further, in 1977, with the support of the All-Japan Dockworkers Union (JDU), a labour union was based in the day labourers' gathering place of Kamagasaki; a sub-contract labourers' union was also formed at the Namura Shipyard. Among those who joined the sub-contract labourers' union were also labourers who had been supplied as sub-contract labour from Kamagasaki.²⁹ Therefore, this was an unusual moment in the history of Japan's shipbuilding labour movement, when the lowest-level labourers began to organise themselves. However, these unions were quickly forced out of existence. Sanoyas Shipbuilding and Namura Shipbuilding cut their contracts with the sub-contractors whose labourers had formed unions, and by forcing the sub-contractors to dissolve, also made the sub-contract labourers' unions disappear.

27 *Ibid.*, 80.

28 *Ibid.*, 81.

29 *Ibid.*, 64-98.

In this way, the shipbuilding labour movement of the late 1970s showed new developments not seen in the traditional shipbuilding labour movement, in its aspects of having formed solidarity beyond companies at the community level, and of the lowest-level labourers having organised themselves. However, the fighting labour movement was already being marginalised, and, as well, the firing of contract labourers sub-contracted through indirect hiring was all too easy for the companies. Under these conditions, labour was placed in a disadvantageous position with regard to capital. Accordingly, the labour movement in the late 1970s was in the end unable effectively to stop the wholesale strategy of labour-force reduction by capital.

24 The evolution of labour relations in the South Korean shipbuilding industry

A case study of Hanjin Heavy Industries, 1950-2014

Wonchul Shin

Introduction

The latter half of the twentieth century witnessed rapid changes in the leadership of the global shipbuilding industry. South Korean shipbuilders entered the world shipbuilding market in the early 1970s and within two decades, almost from a standing start, its shipbuilding industry became the world's second-largest producer of ships, after Japan.¹ Along with the rapid expansion of the industry under the military dictatorships of Park Chung-hee (1961-1979) and Chun Doo-hwan (1980-1987), a workers' movement emerged, albeit slowly. Shipbuilding workers took the lead in the 1987 "Great Workers' Struggles", which followed the "June Struggle" for democratisation in South Korea. They succeeded in organising themselves into labour unions, and achieved impressive advancements in wages and working conditions. However, as directly hired regular workers in the major shipyards, they formed a distinct group from increasingly used sub-contract workers, and latterly from migrant workers.²

¹ For the evolution of the South Korean shipbuilding industry, see Amsden, *Asia's Next Giant*; Amsden concentrates on the growth of Hyundai Heavy Industries. See also Jonsson, *Shipbuilding in South Korea*; Jonsson compares the South Korean experience with developments in Japan, the United Kingdom, and Sweden. A more recent treatment is Bruno and Tenold, "The Basis for South Korea's Ascent in the Shipbuilding Industry". Bruno and Tenold argue that the post-OPEC shipping crisis, which led to a dramatic decline in demand for new tonnage from the mid-1970s onwards, may have boosted the ascendancy of South Korean shipyards. The overall shifts in shares of the world shipbuilding market are discussed in Todd, *Industrial Dislocation*, and, with a specific focus on the shift of market share to East Asia, Todd, "Going East". See also Cho and Porter, "Changing Global Industry Leadership". Thanks to Hugh Murphy, who offered many helpful comments on a draft of this paper and informed me of many valuable English-language materials on the Korean shipbuilding industry.

² Migrant workers from various countries such as Vietnam, Mongolia, and Uzbekistan form part of workforce in the South Korean shipbuilding industry. South Korean shipbuilders were reported to employ 6,530 migrant workers at the end of 2012. For example, Daewoo Shipbuilding and Marine Engineering, Hyundai Heavy Industries, and Samsung Heavy Industries employed

As the world's leading shipbuilding nation at the turn of the millennium, South Korea was very wary of the strong challenges posed by emerging Chinese shipbuilders. As such, major Korean shipbuilders such as Daewoo Shipbuilding and Marine Engineering (est. 1978), Hanjin Heavy Industries, Hyundai Mipo Dockyard (est. 1975), Samsung Heavy Industries (est. 1974), and STX Offshore and Shipbuilding (est. 1967) all set up global production networks. With the increase in South Korean shipbuilders' foreign investments, in China, Norway, the Philippines, Romania, Vietnam, and South America, South Korean shipbuilding workers, especially sub-contract workers, have been increasingly threatened by the loss of jobs.³

This chapter outlines the evolution of labour relations of Hanjin Heavy Industries (HHI) located on Youngdo island near Busan, the largest port city in South Korea. Initially formed by Japanese capital in 1937 as Choseon Heavy Industries Inc. (CHI), to build and repair steel ships; after the defeat of Japan in the Second World War, CHI became a semi-state-owned enterprise and was renamed Korea Shipbuilding and Engineering Corporation (KSEC) in 1950. In 1968, KSEC was privatised, retaining its name. In 1989, the Hanjin industrial conglomerate took over KSEC in bankruptcy, and set up HHI. Until the huge Hyundai shipyard was established at Ulsan between 1972 and 1974, HHI's Youngdo Shipyard was the largest in South Korea. By the millennium, HHI had become one of the world's top shipbuilders, especially in the large container-ship market. In tandem, from 2007, HHI operated another shipyard at Subic Bay in the Philippines. Faced with the decreased demand for shipbuilding since the 2008 world financial crisis, HHI has reduced its workforce at the Youngdo Shipyard, which unleashed intense labour disputes from 2010 to 2012. Instead of modernising Youngdo Shipyard, HHI sought to build larger vessels at lower cost in the Subic Shipyard. Alongside outlining the evolution of labour relations at HHI, this chapter also highlights major changes in labour relations at the shipyard focusing on the

1,312, 994, and 939 migrant workers respectively. See, Korea Offshore and Shipbuilding Association, *Shipbuilding Yearbook*, 20.

3 Daewoo has a shipyard in Romania, Daewoo-Mangalia (a 50-50 partnership with the Romanian government), and the Yantai Block-Making Factory in Shandong province, China. Hanjin has a shipyard at Subic Bay in the Philippines, Hyundai Mipo Dockyard has Hyundai-Vinashin in Vietnam, Hyundai-Mipo is a subsidiary of HHI (the world's largest shipbuilder); Samsung has two block-making factories in China, located in Jiangsu province and in Rongchen province. STX has a shipyard and block-making factory at Dalian in Liaoning province, China, and fifteen shipyards in Brazil, Finland, France, Germany, Norway, and Vietnam. In 2007, STX took a two-fifths' stake in the Norwegian Aker group, Europe's biggest shipbuilder. In 2008 it took over Aker, and formed STX Europe. Due to a severe lack of liquidity, STX group was broken up in 2013.

enterprise (firm-specific wage bargaining) union system, sub-contracting arrangements, and militant unionism, which are major features of South Korean shipbuilding labour history.

The evolution of the modern shipbuilding industry in Korea: the colonial period, 1937-1945

The origin of Korea's modern shipbuilding industry can be traced to the Japanese colonial period. CHI was established in July 1937 by Japanese capital, including Mitsubishi, and was equipped with three building berths capable of constructing 3,000-ton ships, two building berths of 500-ton class, and two dry docks for ship repairing in 1941. With the outbreak of the Pacific War, CHI began to build a series of wartime-standard ships under the supervision and planned shipbuilding programme of the Imperial Japanese Navy. CHI completed ten vessels of 13,700 tons in total during the Pacific War, and expanded its facilities for engine manufacturing in the latter half of 1943. By 1944, CHI had produced auxiliary diesel engines of 600 hp and steam engines of 1,200 hp. By the end of the Second World War, there were approximately 2,000 workers in the Youngdo Shipyard, including about eighty Korean shipbuilding technicians.⁴

The Japanese government general of Korea controlled all employment relations including hiring, job training, dismissal, and wages across the country, especially after 1937. Korean workers were treated not as modern wage labourers but as national resources, or as slave-like subjects of the Japanese emperor. The wartime mobilisation from 1937 to 1945 in Korea was a form of colonial fascism. The Factory Law, enacted in Japan in 1916, never applied to Korean workers. The manpower mobilisation of the colonial period, executed through coercion and surveillance by police and administrative agencies, was not followed by any improvement in basic labour rights or any form of industrial democracy. While disseminating a totalitarian ideology of labour service, which emphasised the public spirit of workers, the colonial government never offered any welfare services to Korean workers. In co-operation with the police and administrative agencies, management even tried to control the private and family lives of workers.⁵

4 Bae, "The Management of Choseon Heavy Industries Inc.". References written in Korean and Japanese are translated into English for the convenience of readers; the original Korean is given in the collective bibliography.

5 Shin, "Wartime Mobilisation and Its Legacies in South Korea".

The Japanese governor general of Korea had instituted a factory- and plant-based training system to cope with skill shortages during the war, and the first job training centre at CHI opened in 1939. Even though there were not many opportunities for Koreans to acquire technical skills in constructing vessels,⁶ Koreans did, however, get more chances arising from the wartime military personnel mobilisation of Japanese skilled workers towards the end of the war.

National liberation, the Korean War, and slump, 1946-1960

CHI was administered by the US Military Government from December 1945 and, from August 1948, it was administered by the South Korean government. As the Japanese emperor declared an unconditional surrender to the Allied forces, Korean workers began to organise themselves into a union called Cheonpyoung (National Council of Korean Labour Unions), which had a socialist leaning. At the Youngdo Shipyard, one of the most powerful local branches of Cheonpyoung was established, but the Local could not withstand the fierce oppression of the police and right-wing semi-military forces. Moreover, a great number of Cheonpyoung members were killed by the police across the country after the outbreak of the Korean War on 25 June 1950. On 2 August 1950, 292 workers at the Youngdo Shipyard were detained by the navy, among them were about 100 workers affiliated with left-wing labour unions or political parties. In Busan city alone, more than 1,500 people are thought to have been killed by the military or the police. The numbers of victims in the shipyard detained and killed by either military or police were relatively small.⁷ The reason that most union members detained survived was because of their skills necessary for repairing vessels mobilised for the war.⁸

KSEC

With the establishment of the Law of KSEC in August 1950, CHI was renamed KSEC. Dr Syngman Rhee, the first president of the South Korean government, had appointed six directors of KSEC in the 1950s who were not professional managers but persons close to him. Prior to the

6 Jonsson, *Shipbuilding in South Korea*, 67.

7 Jeon, "A Study on the National Council of Choseon Labor Union of Busan City".

8 Kim, "The Business Management of a Korean Company and Workers in the 1950s", 10.

privatisation of KSEC in 1968, the senior staff of KSEC were recruited from former admirals, who subsequently took their military subordinates into the shipyard. During the Korean War, KSEC repaired a large amount of tonnage. As the shipyard also had to repair welded ships during the war, welding technology was introduced from the USA, replacing riveting as a method of hull construction. In the latter half of the 1950s, KSEC expanded its shipbuilding facilities so as to be capable of building ships of up to 10,000 tons and repairing ships of 15,000 tons. The cost of those facilities was aided by the ICA (International Cooperation Administration) of the USA. For the purpose of learning advanced technologies, KSEC continued to hire a small number of foreign technical advisers, starting with a US advisory group, who remained from March 1950 through January 1951. In 1959, a Dutch technical adviser was invited to the shipyard, and a total of fifteen foreign technicians were brought in between 1962 and 1966.⁹ Although the South Korean government tried to propel “planned shipbuilding”, the total amount of new vessels completed in the country owing to that programme in the 1950s amounted to just 191 vessels of a paltry 10,157 tons. Of this total, KSEC had built twenty-four vessels, including eighteen customs inspection vessels, all of which were under 200 tons. The number of workers employed at KSEC dropped by nearly two-thirds, from 1,034 in 1950 to 348 in 1960.¹⁰

The KSEC Union

Although basic labour rights were officially recognised by the Korean government during the Korean War, they were heavily restricted by the prevailing anti-communist ideology. Occupying a lowly part of the newly established state power, leaders of the Confederation of Korean Trade Unions nevertheless kept union members under strict surveillance, and controlled them on the basis of anti-communist ideology. The demands of labour unions for wage increases and better working conditions were coupled with discourses of anti-communist patriotism, which, in fact, were variants of the Japanese rulers’ totalitarian ideology on labour service during the

9 Nam, *Building Ships, Building a Nation*, 297, n. 9. Nam’s book is the best monograph on the workers’ movement at the shipyard. In contrast to the previous studies on the Korean labour movement, the author emphasises the historical legacies of the Korean labour movement, focusing on the KSEC Union, which was the strongest and most democratic union in the country in 1960s.

10 Bae, “The Attempt at Capital Accumulation and the Causes of Its Failure at the Korea Shipbuilding and Engineering Corporation in the 1950s”, 192.

Pacific War. At the shipyard, the KSEC Union was eventually established on 6 June 1953 immediately after the first Trade Union Act was passed in Korea. The KSEC Union affiliated to the Korean Seamen's Union in July 1957, and concluded the first collective agreements with the management of KSEC through enterprise-level bargaining in 1958. Segmented employment practices between sub-contracting workers, temporary workers, and regular workers were already in place at KSEC in 1958, when more than 200 temporary workers were employed in the shipyard. Beforehand, a rule on the internal promotion of employees and a rule on retirement allowances were already enforced at KSEC in 1954, which suggests that the working conditions of KSEC employees were better than those of other small and medium-sized shipbuilders around the Youngdo Shipyard. In 1960, workers employed for more than five years amounted to 40 per cent of the KSEC workforce.¹¹ Earlier, in 1958, as a result of the extremely poor performance of KSEC generally, the payment of wages for 350 workers was in arrears for 7 months. Consequently, the KSEC Union decided to go on strike on 13 December 1958, demanding the payment of wages. The strikers won a victory after a seven-day strike and received payments for the months in arrears owed to them.¹²

The steady growth and the short rise of democratic unionism, 1961-1969

The South Korean people overthrew the dictatorship of three-time president Syngman Rhee during the student-led April Revolution of 1960. But on 16 May 1961 Major General Park Chung-hee led a military coup. On seizing power, the military government ordered all political parties and associations, including trade unions, to be disbanded. Thereafter, the military nominated leaders of the Federation of Korean Trade Unions (FKTU), who organised fourteen industrial unions including the Metal Workers' Union and the Seamen's Union from above. When basic labour rights were restored, local enterprise bargaining was not only allowed under this pseudo-industrial union system, but in effect became the most important form of bargaining in the 1960s.

The KSEC Local became one of the strongest locals of the Seamen's Union in the latter half of the 1960s.¹³ Employees, including clerical workers, of KSEC numbered 1,542 in 1963, and more than doubled to 3,145 in 1968.

11 Shin, "The Formation and Evolution of Firm Internal Labour Markets", ch. 2.

12 Nam, *Building Ships, Building a Nation*, 66-68.

13 Shin, "The Evolution of the Enterprise Union System in Korea".

During the 1960s temporary workers were widely employed not only in the shipbuilding industry but also in the heavy and light machine building industries across the country. Temporary workers at KSEC numbered 173 in 1963, and increased to 1,162 in 1968, while the direct-hired regular production workers numbered 1,051 in 1963 and decreased slowly to 919 in 1968. Temporary workers received lower wages compared to the regular workers, and suffered from unstable employment. In June 1960, after the April Revolution, the KSEC Union had demanded that all temporary workers should be promoted to regular workers, and that the internal subcontracting company be abolished. However, the management replied that the promotions of the temporary workers were under the control of the Joint Economic Committee of the United States and Korea; thus the union did not succeed. From the end of 1965, however, the KSEC Local affiliated temporary workers within it and, in turn, temporary workers could elect their representatives to the Local.¹⁴

The growth of the KSEC Local was possible under the favourable labour market conditions extant in the 1960s – a decade in which the Korean shipbuilding industry showed a steady growth under the dictatorship's shipbuilding promotion policy. The number of workers employed in the shipbuilding industry increased from 3,000 in 1960 to more than 10,000 in 1967. Beginning with a 350-ton cargo ship in 1962, KSEC built a 1,600-ton vessel in 1964, a 2,600-ton ship in 1966, a 4,000-ton vessel in 1967, and a 6,000-ton ship in 1968. The share of ship repairing in the total output decreased rapidly as new shipbuilding increased. KSEC's total sales of new shipbuilding amounted to about four times of that of ship repairing in 1966.¹⁵ The two cargo ships built in 1964 passed the ABS (American Bureau of Shipping) classification criteria, the first time this standard was achieved by a Korean shipbuilder. In 1965, KSEC concluded a five-year technical assistance contract with Niigata Ironworks in Japan to manufacture marine diesel engines, gained the ability to design a 4,000-ton cargo ship in 1966, and won from Taiwan the first significant export order for twenty tuna-fishing boats in 1968.¹⁶ As Gabriel Jonsson has noted, "Shipbuilding output remained low during the 1960s, but some basis for the subsequent rise of the shipbuilding industry was laid in technical advances and ship exports".¹⁷ In March 1967 the Law for the Promotion of the Shipbuilding Industry

14 Shin, "The Rise and Decline of the Employment of Temporary Workers".

15 KSEC, *A Thirty-Year History of the Korea Shipbuilding and Engineering Corporation*, 192, 338.

16 Korean Entrepreneurs' Association, *Korean Shipbuilding Industry*, 128.

17 Jonsson, *Shipbuilding in South Korea*, 71.

was promulgated, and in 1969 the South Korean government included the shipbuilding industry among the beneficiaries of its Machine Industry Development Fund.

Privatisation

In the late 1960s the South Korean government pushed for the privatisation of state-managed enterprises, and seven public enterprises including KSEC were privatised in 1968-1969. Namgung Yeon, the owner of the Far Eastern Shipping Line, became the new owner of KSEC on 6 November 1968. On 30 November the new management issued instant dismissal notices to all 1,174 temporary workers. Workers spontaneously began to congregate at the metal-structures assembly shop and refused to work. Hence illegal work stoppages continued and the KSEC Local decided to launch a hunger strike by all members, with a mould-loft shop chosen as the site of the hunger strike. On 17 December the management agreed to accept the majority of the union's demands including revoking the announcements of further layoffs of temporary workers. This was considered to be the last victory of the KSEC Local, which was later defeated and became a "state-controlled union" in 1969.¹⁸

As for the KSEC labour dispute of 1969, the two main issues were collective contract revisions and a wage increase. The new management wanted to roll back many articles of the collective contract, which the KSEC Local would never concede. In April 1969, the Local had demanded a 57 per cent wage increase and argued that a pay rise together with workers' participation in management were prerequisites for any productivity-based wage system. On 9 May, 300 workers staged a three-hour sit-in demonstration, and from 31 July the Local went on strike in support of their demands. On 18 August the Local decided that all its members should stage overnight sit-ins, and that its strike committee members should go on a hunger strike. The next day the owner, Namgung Yeon, ordered a lock-out, the first lock-out in the history of the shipyard, as well as in the country. In response, workers and their family members started a sit-in demonstration on the road in front of the company gates, and clashed with riot police. As the lock-out and strike entered its second month, police began to arrest demonstrators. On 9 September, the company announced that it would sack sixteen union

18 Shin, "The Formation and Evolution of Firm Internal Labour Markets", 226-227; Nam, *Building Ships, Building a Nation*, 164-170.

officials and on 18 September the government invoked its power to order an emergency adjustment of a labour dispute. The strike ended when police arrested the union leaders between 2 October and 4 October. This was the end of the short-lived period of democratic unionism in the 1960s at the shipyard.¹⁹ Hwasook Nam interpreted the meaning of the strike as follows:

The 1968-69 struggles at the KSEC yard were one of the major industrial conflicts of the decade in South Korea, and the state's crackdown on the KSEC and other unions at that juncture cleared the stage for a new era in South Korean labor relations and the drive for rapid economic growth.²⁰

In 1969, labour policy became more repressive. With the strikes of the KSEC Local and of the Textile Union, the Korean Employers' Association demanded that the government should be more oppressive to labour movements, which strengthened the dictatorship of President Park.²¹

Explosive growth under “developmental dictatorship” and “state-controlled” unionism, 1970-1987²²

President Park succeeded in revising the constitution through a referendum on 17 October 1969 to enable him to be elected three times. He became president again on 17 April 1971, and an Emergency Act for National Security was enacted on 27 December 1971. Park went even further and declared Emergency Martial Law on 17 October 1972, and became President for Life through the enactment of a new constitution.²³ The Federation of Korea Trade Unions declared its support for Park's so-called October Revitalising Reforms.

In the 1970s, the Park regime denied the workers' basic rights to bargain collectively and to go on strike, regarding workers' unions only as the apparatuses for promoting harmony between labour and management. At first, the legislation denying the right of workers in foreign-invested companies to strike was enacted on 1 January 1970. The legislation was a clear sign towards more oppressive labour policies. According to the above-mentioned Emergency Act of 1971, both labour unions and employers

19 Nam, *Building Ships, Building a Nation*, 170-182.

20 *Ibid.*, 182.

21 Shin, “The Evolution of Korean Joint Consultation Committees”, 62.

22 For the concept of developmental dictatorship, refer to Lee (ed.), *Developmental Dictatorship and the Period of Park Chung-Hee*.

23 Shin, “The Evolution of Korean Joint Consultation Committees”, 63.

should accept the arbitration ruling on wages and working conditions by the executive office. The Emergency Act of 1971 did not allow labour unions from a pluralist-liberal perspective, but only from a totalitarian-unitary view. The main task of labour administration was to prevent industrial conflicts by monitoring and controlling labour unions with the help of other government agencies such as the KCIA (Korean Central Intelligence Agency) and the police. In particular, the KCIA manipulated the union officials of the FKTU and industrial unions, intervening in their election and voting processes. The police usually kept watch on the officials and rank and file of local unions, and intervened in enterprise-level labour relations. Religious figures supporting democratic unionism were also on the list of covert surveillance.²⁴

As the government wanted to exclude the possibility of labour conflicts at the national industry level, the stipulations of the Trade Union Act promoting industrial unionism were dropped in 1973. The Korea Employers Federation had also been critical of the pseudo-industrial union system since the 1960s and made repeated efforts to convert it into an enterprise union system in the 1970s.²⁵ Workers' movements were diminished by the Emergency Act of 1971, and at the same time the bargaining power of unions was weakened so much that the management began to treat trade unions as powerless subordinate partners to labour management.

The Park dictatorship emphasised co-operation between labour and management, and forced employers to establish Joint Consultation Committees from 1974. Clauses concerning Joint Consultation Committees had already been inserted into the Trade Union Act in 1963 under the control of the Military Supreme Committee. In the 1970s the South Korean government regarded the Joint Consultation Committees as a device for advancing productivity and preventing labour conflicts. In 1979 the Joint Consultation Committees were established in 12,780 workplaces, which amounted to 96.4 per cent of 13,256 target workplaces.²⁶

The South Korean state had issued a series of Shipbuilding Industry Promotion Plans since the 1950s. In the early 1970s shipbuilding was developed as one of the core export industries and received stronger support from the state than before. In spite of the worldwide recession sparked by the first OPEC oil crisis in 1973-1974, the South Korean shipbuilding industry was determined to become a major competitor in the world shipbuilding

24 For the labour policy of the Park regime, refer to Choi, *Labor and the Authoritarian State*.

25 Shin, "The Evolution of Enterprise Union System in Korea", 135-137.

26 Korea Employers Federation, *A Forty-Year History of Labour and Economy*, 192.

market. From 1973 under the Long-Range Plan for Shipbuilding Promotion, huge shipyards began to be built by Hyundai, Samsung, and KSEC. The state aided shipbuilders through the “planned shipbuilding” programme and by “financing for exports on deferred payments”.²⁷

During the 1970s, KSEC-built ships reached a total of 820,000 dwt, of which 700,000 dwt was exported, earning USD \$400 mn in foreign currency. In 1970, KSEC won an order from the US Gulf Oil company to build two product tankers of 20,000 dwt each, beating Japanese competitors in the bidding process. KSEC received additional orders from Gulf Oil for two ships of 20,000 dwt and two of 30,000 dwt in 1971. These orders could be interpreted as an example of foreign shipowners’ confidence in Korea’s basic shipbuilding skills.²⁸ Shortly before the Gulf Oil order, KSEC had built a state-financed 18,000-dwt multi-purpose cargo ship. KSEC obtained the basic know-how including design drawings from Osaka Shipbuilding in Japan. This experience was essential for KSEC to build the vessels ordered by Gulf Oil. The basic design for the Gulf Oil vessels was provided by a West German shipbuilder, Howaldtswerke-Deutsche Werft (HDW). KSEC also began to widen an existing ship repair dry dock to enable construction of ships up to 60,000 dwt, and to build a fabrication hall capable of making 60,000 tons of steel a year in 1971. In the mid-1970s, KSEC introduced a pre-outfitting method and improved work-flow system, and began to produce slides for automatic cutting machines, which had been brought in from HDW by 1975. The expansion of the pre-fabrication method brought about a scheduled improvement for works on the building berth and outfitting basin, which enabled the diffusion of the work-flow management system, the so-called Japanese production management system, into the shipyard. From 1980, KSEC could produce final detailed designs for production without outside assistance, and introduced a computerised design system in September 1982.²⁹ In May 1981, KSEC exported a product carrier, *Loja*, to Ecuador, the first vessel designed exclusively by its staff.

With the completion of Hyundai Shipyard at Ulsan City in 1974, the available shipbuilding capacity of South Korea rose enormously, and the labour market also expanded rapidly. Total employment in the shipbuilding industry rose from 11,742 in 1973 to 48,182 in 1977. In October 1973, KSEC began to construct the Okpo Shipyard at Keoje Island, which was taken over by the Daewoo conglomerate in December 1978 when it was only 25 per cent built, as

27 Korean Entrepreneurs’ Association, *The Korean Shipbuilding Industry*, 91-100.

28 Jonsson, *Shipbuilding in South Korea*, 76-77.

29 Shin, “The Formation and Evolution of Firm Internal Labour Markets”, 278-286.

KSEC could not complete the shipyard due to weak management.³⁰ Shipbuilding facilities were, however, consistently enlarged in the 1970s at Youngdo Shipyard. Another dry dock equipped with three 100-ton cranes, and with capacity to build 150,000-dwt vessels, was completed in April 1976, with a loan of DM 39.8 mn from West Germany. The workforce of KSEC numbered 2,073 in 1973 and increased to 5,734 in 1977. As more and more KSEC workers began to quit their jobs, searching for better job opportunities provided by the rapid growth of the heavy engineering and chemical industries in South Korea, the state took measures to meet shortages of skilled labour.

The state played a leading role in creating and administering plant-based job training institutions, while company managers remained passive and trade unions exerted no influence. Various institutions such as the shipbuilding technical high school in 1950s, a training centre for skilled workers in 1960s, and a plant-based job training centre in 1970s were established at the Youngdo Shipyard. More than 250 trainees per year completed the job training centre course at KSEC from 1971, and increased to around 500 people per year between 1978 and 1982. Despite a number of in-plant training facilities, a type of low-skill equilibrium was reproduced continuously, as the skills of the shipbuilding workers were transferable. Managers of KSEC did not invest much in trainees and saw them only as sources of cheap labour. Thus those workers employed after completing the plant-based job training programme made demands for improvement of their labour conditions whenever the union movement grew powerful as in the late 1960s or in 1987. They moved on to other shipyards when it was difficult for them to express their demands through the decade of union repression as in the 1970s. Among 3,221 workers who had completed the programme between 1969 and 1980, more than 80 per cent were reported to have quit KSEC. In 1976, the shipyard hired more than 1,500 new employees, but about 700 left the yard, and between January and August 1978, 1,139 employees left. It seemed that Korean shipbuilding firms could not succeed in establishing either the collectivist solution of the German skill-formation system, or the segmentalist one of the Japanese system to provide for enough transferable skills in the workplace.³¹

From 1973, the Park Chung-hee dictatorship tried to mobilise workers for the economic development of the country from above and initiated the New

30 The Okpo shipyard was eventually completed in January 1981. See Jonsson, *Shipbuilding in South Korea*, 82.

31 Shin, "The Evolution of the Plant-Based Job Training Institution". For discussion and comparison on the evolution of skill training institutions of Germany and Japan, refer to Thelen, *How Institutions Evolve*.

Community Movement in Industry, called “Gongjang-Saemaul-Undong”. The movement emphasised patriotism and a type of unitary and totalitarian perspective on labour service as well. Workers were termed “industry soldiers”, who were to devote themselves to the rapid development of the homeland. In response, KSEC built its own Center for New Community, in which more than 3,000 employees were camp-trained until September 1978. According to a female worker of KSEC, who went through the camp-training by the Korea Commerce and Industry Councils, the trainees experienced many hardships similar to initial entry training for soldiers. They had to rise at 5:00 a.m., sing the entire four verses of the Korean national anthem in unison, and practice the Korean national physical exercise programme, before running for five kilometers with the rallying cry of “Unite! Passions! Practice!” They also had to play leapfrog and squat walk. At night they shouted slogans such as “I believe that the country and I are bound together by a common destiny.” The term of “Saemaul”, meaning new community, had spread so widely as to be used as names for the apartment building of unmarried employees of KSEC, as well as for the flower garden at the main entrance of the Youngdo Shipyard. On the other hand, the shipyard managers actively promoted the movement with a view to rationalising production management as well as to establishing workshop discipline. The managers introduced a payment-by-results scheme, the “Saemaul Wage Scheme”, with an individual personnel appraisal system on 1 September 1977. KSEC also organised middle- and lower-ranking managers into an association whose members patrolled their own workshops, wearing a yellow armband to indicate that they were “establishing official discipline”. As part of the movement, a section of the shipyard began a campaign against “idle talk on the job” and “smoking while walking”, and promoting “standard haircuts” and “getting to work one minute earlier”. The KSEC Local also became a dependent partner of the movement. Even the executives of the Local patrolled the workshop for the purpose of establishing “work discipline”.³² Though the rank and file of the shipyard workers did not make an open stand against the movement or campaign, they seemed to keep some distance from it. At the levels of both state and workshop politics, the shipyard workers had no resources with which to organise protests but at an individual level they could take an exit-option in the favourable shipbuilding labour market.

The management of KSEC had earlier initiated a restructuring of employment relations after officials of the KSEC Local were arrested for the strike

32 Shin, “Gongjang-Saemaul-Undong as a Renovation Campaign of the Management”.

in 1969. According to a survey, fifty-four sub-contractors were operating in the construction, painting, and electricity sectors at the shipyard.³³ Another of the slogans of the above-mentioned strike of 1968 was “stop sub-contracting”. With the expansion of shipbuilding facilities throughout the 1970s, construction sub-contractors had increased. Facing a shipbuilding depression in the latter part of the 1970s, KSEC modelled its response on that of Tsuneishi Shipbuilding in Japan, in which the portion of sub-contracting amounted to more than 80 per cent. In 1979 managers of KSEC established a policy of cutting down the directly hired personnel from 2,500 to 1,200 by using more sub-contractors and reducing personnel in the management section.³⁴ Moreover, six affiliated companies were newly established, and around 600 workers – who had worked at shops for painting and wood working and also at transportation and equipment service sections – were transferred to those companies at the end of 1979. In the 1970s the collective agreement at the shipyard did not apply to temporary workers or sub-contract workers. Although sub-contract workers became members of the KSEC Local, different collective contracts were applied to them. In brief, as the sub-contracting and affiliated companies increased, the labour market began to be divided between regular workers and sub-contract workers. Both groups had affiliated themselves with the same KSEC Local, but had their own collective agreements on the basis of each company, which continued in the 1980s.³⁵

The “New Military”

After the assassination of President Park by the chief of the KCIA, Kim Jae-gyu, on 26 October 1979, the “New Military” came into power through a *coup d'état* on 12 December led by Chun Doo-hwan.³⁶ Only after slaughtering hundreds of innocent people in Kwangju City could the “New Military” crack down on the Kwangju democratic movement in May 1980. Moreover, the “New Military” began a purge on union leaders in the name of the “campaign for social purification”. Regionally based small industrial or occupational-wide unions were compulsorily disbanded, and soon the

33 Research Department of the Small and Medium Bank, *The Reality of Subcontracting in the Korean Machine Industry*, ch. 8.

34 KSEC, *Chogong*, 22-23.

35 Shin, “The Evolution of Enterprise Union System in Korea”, 138-139.

36 Kim Jae-Gyu and five KCIA agents were tried, convicted, and sentenced to death for the assassination of Park Chung-hee.

enterprise-union structure became fixed as the only legal one. The notorious clause banning third parties' interference in labour relations was newly stipulated, and provided a legal basis for punishing not only the Christian Urban Industrial Mission's activity, but also workers' activities supporting other unions.³⁷ Following the above campaign by the New Military, a rally was held to promote the purification of KSEC by the management at the shipyard. In 1981, the management began a campaign for preserving order which demanded that workers abide by working time and attach name tags to their work clothes. Moreover, the workers could neither put their hands into their pockets nor let their hair grow long enough to reach their collars.³⁸

A pseudo-industrial union system changed into an enterprise union system in both name and reality, the KSEC Local of the Metal Workers' Union became the KSEC Union under the Federation of Metal Workers' Trade Unions in 1981. However, both sub-contract workers and employees of affiliated companies remained as members of the KSEC Union, which could control them on behalf of the state and the management. Sub-contracting workers' interests seemed to hardly be spoken for by the union. An anonymous sub-contract worker sent a letter to the president of the KSEC Union at the end of 1982:

Dear President, Why do you beg the representatives of the sub-contracting companies for increases in wages, [when they are] sitting comfortably in a tea shop? They are always playing Hwato [cards] in a tea shop or in an inner room, while we workers are working like dogs covered with sweat and dust [...] Though co-operation between labor and management may be important, please stop being a company-dominated union and face reality as it is.³⁹

The sub-contracting worker knew that the KSEC Union was company-dominated, the democratisation of which became the foremost demand of workers of KSEC in the period of the 1987 Great Workers' Struggle.

Successes and frustrations of new democratic unionism since the Great Workers' Struggle, 1988-2010

Since the second oil shock in 1979 the world shipbuilding industry faced several depressions throughout the 1980s. Total employment in the South

37 Shin, "The Evolution of Enterprise Union System in Korea", 140-141.

38 Shin, "Gongjang-Saemaul-Undong", 353-381, 365, 366.

39 Shin, "The Evolution of the Enterprise Union System in Korea", 142-143.

Korean shipbuilding industry dropped from 75,643 in 1984 to 49,204 in 1988. Employees of KSEC also decreased from 5,640 in 1979 to 3,507 in 1987. With the management crisis of the Youngdo Shipyard, most affiliated companies of KSEC could not do anything but close their businesses at the end of 1980s.

The struggle for democratisation of the KSEC Union began when three workers, one of whom was a woman named Kim Jinsuk,⁴⁰ were elected as union representatives in the slip assembly shop in February 1986. However, for criticising the company and the union, Kim and the other two workers were fired by the company and interrogated by the KCIA and the police. Despite this, they kept up their activities and organised a Task Committee to Normalise the KSEC Union.⁴¹ As soon as South Korean people won some concessions for political reforms from the military government, after a series of countrywide demonstrations in June 1987, workers went on strikes all over the country. At the Youngdo Shipyard about 1,500 workers began a sit-in strike on 25 July 1987, the first strike at the shipyard since the defeated strike of 1969. They achieved the right to elect their union president directly, and an 18 per cent wage increase.

In April 1987, KSEC requested the Seoul District Court afford it protection from its creditors. The refusal of two Norwegian shipowners to accept delivery of six vessels due to shoddy workmanship hastened this decision. KSEC had reported debts of USD \$675 mn against assets of USD \$475 mn.⁴² KSEC went into receivership under legal management in April 1988, was taken over by the Hanjin conglomerate in May 1989, and changed its name to HHI (Hanjin Heavy Industries). HHI obtained an order for fifteen vessels amounting to USD \$400 mn from Hanjin Shipping to escape from the slump, according with the state's view that HHI would use KSEC for Hanjin Shipping's vessel replacement and ship repair. This encouraged the state to contribute an unspecified amount to cancelling KSEC's historic debt of USD \$900 mn.⁴³ From 1987, however, the HHI Union staged strikes

40 In 1977, KSEC introduced a new training programme for female electric arc welding workers; the KSEC training institute accepted women as part of its cohort of trainees in 1981, and then stopped recruiting women directly. For details on women workers in the shipyard, see Nam, "Shipyard Women and the Politics of Gender", 85-86.

41 *Ibid.*, 94.

42 Todd, *Industrial Dislocation*, 195.

43 *Fairplay*, 7 September 1989, 6. Hanjin's shipping interests had been significantly strengthened when the Economic Planning Board was forced to intervene in the affairs of the Korea Shipping Corporation (which was 700 mn won in debt). In order to create a viable restructuring, the firm was transferred to the Hanjin conglomerate and merged into Hanjin Container Lines; see *The Economist*, 19 September 1987. All in all, six major Korean shipping lines with collective liabilities

demanding higher wages in every year to 1991. The shipyard workers went on strike for twenty-six days in 1987, sixty-six days in 1988, forty-two days in 1989, twenty days in 1990, and sixty-three days in 1991.⁴⁴

As a new union leader, Park Changsu acceded to the presidency of the HHI Union on 28 July 1990; the union actively participated in organising the Alliance of Large-Firm Trade Unions across the country. Park died in May 1991 while in custody being interrogated by the police about the Alliance. About five thousand people held a rally in the Youngdo Shipyard on 16 May 1991 to demand the resignation of President Rho Tae-Woo and to condemn Park's murder in prison. The HHI Union also went on a 63-day strike, demanding the discovery of truth about his death. His death, however, was the only beginning of a series of workers' tragic deaths in the shipyard, as a result of the fierce struggles against the anti-union policies of the state and the management.

With the Asian financial crisis of 1997, the HHI management undertook a restructuring programme and pushed the union to accept concession bargaining. In 2001, the management of HHI tried to reduce its workforce, which brought about a series of long labour disputes from the spring of 2002 to the autumn of 2003. In September 2001, HHI also began to press clerical workers to resign voluntarily, and HHI Union members were also made to resign from March 2002. About 650 workers were forced to resign including 280 union members. All workers went on a one-day strike against restructuring on 30 May and 3 June 2002. The management imposed a form of corrective training on 138 workers who had refused to resign voluntarily. Moreover, the management insisted on a wage freeze even though HHI made a clear profit of more than USD \$20 mn, and paid USD \$6 mn of stock dividends to major shareholders in 2002. The shipyard workers had no doubt that the management intended to destroy the HHI Union. The management lodged a series of legal suits for damages against the HHI Union and its officials, whose wages and homes were provisionally seized. Owing to union officials' going on hunger strike, the union had partial success in stopping further restructuring in 2002, but could not get any responses on pay rises from the management. The management even went as far as to pay performance-based bonuses to workers without consulting the union. Moreover, the management insisted on freezing wages again in 2003, and sought to erode the rank and file's resistance, threatening that

totalling 3.2 trn won (USD \$3.84 bn) were rescued by the state's willingness to reschedule their debts.

44 Hanjin Heavy Industries Corporation, "A Sixty-Year History of Hanjin Heavy Industries".

they might be made selectively redundant if they were found to be present at union meetings.⁴⁵

Kim Juik's sacrifice

Faced with these difficult situations, Kim Juik, the leader of the HHI Union, began to occupy crane No. 85, about 35 m high, on 11 June 2003 and stayed there until he committed suicide on 17 October 2003. Beforehand, a tentative agreement had been reached between the management and workers on 19 July 2003 after the Busan Labour Office had intervened. Surprisingly, however, the HHI management broke their agreement forcing the union to call an overall strike on 22 July 2003. A few hundred strikers lived in tents at the yard until the end of the struggle. The management threatened the strikers that each individual striker should pay for damages brought about by the illegal strike, weakening the strikers' will to fight. Kim Juik, who weathered the huge Typhoon Maemi on the crane in September, wrote in his suicide note as follows:⁴⁶

Managers seem to want blood with their naked swords. Yes! I will offer myself up as a sacrifice if you want. But we badly need to get a result from this struggle [...] Using claim for damages, provisional seizure, criminal charges, imprisonment, and dismissal, managers seek to change our union into a "vegetable union", and workers into "human vegetables". If we could not transform this labor control policy through our present struggle, all of us would only fall over the cliff. So, whatever it may happen, we must continue to struggle until we win. I am only thankful and at the same time sorry to comrades who have been with me and believed in me.

Two weeks after the suicide of Kim, another shipyard worker, Kwak Jaekyou, jumped to his death from dock No. 4. He was known to regret that he had not joined Kim in the strike for the last few days. Almost every worker in the shipyard mourned together after the tragic deaths and exploded with rage against the management. The management were forced to accept the workers' demands including a wage increase, job security, a public apology, and punishment for management officials responsible.

45 Hanjin Heavy Industries Union, *The Fortieth Annual Activity Report*.

46 *Ibid.*

Following the end of the tragic dispute, a temporary peace held at the shipyard. The Korean shipbuilding industry flourished in a favourable business climate, and overall employment in the industry increased sharply until the worldwide financial crisis began in the USA in 2008. But the ratio of the sub-contract workers to the total workforce (excluding clerical workers and technicians) in the major shipbuilders had soared sharply from below 20 per cent in 1990 to above 50 per cent in 2002, and to above 65 per cent in 2008. The total employment in HHI increased from 4,804 in 2001 to 6,492 in 2007. In the same period, however, the numbers of direct-hire production workers decreased from 1,787 to 1,373 while sub-contract workers increased from 2,044 to 3,826.⁴⁷ A sub-contract workers' union was organised at the Youngdo Shipyard at the end of 2004, but it could not continue when the HHI management withdrew permission for sub-contracting companies to employ union members.

At that time the Hanjin Local did not give support to the organising efforts of the sub-contract workers. Since the Great Workers' Struggle in 1987, constructing industrial unions out of enterprise unions has been a main goal of the new democratic unionism. As for the automobile sector, though most automobile workers were able to transfer to the Korean Metal Workers' Union, major enterprise locals organised only by regular workers in each of the auto companies such as Hyundai or Daewoo still exerted authority over enterprise bargaining on wage issues. Most shipbuilding workers, however, failed to even affiliate themselves into KMWU. The biggest union of Hyundai Heavy Industries Workers' Union was expelled from the democratic union movement because the union did not show any solidarity for a sub-contract worker who had burned himself to death as a sign of protest against discriminatory practices. The Hanjin Union joined the KMWU on 5 June 2002 and became the HHI Local of the KMWU. Owing to the relatively small numbers employed compared to other big shipyards such as Hyundai or Daewoo, the workers of the Youngdo Shipyard might have felt more need for industry-wide solidarity.

In 2010 another prolonged strike against massive dismissals happened in the shipyard. Four years earlier, HHI had begun to construct a new shipyard at Subic Bay in the Philippines and informed the HHI Local about the situation of construction there in the spring of 2006. The union demanded special collective bargaining to deal with it. In March 2007, the two sides reached a special agreement which stipulated that the management should not endanger the employment security of the union members

47 Korea Shipbuilders' Association, *Shipbuilding Yearbook* (1994-2010).

because of the overseas plant, and that the management should not seek collective dismissals as far as the overseas plant was under operation by the management.⁴⁸ The managers of HHI did, however, propose to make union members redundant in the Youngdo Shipyard in February 2010. The management argued that the Youngdo Shipyard was so small that it could no longer build larger vessels to compete with upcoming shipbuilders in China. More than 3,000 sub-contract workers, who were not organised in unions, have lost their jobs since 2009.⁴⁹ The HHI Local gave little help to those redundant sub-contract workers, but has struggled desperately against collective dismissals of its members since 2010.

In December 2010, the shipyard's labour union launched a full-scale strike in opposition to a reduction in its workforce. This led to the company shutting down its main dockyard and two plants in February 2011. The strike, of 190 days' duration, ended in June 2011, with HHI management agreeing not to continue legal actions and willing to pay workers who voluntarily retired. Kim Jinsuk, who was dismissed in 1986, has occupied the same crane, No. 85, as Kim Juik, for 309 days at November 2011. Thousands of citizens, university students, and various artists across the country gathered together in front of the shipyard taken there by "Buses Carrying Hope", and backed her and the workers' strike. With the help of a new social movement supporting the workers' strike, the collective dismissals have been highlighted as urgent social problems. The CEO of HHI had to attend subsequent televised congressional hearings on 18 August 2011, which dealt with the collective dismissals at the shipyard. Most congressmen present at the hearings criticised him for collective dismissals. Finally he accepted the recommendation of congress members that HHI would re-employ the ninety-four dismissed workers in a year's time, and support them with 20 mn won for living expenses. Thus the HHI Local attained a partial success, but still had to struggle to defend security of employment and union activity.⁵⁰

From December 2011 the management ordered most workers to take time off from work, except those working on warship construction. Moreover, another labour union claiming to stand for co-operation between labour and management was organised at the shipyard and was joined by a majority

48 Korean Metal Workers' Union Hanjin Heavy Industries Local, *The Forty-Fourth Annual Activity Report*.

49 The number of sub-contract workers decreased from 3,652 at the end of 2008 to 501 at the end of 2011. See Korea Offshore & Shipbuilding Association, *Shipbuilding Yearbook* (2013), 15-18.

50 Shin, "The Movement of Buses Carrying Hopes".

of workers in January 2012. The management induced workers to join the new union, persuading them that members of the new union could resume their jobs earlier than those remaining in the old union. In September 2012 the new union became the bargaining representative union according to Korean law, and the old HHI Local lost its bargaining rights. The dismissed workers were re-employed on 9 November 2012, but two days later they were ordered to take time off. The management continued to pursue a lawsuit demanding that the union pay USD \$14 mn for damages brought about by the illegal strike. Facing these difficult situations another worker, Choi Gang-seo, committed suicide in the office of the HHI Local on 21 December 2012. He was a 35-year-old union official and demanded in his last words that the democratic union should be defended at all costs. Still the HHI Local seems to be in a predicament. Only 29 workers out of a total of 189 members of the old HHI Local have resumed their jobs, while 321 workers out of 522 members of the new union have done so as of December 2013.⁵¹

Conclusion

Workers' experiences during past periods could not but influence their present interpretations and ideas on their realities including labour relations. Even though they did not accept ideas or images of workers imposed upon them from above, such as being subjects of the Japanese emperor, the exemplary "industry soldiers" for the homeland, or co-operative employees for the company, they seemed to be unable to establish their common class identities or self-image, which were necessary to long-standing struggles for regulating collective dismissals, and lessening the inequalities of employment relations. Even though the democratic unionism in the Youngdo Shipyard in the latter half of 1960s and also since the 1987 Great Workers' Struggle demonstrated the height of South Korean labour movements in those periods, the HHI Local could not overcome the oppression and "divide and conquer" methods of the Hanjin Conglomerate supported by the state apparatuses.

That the Youngdo Shipyard workers have waged fierce struggles against the Hanjin conglomerate, especially after the 1987 Great Workers' Struggle, is undeniable; however, they could not in the end overcome the enterprise

51 The HHI Local (한진중공업지회), *Forces of workshop* (현장의힘), 477 (7 June 2012), 478 (21 June 2012), 481 (12 November 2012), 487 (3 January 2013). See also the article by Kwon Gi-jeong (권기정) in *Kyunghyang Shinmun* (경향신문), 1 December 2013.

bargaining system, and did not express solidarity with the sub-contract workers in the shipyard.⁵² Considering that the HHI Local was one of the model locals of the KMWU, the new democratic unionism since 1987 might have the same weakness and limits in widening workers' solidarity, and not cover those suffering from the capricious market of contemporary global capitalism.

At the same time, through the struggle against restructuring and collective dismissals, however, members of the HHI Local seemed to have become aware that the struggle against collective dismissals should be a part of the workers' movement against injustice in employment relations and should also be combined with the struggle against discrimination affecting insecure workers including sub-contract workers. I think it is necessary to note and remember at the end of this paper that members of the HHI Local cried out together with many students and citizens not only against collective dismissals, but also against the non-regular workforce arrangements, which were the most outstanding slogans of the movement of "Buses Carrying Hope". Even though they could not succeed in combining these two slogans in their own struggles, their painful, ongoing struggles suggest a direction to the workers' movements of South Korea.

52 That South Korean workers over time struggled to improve their living standards against the threat of imprisonment or death in many cases is testament to their collective bravery and desire not to be cowed by the prevailing orthodoxy on the success story of South Korean economy promulgated by the state.

25 China, Philippines, Singapore, Taiwan, and Vietnam

Hugh Murphy

This short chapter is limited in that up-to-date information on shipbuilding and repair in the five countries examined is difficult to obtain and scholarly output in English is fragmented to say the least.¹ Two countries, China and Vietnam, are avowedly communist, while Singapore is a semi-authoritarian sovereign city-state with a unicameral parliament and is now an advanced industrial country.² Taiwan, officially the Republic of China, is a multi-party advanced industrial democracy with universal suffrage, but since 1949 has not been recognised by mainland China as an independent state.³ The Philippines is a constitutional republic with a presidential system and a bicameral legislature. What the five countries have in common is

1 In addition to the trade press, classification society publications, national news networks and newspapers, etc., one can also utilise the Paris-based Organisation for Economic Co-operation and Development (OECD) Council Working Party Paper series, and occasional papers from the former International Metalworkers' Federation (now part of IndustriALL, a global union federation linking workers in a range of manufacturing, mining, and energy industries based in Geneva), and the Geneva-based International Labour Organization founded in 1919, and from 1949 onwards the first specialised agency of the United Nations. OECD Council Working Party Papers consulted in writing this chapter are: OECD Council Working Party on Shipbuilding C/WP6 (2008)7/REVI The Shipbuilding Industry in China, 26 June 2008; OECD Council Working Party on Shipbuilding C/WP6/9 The Shipbuilding Industry in Vietnam, 30 May 2008; OECD Working Party on Shipbuilding C/WP6 (2009) 14 Shipbuilding Industry in Chinese Taipei, December 2009. This series of reports is intended to provide an insight into the shipbuilding sectors of both OECD members and non-OECD economies.

2 The People's Action Party have been in control of the Singaporean parliament since self-governance was secured from Malaysia in 1959. Trial by jury was abolished in Singapore in 1970; all public gatherings of five or more people require police permits; and protests may be legally held at only one location.

3 The Republic of China (ROC) was established in China in 1912. In 1945, Japan surrendered Taiwan to ROC military forces on behalf of the Allies. Following the Chinese Civil War, the Communist Party of China took full control of mainland China and founded the People's Republic of China (PRC) in 1949. The ROC relocated its government to Taiwan, and its jurisdiction became limited to Taiwan and its surrounding islands. In 1971, the PRC assumed China's seat at the United Nations, which the ROC had originally occupied. International recognition of the ROC has gradually eroded as most countries have switched recognition to the PRC. Only twenty-one small UN member states currently maintain formal diplomatic relations with Taiwan. The USA maintains unofficial diplomatic relations with Taiwan but does not recognise the PRC's claim to sovereignty over it.

that all came late to industrialisation, with Singapore and Taiwan, with relatively small populations, being exemplars of rapid economic growth and consumerism, and China and Vietnam, with no hint of irony from their spectacularly corrupt rulers, and provincial and local governments, instigating market-led reforms more in tune with capitalism rather than communism. All five countries had lower shipbuilding labour costs than the market leaders, South Korea and Japan – significantly so in the case of China and Vietnam – but lagged in productivity.⁴ Factor-cost advantages in the cost of labour are often only fleetingly advantageous and relatively unsophisticated measures of competitive ability. Companies tend to employ more sub-contracted non-unionised labour over time as a means of keeping costs down. China, with its huge pool of internal migrant labour, is an exemplar of this practice.

The People's Republic of China

From 1949 onwards China's shipbuilding industry was initially fostered by its communist government to attain self-sufficiency in naval and mercantile shipbuilding. Shipbuilding was seen as a strategic industry in upgrading China's military capability, driving its economic growth and as a catalyst for the development of its iron and steel industries, and electronic and machinery manufacturing plants. On the military side, Soviet-designed conventional diesel submarines were built in series, but the split in Soviet-Sino relations from the early 1960s onwards hit the Chinese shipbuilding industry hard: only two ships were built in 1961, one in 1962, and none at all in 1963.⁵ With self-sufficiency now embarked upon by the Ministry of Shipbuilding, annual output by 1970 had almost reached 500,000 grt. This amount of tonnage was substantially aided by orders from the China State Shipping Corporation (COSCO) founded in Beijing in April 1961. However, self-sufficiency aside, only from 1975 onwards did China turn to export

4 In the widest sense, the shipbuilding industry increases productivity by incorporating process enhancements or through modernisation, or by a combination of both. Process improvements include any changes that affect employee training in time and quality, quality control, and manufacturing flows. As shipbuilding involves a complex production process, the level of efficiency (and therefore costs) can vary considerably from one yard to another. Material costs and availability are significant factors, and the aim of any aspiring shipbuilding country is to have as much of the process as possible under its control and manufactured domestically, from steel to main and auxiliary engines, cranes, and other shipbuilding equipment.

5 Todd, *Industrial Dislocation*, 217.

markets in order to make its shipbuilding industry internationally competitive and to earn foreign currency; subsequently, in 1982, shipbuilding output broke the 1 mgt barrier for the first time.⁶

In this China had a distinct factor-cost advantage in wages over the vanguard of late industrialising countries (LICs), but not their experience in the export market for ships.⁷ China's cost advantage in wages was, however, tempered by the relative backwardness of its shipyards in terms of technology and product. Early attempts at the export market emanating from China's "Open Door" policy of 1978 were bedevilled by poor-quality ships, low levels of productivity, late deliveries, and poor-quality management controls and financial accounting, and were exacerbated by poor credit terms in relation to competitors.⁸ These problems persisted, and as the Chinese economy boomed in its later liberalisation period, retention of manpower became acute. Another problematic area was the escalating costs of importing materials, which ate into hard-currency reserves. From 1983 onwards, however, the Bank of China became more involved in financing export credits. Nevertheless, up to 1985, only one Chinese shipyard, Dalian, with British assistance in modernising its facilities,⁹ had the capacity to construct ships up to 100,000 grt. Chinese shipyards concentrated largely on bulk carriers and smaller container ships, but had also moved into chemical and product tankers.¹⁰ Although the lack of large-capacity building docks effectively ruled China out of the large VLCC market for some time, the situation had changed by the end of the 1990s, by which stage Dalian had the capacity to build VLCCs up to 300,000 dwt.

Earlier, in 1980, the China State Shipbuilding Corporation (CSSC) had been set up to co-ordinate shipyards and to encourage exports. By this stage, China's gross domestic product was growing by an annual average of

6 China's 1982 output equalled 1,024,500 grt. Unless otherwise stated all tonnage figures are from *Lloyd's Register of Shipping Annual Returns*.

7 Todd, *Industrial Dislocation*, 214. Todd, citing an article in *Business Week* of 28 June 1988, notes that average monthly wages in China in 1988 equalled USD \$40 in contrast to USD \$547 in Singapore, USD \$598 in Taiwan, and USD \$633 in South Korea.

8 In 2000, the European Commission in an Annex relating to China's shipbuilding industry highlighted poor productivity due to the centralised system of group management, poor project management, inefficient planning procedures, insufficient knowledge of international best practice in shipbuilding, and corruption: Commission of the European Community, *Second Report to the Council on the Situation in World Shipbuilding, 2000*, Comm (2000) 263 final, Brussels, 3 May 2000.

9 From the nationalised British Shipbuilders Plc, in 1982.

10 For this market, see Murphy and Tenold, "Strategies, Market Concentration and Hegemony in Chemical Parcel Tanker Shipping".

just under 10 per cent. By a combination of guaranteed demand in building up its domestic fleet to meet the growing requirements of international trade, increased investment, and export promotion, China's shipbuilding output had by 1985 reached its highest level to that date of 2,219,400 grt. In that year Chinese shipyards delivered around 0.9 per cent of all vessels globally. Since then, year on year, China has increased its market share in parallel with its accelerated economic growth, and by 2010 had entrenched its position as the leading volume shipbuilding nation in the world with a market share of around 37 per cent. Today, China is the world's largest ship producer with around 40 per cent of the global market.

A major reorganisation of Chinese shipbuilding occurred in 1999, when the state-owned shipbuilding industry was split into two groups operating independently from each other; one remained the China State Shipbuilding Corporation (CSSC) while the other became the China Shipbuilding Industry Corporation (CSIC). The CSSC and CSIC are both large, state-owned enterprises under the direct supervision of the State Council and control some 70 per cent of Chinese shipbuilding output. CSIC's affiliated shipyards are mostly located around Dalian in northern China in the region of the Gulf of Bohai. CSSC retained the balance of facilities and activities and continued as a large conglomerate and state-authorized investment institution, directly administered by the Chinese central government. CSSC controls some sixty sole-proprietorship enterprises in addition to research and design institutes and marine-related equipment manufacturers and trading firms in China. Its shipyards are principally located around the east coast of the Yangtze River delta and southern regions of China. Following on from this reorganisation, foreign partnerships and joint ventures on the basis of no more than a 49 per cent stake for the foreign enterprise were allowed as a way of modernising the industry and introducing more foreign technology and know-how. Foreign shipbuilders benefit from China's relatively low-cost labour pool, and their presence in China in part offsets rising competition from Chinese shipbuilders. Singaporean shipbuilding and repair companies have established joint ventures in China, and major shipbuilders from Japan and South Korea have likewise entered the Chinese market through minority-stake joint ventures.¹¹

11 Although it was possible for foreign shipbuilders to hold majority stakes in Chinese shipyards prior to 2006, the regulations were reinforced to limit participation in September 2006, again restricting foreign companies to 49 per cent shares in Chinese shipyards, diesel engine, and crankshaft manufacturing enterprises. Japanese shipbuilders in China include Tsuneishi Heavy Industries at Zhoushan and Kawasaki Heavy Industries at Nantong Cosco/KHI. The South Korean Samsung Heavy Industries has ship block-fabrication units at Ningbo

This top-down reorganisation of its shipbuilding and marine-engineering resources and China's accession to the World Trade Organization (WTO) in 2001 further promoted the country's integration into the global trade system, which has helped it to sustain economic growth, increase domestic purchasing power, and become the world's leading exporter. Indeed, the Chinese shipbuilding industry experienced considerable expansion, and from 2000 onwards its yearly output outstripped that of all European Union countries combined, and its market share tripled, firmly entrenching China's position as one of the top three players in the global market.

Statistics compiled by Commission of Science Technology and Industry for National Defence (COSTIND) show that in 2005 there were more than 2,000 shipbuilding companies in China, employing a workforce of around 400,000, of which 315,000 were employed by the 480 largest companies.¹² However, it is likely that only 500 or so shipyards are capable of building ocean-going tonnage, and the number of yards capable of exporting their product is commensurately much less.

With the ongoing effects of the world financial crisis of 2008, Chinese shipyards faced the harsh reality of a downturn in demand, and the time-worn tendency of shipowners to cancel contracts and/or seek compensation on the basis of late-delivery clauses in contracts. This was particularly the case with China's then largest privately owned shipyard, Rongsheng Heavy Industries at Nantong. Chinese banks rushed to finance shipbuilding after the 2008 global financial crisis as Beijing pushed easy credit and tax incentives to lift the industry and sustain industrial employment levels in the face of falling exports. Fees generated to banks by offering guarantees to shipbuilders were tempting until massive overcapacity – not just in Chinese shipyards – and falling demand started taking a toll on the yards around 2010. This led to a large degree of bank indebtedness as orders dried up and contracts were cancelled.¹³

and Rongsheng, while Hyundai have a yard at Qingdao and Daewoo at Yantai. The Singaporean Keppel conglomerate, which has around twenty yards worldwide, have a wholly owned yard at Nantong, while Yantai CIMC Raffles has an offshore and fabrication facility at Yantai, one of two majority-foreign-owned facilities in China, the other being the Dutch Damen Changde shipyards. Damen, which specialises in tug- and workboats, also has two other joint ventures with AFAI Southern and Penlai Bohai shipyards. The Singaporean company SembCorp Marine has a joint venture at Dalian, and the German company Hansa operates a joint venture with the Hudong-Zhonghua group at the Shanghai Edward shipyard.

12 OECD, *C/WP6 (2008)7/REVI The Shipbuilding Industry in China*, 26 June 2008, para. 18.

13 Ships cost millions of dollars and can take years to deliver; thus a shipbuilder generally asks for part of the purchase price before construction begins to cover material and labour costs. Buyers normally obtain a refund guarantee from a bank to ensure that their money is returned

Indeed, the relationship between the banks and the Communist Party in China is at best hazy. Enforcing legal contracts is notoriously difficult in China, especially with state-owned enterprises that can use political pressure as leverage. In the case of Rongsheng, the party's policy of encouraging private enterprise could be severely tested. Rongsheng came on-stream in 2007 and at its height employed nearly 28,000 workers. At that point it could be stated that it was too big to fail and, if it had done, the reputational damage to Chinese shipbuilding in foreign ship-owning firms would have been severely dented. Rongsheng employs fewer than 5,000 workers, and by July 2013 a small town, Changquingsha, built next to the shipyard, is all but empty and decrepit.¹⁴ Rongsheng posted a net loss of USD \$1.4 bn in 2013 and is issuing bonds to remain in business. Currently, cancellation of orders by foreign shipowners has forced Rongsheng to cut production.¹⁵

According to Thorsten Ludwig and Jochen Tholen, the All-Chinese Confederation of Trade Unions (ACTU), founded in 1925, represents not only the rights of the employees in state-owned enterprises (SOEs) and (since 2001) in private companies and joint ventures, but also the interests of migrant workers. That it can do so is obviously inherently contradictory. Historically, the members' base of ACTU lay in the state enterprise sector. Setting aside COSTIND's 2005 estimate for the entire industry, accurate figures of workers employed in Chinese shipbuilding and repair are difficult to obtain, but it is reasonable to speculate that the numbers employed by CSSC and CSIC alone hover just above 250,000 employees, with the vast majority being sub-contracted or temporary migrant workers, with financial support from the state for union administration being limited. Chinese workers have no legal rights to strike, and wildcat strikes are severely punished. Enterprise-related wage agreements in SOEs dominate: before 2004 labour laws were passed simply by the government or by the Chinese Communist Party by decree. From 2004, however, permanent employment contracts have been

if the yard defaults, and the yard pays the bank's fee for the service. It seems that in many cases Chinese banks did not require shipyards to pledge any specific collateral, partly because these guarantees are like a form of insurance rather than a loan. This situation leaves banks stuck with the default bill. Chinese shipbuilders, realising the enormity of default payments, particularly as the full force of 2008 world financial recession began to bite by 2010, tended to apply for local court injunctions against banks to protect themselves. However, if Chinese banks obey local court injunctions and hold off from issuing refunds, they risk being taken to court by shipowning firms in foreign jurisdictions; indeed, clauses to this end are insisted upon by foreign shipowners in original contracts.

14 BBC News, 15 July 2013.

15 Bloomberg News, 31 July 2014.

replaced by time-limited contracts with only restricted protection against unlawful dismissals.¹⁶

Chinese shipyards, after steep learning curves, have now begun to produce sophisticated tonnage. China's first LNG carrier, *Dapeng Sun*, was delivered in April 2008, despite being launched from the Hudong-Zhonghai shipyard in Shanghai in December 2005. Chinese shipbuilding's first ultra-large 10,000-TEU container ship, *CSCL Spring*, was delivered to China Shipping Lines at Dalian shipyard on 8 January 2014, while in May 2014 another 10,000-TEU container ship, *Hanjin Buddha*, was delivered to the American Seaspans Corporation by Jiangou New Yangzi shipyard. China also announced in January 2014 that it would build its second aircraft carrier.¹⁷

What is evident in Chinese shipbuilding, particularly after the global financial crisis of 2008, is that there is overcapacity relative to demand, and that this is particularly the case with private shipyards, many of which are in trouble.¹⁸ From 2002 to 2010, the number of shipyards with a production capacity of 300,000 dwt or above increased from five to thirty-three, while the number of yards with a capacity of 100,000 dwt or above surged from thirteen to fifty-nine. The number of shipyards in China at 2013 has swollen to more than 1,600, of which 60 per cent were built after 2001. Moreover, at August 2013, the combined profits of eighty major shipbuilders monitored by the Chinese Association of the National Shipbuilding Industry fell by 53.6 per cent in the first half of the year to 3.58 bn yuan (USD \$584.1 mn), while business revenues plunged 18.5 per cent to 120.3 bn yuan (USD \$19.66 bn). This led the party to express its concern over the path of the shipbuilding industry; on 4 August 2013 it issued a three-year support plan, which included control of capacity, upgrading shipbuilding standards, and the development of higher value-added products.¹⁹

16 Ludwig and Tholen, "Shipbuilding in China and Its Impacts on European Shipbuilding Industries".

17 *Daily Telegraph*, 19 January 2014. The first was *Liaoning*, a Soviet-era aircraft carrier purchased from Ukraine in 1998 and refitted at Dalian shipbuilding.

18 For example, the Hengfu Shipyard, situated in east China's Zhejiang province, had an annual production capacity of 1 mn dwt. However, Hengfu declared bankruptcy in 2011 due to a lack of orders and mounting debts. Zhejiang province is clustered with many shipbuilders operating within private shipyards. But since 2009, many of them have gone bust, like Hengfu. Although government-backed shipyards have on the whole fared better, the CSSC Jiangnan Heavy Industry Co. Ltd, one of the top five state-owned shipyards in China, posted a loss of 60.31 mn yuan (USD \$9.85 mn) in the first half of 2013, while its business revenue plunged 39.49 per cent year on year. In 2012, the company registered a loss of 97.37 mn yuan (USD \$15.91 mn). See BeijingReview.com.ch, No. 34, August 2013 (accessed 1 June 2014).

19 *Ibid.*

In today's shipbuilding markets there is an increasing focus on design and build quality. Chinese shipbuilding largely still concentrates on lower value-added tonnage and has a long way to go to catch up on South Korean, Japanese, and – in the case of large offshore structures – Singaporean competition.²⁰ Given the increasing importance placed on military construction in China as it builds up its navy, it is likely, first, that the greater technological content and production standards of these vessels will have spill-over effect on China's merchant shipbuilding sector, where the better-capitalised state yards will increasingly concentrate on high-end ships and, secondly, that there will be a concomitant concentration of shipyards through bankruptcies or mergers capitalised to build them.

The Republic of the Philippines

Today, the Philippines, the world's second-largest archipelago, is the fourth-largest global shipbuilding nation.²¹ Shipping is the conduit of the vast majority of Philippine domestic and international trade, and the efficient transport of goods and services across its vast chain of islands is a *sine qua non* for Philippine economic development, much of which has been foreign-led. The country's rise to international shipbuilding prominence in a relatively short period is almost entirely due to state promotion of conditions conducive to foreign direct investment (FDI). This, in turn, has propelled the export growth of Philippine-built ships in the international market, particularly large bulk carriers, container ships, and passenger ferries.²² Blessed with readily available manpower and government willingness

20 At the year to July 2013, for example, South Korean yards produced 76.2 per cent more than China by dollar value: *The Economist*, 23 November 2013.

21 *IHS Fairplay World Shipbuilding Statistics*, 2013, completions by country of build. There are 7,100 islands in the Philippine archipelago.

22 Importation of major raw materials such as steel plates has been liberalised since 1989. Shipbuilders located in special economic zones enjoy tax and duty exemptions. Under the investor-friendly Republic Act 9295 of 2004, passed to ensure the continued development of a viable shipbuilding industry, there is exemption from value-added tax on the importation of capital equipment, machinery, spare parts, life-saving and navigational equipment, steel plates, and other metal plates including marine-grade aluminum plates to be used in the construction, repair, renovation, or alteration of any merchant marine vessel operated or to be operated in the domestic trade. There are net operating loss carry-over provisions and accelerated depreciation. For projects registered with the Philippines Board of Investments there is an income-tax holiday of six years for those with pioneer status (greenfield shipyards) and four years for non-pioneer status. Any of the following may qualify for pioneer status: a shipyard operation with a minimum berthing capacity of 7,500 dwt or a project cost of at least the Philippine peso equivalent of USD

to promote shipbuilding and its ancillary industries, foreign companies such as South Korea's Hanjin Heavy Industries shipyard at Subic Bay employ some 21,000 workers, overwhelmingly from non-unionised sub-contractors. Hanjin, which began building its shipyard on a 200-hectare greenfield site in Subic Bay in early 2006, launched the first container ship to be built in the Philippines in July 2008. The huge capacity of Hanjin's dry dock in Subic, where four vessels can be built at a time, has resulted in faster production times and greater productivity. The Tsuneishi Cebu Shipyard, operated by Japan's Tsuneishi Holdings Corporation since 1997, in partnership with Cebu's Aboitiz Group, has produced some 182 ships at June 2014 on a 147-hectare site at Buanoy, Balambam, Cebu. The shipyard employs around 20,000 workers, mostly non-unionised sub-contractors.

The lack of trade union representation of overwhelmingly low-waged sub-contracted workers in Philippines shipyards has raised many health and safety concerns. Up to May 2014, thirty-seven workers have died in industrial accidents at Hanjin's Subic Bay shipyard alone.²³ There have been similar death tolls at the other shipyards.

The oldest foreign direct investment in Philippine shipbuilding started with the Singaporean conglomerate, Keppel, which began operating its shipyard in the Philippines in early 1994 with a capacity of twenty-eight vessels per year. It expanded its operation by fabricating tugboats and oil-rig hulls. Keppel now operates two shipyards at Subic (350,000-dwt capacity) and Batangas (50,000-dwt) and also undertakes ship repair and conversion with a full range of dry docks. Two notable smaller Filipino-owned shipbuilding companies are Herma Shipyard, Inc., of Mariveles, Bataan (established in 2000), which has recently gone into double-hulled petroleum tanker shipbuilding, and the older Colorado Shipyard Corporation of Consolacion, Cebu, established in 1972, which can build medium to large cargo ships. In addition, there are numerous ship repairing operations, which benefit from regulations that all Philippine-registered ocean-going ships have to be repaired Maritime Industry Authority (MARINA)-approved repair yards.²⁴

With its almost total dependence on large foreign-owned shipyards, the Philippines is vulnerable to political decisions made elsewhere. FDI

\$10 mn. In addition, there is a duty exemption on imported capital equipment and spare parts, no restrictions on the employment of foreign nationals, and, crucially for FDI, shipbuilding is not covered by limitations on foreign ownership, which means foreign investors can own their companies 100 per cent. These concessions were due to be reassessed in June/July 2014.

²³ *Manila Bulletin*, 12 June 2014, and <http://www.unitedfilipinoseafarers.com> (accessed 1 July 2014).

²⁴ PD 1221 of 17 October 1977.

can easily be advanced from abroad but it can just as easily be taken away. For labour, the largely sub-contracted workforce militates against greater unionisation, increases in wages, and improvements in terms and conditions of employment. The Philippine government's promotion of FDI in shipbuilding has led to a largely successful industry in a relatively short period of time; whether that government can envisage a concomitant growth in wholly owned Filipino shipyards without massive subsidisation is another matter entirely.

The Republic of Singapore

Singapore's ship repair industry began to develop only after its independence from the Malaysian Federation in August 1965. Its government clearly envisaged Singapore as Asia's largest ship repair centre after Japan. Singapore's shipbuilding capacity had earlier been enhanced by a 1963 joint venture between the Singapore Economic Development Board (EDB, which held 49 per cent) and IHI (Ishikawajima-Harima Heavy Industries) Japan (51 per cent) to create a shipyard, Jurong Shipbuilding, at Semulum Island, which also had a dry dock with a capacity of 45,000 dwt, later expanded to 90,000 dwt and a building dock capable of handling vessels of 1,500 dwt, later extended to 15,000 dwt. Jurong was envisaged as capable of constructing IHI's Freedom class of cargo vessels.²⁵ When the British withdrew from Singapore in 1971, its former naval base had already been reconverted under Singaporean government control as Sembawang Shipyard from 1 December 1968.²⁶ Sembawang was owned by the EDB until it was publicly listed on the Singapore Stock Exchange and became a public listed company on 17 April 1973. From 1968 to 1978 Sembawang was managed on an agency basis by Swan Hunter (International) Ltd, of Newcastle upon Tyne in the north-east of England, to train local personnel to supersede it. Swan Hunter also had managerial responsibility until 1972 for the government-owned Keppel shipyard, previously operated by the Port of Singapore. Keppel became Keppel Shipyard (Pte) Ltd, on 23 August 1968, its first chairman being Mr

25 Todd, *Industrial Dislocation*, 161.

26 The Royal Navy's Singapore Naval Base at Sembawang, which opened in 1939 at the then astronomical cost of £60 mn, covered 21 square miles and had the then largest dry dock in the world and the third-largest floating dock. Britain completed its withdrawal from Singapore in 1971. For the early history of the base and its long gestation, see McIntyre, *The Rise and Fall of the Singapore Naval Base*, and Neidpath, *The Singapore Naval Base and the Defence of Britain's Eastern Empire*.

Hon Su Sen, then chairman of the EDB.²⁷ The advent of Japanese FDI in Singaporean shipbuilding occurred in 1970 when Hitachi Zosen established the Hitachi Zosen Robin Dockyard (Pte) Ltd as a 50/50 joint venture with the Singaporean Robin Corporation. By October 1975 Robin Dockyard employed 1,021 workers, 98 of whom were Japanese. From May 1973, Mitsubishi Heavy Industries, in a joint venture with a 51/49 per cent split with the Singaporean government, set up Mitsubishi Singapore Heavy Industries Ltd, and by 1975 the workforce totalled 500 workers inclusive of 59 Japanese.²⁸ From January 1972, Singapore's shipbuilding and -repairing capacity was in the process of being further augmented by the construction at Sembawang shipyard of a 400,000-dwt capacity dry dock for VLCCs and ULCCs, officially opened by Singapore's prime minister, Lee Kuan Yew, on 25 May 1975.²⁹

Singapore's advantageous geographic position, its status as a major oil-refining centre, and its ability to anchor VLCCs in its deep-water port and to eventually accommodate VLCCs³⁰ in dry docks led to an increase in employment. In 1971 some 18,000 workers were employed in shipbuilding and ship repair, with three large yards, Jurong, Keppel, and the specialist repairer Sembawang employing the majority of workers. Jurong completed a 300,000-dwt capacity repair dock in 1972. At its peak in 1974, shipbuilding and repairing employed 30,000 workers or 10 per cent of the island's manufacturing labour force.³¹

With five major shipbuilding yards, Singapore's rise to prominence in shipbuilding and ship repair in a comparatively short space of time was remarkable and owed much to state promotion. Although there were lag effects consequent upon the OPEC price hikes of 1973-1974, the collapse of the VLCC market hit Singaporean shipbuilding hard; however, this was obviated by its ship repair sector and by an increasing concentration on off-shore rig construction and repair, which accounted for half of the industry's turnover in 1975.³² Another factor greatly affecting Singaporean shipbuilding competitiveness was the cost of importing many of its materials. Japanese

27 There is an uncritical company history of Keppel; see Lim, *Tough Men, Bold Visions*.

28 Shimizu, *Japanese Firms in Contemporary Singapore*, 48.

29 *Straits Times*, 25 May 1975. The dock's dimensions were: length 1,260 ft, breadth 210 ft, draught 30ft.

30 Singapore was the only country able to do so between Portugal and Japan until a dry dock complex capable of repairing VLCCs opened in Bahrain in 1977. It was also the world's third major oil-refining centre after Houston, Texas, and Rotterdam.

31 Todd, *Industrial Dislocation*, 163.

32 The Singaporean government encouraged US investment in rig construction in Singapore. Two notable ventures were Bethlehem Singapore (70 per cent Bethlehem Steel and 30 per cent government-owned Singapore Development Bank), and Far East Levingston-FELS (51 per cent

shipbuilders had a cost advantage on ship plate of 30 per cent, allowing them to undercut Singaporean yards' prices by 60 per cent. Japanese encroachment into building smaller support vessels for offshore oil and gas activities had a deleterious effect on smaller Singaporean yards specialising in these markets. In recognition of this, the Singaporean government offered loans through the Singapore Development Bank for up to half the contract costs to induce domestic shipowners to build smaller ships up to 5,000 dwt in home yards.³³

During the 1980s Singaporean shipbuilding faced many challenges, not least the inexorable rise of South Korea and the continued success of Japan. By 1985, Robin Dockyard had cut its workforce by two-thirds; it had abandoned shipbuilding altogether and pulled out of its joint repair venture with Hitachi Zosen; and Mitsubishi Singapore Heavy Industries had closed its giant repair dock. Ship repair rather than newbuilding again took centre stage with government support for rationalisation of facilities and aggressive price cutting making Singapore the cheapest centre for ship repair in the late 1980s. However, offshore construction work on mobile jack-up rigs, semi-submersible rigs, and floating production platforms became increasingly important in the 1990s as did consolidation of the industry to encompass two major groups, Keppel Fels and SembCorp Marine, the latter being a merger of Sembawang and Jurong in 1997. Both Keppel and SembCorp expanded their activities overseas following a "near market/near customer" strategy, and consolidated their individual Singaporean activities in shipbuilding, repair, and offshore work. On 17 July 2002, Keppel Corporation Ltd, through its offshore and marine division Keppel Offshore & Marine Ltd (Keppel O&M), acquired an 85 per cent stake and later on 19 August another 15 per cent stake in the Dutch offshore repair and conversion shipyard, Verolme Botlek, for a total consideration of €22.4 mn (S\$38.3 mn). The purchase price was based on a willing buyer/willing seller basis but did not at that stage include the land and dry docks, which were leased from the Rotterdam Port Authority. The new company is known as Keppel Verolme BV.³⁴ In addition to Keppel's three Singaporean yards, Gul yard (3 floating docks and 3 berths), Benoi yard (2 dry docks of 300,000 and 170,000 dwt), and Tuas yard (3 dry docks of 400,000, 300,000, and 150,000 dwt), it also has Keppel Nantong 150 km north-west of Shanghai, and two shipyards in the Philippines. Keppel also

Keppel, 49 per cent Levingston). At first these yards built relatively unsophisticated jack-up rigs but progressed to semi-submersible rigs.

33 Todd, *Industrial Dislocation*, 163.

34 See <http://www.keppcorp.com/en/news>, 19 August 2002. In October 2010 Keppel purchased from the Port of Rotterdam the three graving docks within its shipyard for €10 mn: *Lloyds List*, 26 October 2010.

owns two Brazilian shipyards, Keppel BrasFels shipyard at Angra dos Rios, and Keppel Singmarine Navegantes at Santa Catarina. Keppel also owns an offshore yard on the Gulf of Mexico, Keppel AmFels at Brownsville, Texas. In May 2012, Keppel sold its Norwegian offshore yard at Sandnes to a Norwegian company, OneCo AS, and concentrated its European activity in Rotterdam.

SembCorp Marine is currently the major shipbuilder, ship repairer, and offshore rig and floating production builder in Singapore; its shipyards encompass Jurong Shipyard, Sembawang Shipyard, Sembawang Marine and Offshore Engineering (SMOE, producing offshore production platforms and floating production facilities), PPL Shipyard (producing mobile offshore jack-up and semi-submersible drilling rigs), and vessel repair company Jurong SML. It is planned to consolidate these enterprises at the new Sembmarine Integrated Yard at Tuas by 2024. The 73.3-hectare Phase 1 began operations on 5 August 2013, while yard development work continues on the other two phases at the 206-hectare site. SembCorp Marine, like Keppel, has expanded overseas. In addition to its Chinese joint venture with COSCO, it has a joint venture in India, Sembmarine Kakinada Ltd, and owns a shipyard in Brazil, Estaliero Jurong Aracruz, two fabrication yards in Indonesia, and an offshore rig repair, upgrading, and conversion yard on the Gulf of Mexico at Sabine Pass, Texas, acquired in 2005.

Singapore, despite increasing competition from Japan and South Korea and now China, has maintained its position as a major ship repair centre and offshore rig and floating production facilities supplier. Its record on delivery, unlike China's, is good; and its two major firms continue to invest heavily to keep ahead or abridge of the competition.

Taiwan (Chinese Taipei)

In 2009, Taiwan had around 116 local shipyards, with 70 per cent being small (fewer than 50 employees), with the remainder being best characterised as small to medium in size, and with only one company, the China Shipbuilding Corporation, being large by international standards.³⁵ Strikingly, in a capitalist-oriented economy, Taiwan's modern shipbuilding industry was partly fostered by the state. Promoted on the classic nexus of

35 At 2008, CSBC employed 2,780 on contract and 3,000 workers on sub-contracts: Industrial Development Bureau, Ministry of Economic Affairs, Chinese Taipei, and OECD Council Working Party on Shipbuilding (WP6), *Shipbuilding in Chinese Taipei* (2009). There is also a large yacht-building sector in Taiwan which employs around 5,500 workers.

steel, shipbuilding, and heavy machinery fostering economic growth and employment,³⁶ Taiwan's shipbuilding industry was dominated by two large state enterprises, the Taiwan Machinery and Shipbuilding Corporation (TMSC) established in May 1946, and the China Shipbuilding Corporation (CSBC) established in July 1973.³⁷ In April 1948, TMSC was split into two separate state-owned companies, Taiwan Machinery Corporation and Taiwan Shipbuilding Corporation (TSBC). The 1950s were characterised by very low annual output totals, reaching a total of only 23,178 gt in 1958. A year earlier, in February 1957, TSBC had leased its Keelung Shipyard to America Ingalls Taiwan Shipbuilding and Dry Dock Company on a ten-year contract basis, an arrangement which was to last only to September 1962, when TSBC again assumed control of its shipyards for the Taiwanese state. Thereafter, in accordance with state policy, the growth in Taiwanese shipbuilding was firmly linked to the expansion of the domestic shipping fleet, and its efficiency was strengthened by a technical co-operation agreement with the Japanese major IHI, which ensured that designs and materials (mostly imported) conformed to international standards. A new building dock of 100,000-dwt capacity capable of both building and repair was in operation at the northern port of Keelung by 1968, at which stage the largest vessel ever built in Taiwan, the tanker MV *Yu Tsao*, had been launched for the indigenous China Petroleum Corporation (CPC). This vessel joined two others in service both constructed in Japan by IHI, with another two on order to be built in Taiwan for CPC for delivery by March 1972.

With a giant dock of 1 mn-dwt capacity under construction at CSBC's shipyard at the southern port city of Kaohsiung, the OPEC crisis of 1973-1974 could hardly have come at a worse time for a government determined to make its mark on world shipbuilding output. Opened in 1976, the giant Kaohsiung Shipyard entered into production just as global shipping markets had contracted. Tankers taken on at fixed prices became serious loss-makers. The first of these, the ULCC *Burmah Endeavour*, of 450,000 dwt, then the world's third-largest ship, was launched at Kaohsiung in June 1977.

In response to the global downturn in shipping, the Taiwanese state launched a shipping-promotion scheme in 1977, which envisaged Taiwanese

36 Taiwan's China Steel Corporation was formed in 1971 as a private company and finally opened its steel mill at Kaohsiung in 1977; in July of that year it became a state-owned company. Thereafter, it became a major supplier of steel plate to the local shipbuilding industry, and in April 1995 was reprivatized with the state retaining shares in the new corporation.

37 The first major shipbuilding company in Taiwan, initially founded in 1937 by Mitsubishi Heavy Industries Corporation during the Japanese colonial period, was the Taiwan Dockyard Corporation.

shipyards producing 43 vessels of 1.6 mn gt in 1981; in response to government stimulation of demand, TSBC and CSBC merged in 1978 under the banner of the latter. During the 1980s and thereafter, CSBC built a range of very large tankers and bulk carriers and increasingly concentrated on building cellular container vessels. This strategy was sensible and gave the yard prolonged work as the Taiwanese economy began to shift towards knowledge-based technological industries and services.³⁸ In 2007 Taiwanese shipbuilding delivered a record-breaking 79.5 mn dwt of shipping and in 2008, just as the world financial crisis began to unfold, CSBC launched its largest container vessel to that date.³⁹ In December 2008, following a cash injection to recapitalise CSBC, the Taiwanese state partially privatised the company through an initial public offer with the state retaining a 38.8 per cent share in CSBC. In the following year, Taiwan's shipbuilding industry had suffered a 75 per cent fall in orders compared to 2008. Nevertheless more than half of the industry's output by value came from CSBC alone. Given Taiwan's limited capacity relative to China, South Korea, and Japan, it is hardly surprising that its indigenous shipping firms, in addition to ordering from CSBC, look to these countries to build their ships. A good example is the Evergreen Marine Corporation which in July 2012 received the first of twenty L-type container ships from Samsung Heavy Industries of South Korea for delivery by July 2014.⁴⁰

The ongoing effects of the 2008 financial crisis, with fuel prices and raw materials rising inexorably, have forced Taiwanese shipbuilders to design and develop more advanced multi-functional energy-efficient vessels that are faster and larger to meet higher demands from ship buyers. With just under 2 per cent of world completions in 2000, Taiwan accounted for 0.6 per cent in 2013.⁴¹

Today, Taiwan occupies seventh place in world shipbuilding output. However, the signing of an Economic Cooperation Framework Agreement with the People's Republic of China in June 2010 allowed certain business-owners

38 Three Taiwanese high-tech companies of note are ACER and ASUS, both multi-national hardware and electronics companies, and HTC, a smartphone and tablet manufacturer.

39 The first two container vessels built by CSBC, *Ever Vital* and *Ever Vigor*, were ordered in 1977 by Taiwan's Evergreen Marine Corporation, now the world's fourth-largest container ship operator. The container vessel launched in 2008 was the *YM Utopia* of 101,100 dwt, 8,240 TEU, and 333 m in length for the Yang Ming Marine Transport Corporation of Taiwan.

40 Information from www.evergreen-line.com (accessed 1 July 2014). A naming ceremony for the *Ever Lissome*, the fifth L-type vessel built by CSBC for Evergreen Marine, took place on 9 May 2014.

41 *IHI Fairplay World Shipbuilding Statistics*, 2013.

to gain from preferential or zero tariffs on trading activities between the two sides of the Taiwan Strait. This has been, and remains, highly controversial in Taiwan. Theoretically a functioning agreement could lead to higher demand for shipbuilding as a growing amount of goods are expected to be shipped between coastal cities in mainland China and Taiwan. The signing of a Cross Straits Services Trade Agreement in June 2013 is yet to be ratified in the Taiwanese legislature and has sparked mass demonstrations in Taipei.

The Socialist Republic of Vietnam

Since reunification in 1976, under Communist Party of Vietnam rule, the centralised economy of Vietnam has been beset by considerable problems in production in moving from a primarily agrarian to a late industrialising country. Imbalances in supply and demand, rampant inefficiencies in distribution and circulation, hyperinflation, and debt problems have hit Vietnam hard.⁴²

However, with a coastline of more than 3,200 km, low labour costs, relatively developed domestic waterway transportation, and a large, relatively young, and literate workforce, Vietnam had considerable potential to develop its shipbuilding industry and to attract foreign investment. All the more so since 1986, when the communist leadership launched a political and economic renewal campaign, which embarked on reforms to facilitate the transition from a centralised economy to – without a hint of irony – a socialist-oriented market economy. This combined central planning through five-year plans with free-market incentives, and encouraged the establishment of private businesses and foreign investment, including foreign-owned enterprises to the extent of a 49 per cent ownership cap. The general development strategy known as *doi moi* (renovation) focused on three elements: agricultural development, macro-economic reforms, and trade liberalisation. Crucially, agricultural decollectivisation, the

42 Following the unification of North and South Vietnam in 1976, the communist government tried to extend the central planning model of development, with state ownership of industry and collective agriculture, to the more prosperous south, first by purging what remained of its former capitalist class. In 1978, the government imposed agricultural collectivisation on the southern peasantry, which met with strong resistance. This situation was aggravated by two factors: first, the dispatch of Vietnamese troops into Cambodia in 1978, leading to a cessation of Western aid; and, secondly, a border dispute with China in 1979, which led to the withdrawal of Chinese assistance. By 1980, Vietnam supported a large army in the field under conditions of severe foreign exchange shortage, falling production, and rising inflation.

abandonment of centralised pricing, and land reforms led to a surge in production and exports. Beforehand, there had been only limited efforts to encourage agricultural growth and to cut subsidies to state-owned enterprises, and successive efforts at currency reform had led to increases in the rate of inflation: from 166 per cent per annum from 1980 to 1985 to 371 per cent during the period 1986-1988.⁴³

Vietnam had been a member of COMECON since 1978, and its economy was highly dependent on Soviet aid in the post-reunification decade. It is likely that the party leadership in Hanoi foresaw COMECON's likely dissolution and planned to reorient its trade from the then Soviet Union and its allies, hence its policy post-1986 to liberalise trade, devalue its exchange rate to increase exports, and embark on a policy of economic development. As *doi moi* accelerated from 1986 onwards, prices were freed and trade was liberalised. The all-encompassing party-led state made itself a somewhat smaller part of a larger economy. State-owned enterprises began to be weaned from subsidies and slimmed down (but, crucially for the future, not dismembered or privatised). Vietnam then embarked on two decades of nearly 6 per cent annual growth in economic output per capita.

By the mid-1990s, the success of Vietnam's business and agricultural reforms gave impetus to the enlargement of the indigenous shipbuilding industry, with the Ministry of Transport having responsibility for shipbuilding and related services in addition to ports and regulatory matters. The state-owned holding company, Vinashin – founded in 1996 and with headquarters in Hanoi, and subsequently by 2006 with more than 200 subsidiary companies, 30 shipbuilding companies, and 80,000 workers – was the country's principal shipbuilding company with around 70 per cent of Vietnamese shipbuilding capacity in 28 shipyards of various sizes and capabilities, mainly located near large ports such as Hai Phong in the north, Da Nang, and Ho Chi Minh City. Vinashin also controlled Vinashin Lines, which included five shipping companies. It also controlled nine engineering and construction companies, twelve joint venture companies including the Hyundai-Vinashin shipyard at Khanh Hoa,⁴⁴ and twenty manufacturing companies. The formation of Vinashin Lines gave Vietnam's shipyards a

43 Figures from Irvin, "Vietnam", 729-730.

44 Established in 1996 with construction commencing in 1999, the shipyard is about one hour's drive from the coastal city of Nha Trang. Hyundai Mipo Dockyard Co Ltd is a 70 per cent shareholder in the joint venture and controls all the commercial factors, design work, procurement, production, and service guarantees for all the vessels built in the yard. At the end of 2014, the yard was in the process of completing the third in a series of ten chemical carriers for an Italian company, D'amico Tankers Ltd.

client base and an opportunity to demonstrate to international shipowners their shipbuilding prowess.

Vinashin's breakthrough into the international market came in 2004 when the Cardiff-based Graig Shipping Group ordered a potential 15 Diamond 53,000-gt double-hulled dry-bulk carriers built under the supervision of Graig and Det Norske Veritas at Nam Trieu and Ha Long Shipyards.⁴⁵ By this stage Graig was an established customer in China and in December 2003 had already built twenty-four vessels there.⁴⁶ The first of the Graig Diamond 53s, *Florence*, was launched at Ha Long in July 2007 and became the largest vessel launched in Vietnam to that date, and it was announced in September 2007 that a further twenty-seven of these vessels were on order.⁴⁷ Linked to the successful Graig contracts was the first issue of sovereign bonds to the international market by the Vietnamese government in 2005. The bond issue raised USD \$750 mn, and this sum was passed entirely to Vinashin to upgrade and expand existing and construct new shipyards.⁴⁸

The year 2007 was also notable, after eight years of negotiations, for Vietnam's accession to the World Trade Organization. Accession to the WTO was intended to provide a significant boost to the Vietnamese economy, and to ensure that trade liberalising reforms continued and created options for trade expansion. However, the WTO accession also brought serious challenges, requiring the economy to open up through tariff reform, to enhance private investment and consumption, and to enable increasing foreign competition.

By 2010, however, with a double-digit inflation rate in the Vietnamese economy, Vinashin, heavily indebted, collapsed under a debt burden of USD \$4.5 bn. This began a process of restructuring and downsizing of its sizeable industrial portfolio of companies through 2011-2012. In 2013 Vinashin was eventually restructured as the Shipbuilding Industry Corporation (SBIC) with eight shipyards under its control. Subsequently, nine of its executives were given heavy prison sentences including its ex-chairman, Pham Thanh Binh, who was given a maximum twenty-year sentence for violating state rules at a court in Hai Phong. The remaining eight defendants were sentenced to between three and nineteen years in prison. At the heart of the matter was a loss of USD \$43 mn incurred through ship purchases without

45 *The Motor Ship*, February 2004. Of the order there were five firm contracts and options for ten more. Of the potential fifteen, six were to be built at Nam Trieu and nine at Ha Long.

46 *Graig Horizons* (the newsletter of the Graig Group), No. 8, September 2007, Ships Built.

47 *Ibid.*

48 Vietnam (OECD Council Working Party on Shipbuilding) C/WP6 (2008)9 30 May 2008, The Shipbuilding Industry in Vietnam, paras. 37 and 118.

state approval and two failed power-plant projects. Their actions called into question governance and supervision of Vietnam's state-owned enterprises, led to serious economic consequences, and damaged the country's reputation with foreign investors, leading international credit-reference agencies to downgrade Vietnam's credit rating.⁴⁹ By December 2013 the People's Court of Hanoi sentenced Duong Chi Dung, the former chairman of Vinalines, as the state-owned shipping company was known from 2010 onwards, and Mai Van Phuc, its former general director, to death for embezzlement. The two former executives were convicted of embezzling 10 bn dong (USD \$474,000) each.⁵⁰ These prosecutions also evidenced serious corruption with state-owned enterprises.

SBIC now operates in a climate fundamentally different from that of 1996. Not only has it been significantly downsized, but it also needs to co-operate more with foreign shipbuilders. There are now seven foreign shipbuilders operating in Vietnam;⁵¹ however, a Japanese shipbuilder, Oshima, licensed in 2012 to build a greenfield shipyard by 2017 at Cam Ranh Bay in Khanh Hoa province, has since pulled out, and may be replaced by the South Korean conglomerate, Samsung. Again this represents the vagaries of foreign direct investment; nonetheless, established foreign investors such as the Dutch Damen Group have continued to operate successfully in Vietnam and in March 2014 opened a joint venture new shipyard, Damen Song Cam at Da Nang.⁵² This confirms a trend for partnerships with foreign yards in LICs and allows foreign firms to expand overseas at relatively low cost. It also increases the ability of Vietnamese shipyards – through technology and skills transfer – to expand their range of ships for export. Moreover, it should in the longer term encourage Vietnam to increase local manufacture of ship components, particularly through licensing arrangements for the manufacture of high-cost items such as main and auxiliary engines, and thereafter to expand its manufacturing capability and increase its productivity.

In a relatively short period of time, Vietnam, as the WTO has noted, has moved from being a low-income country with a centrally planned economy to becoming a market-led middle-income economy.⁵³ Poverty levels have been substantially reduced, relatively high growth rates have been a feature

49 BBC News, 30 March 2012.

50 Bloomberg News, 16 December 2013.

51 The Dutch Damen Group with six part-owned shipyards; Hyundai; EMAS (Singapore); Piriou (France); Strategic Marine (Australia); Triyards (USA); and Vard (Fincantieri, Italy).

52 See www.damen.com (accessed 1 July 2014). Damen has constructed some 226 vessels in Vietnamese shipyards.

53 WTO Trade Policy Review: Vietnam, 17 and 19 September 2013.

of the past two decades, and the country's gradual integration in the world economy through a series of WTO-inspired bilateral trade agreements has enhanced its international standing.⁵⁴ Although there are systemic risks facing Vietnam's financial sector and structural challenges with regard to its state-owned enterprises, particularly as economic growth has slowed, Vietnam has attempted through its Master Plan for Economic Restructuring of 2012 to address these problems to achieve its objective of becoming a modern industrialised country by 2020.

54 Prior to WTO accession, Vietnam's most symbolic bilateral trade agreement was with the USA, signed 13 July 2000.

26 Some final observations

Hugh Murphy and Marcel van der Linden

Global labour history is the attempt to understand the uneven and combined development of the world's working class, and it allows for many different approaches. We may write biographies of workers who lived “transcontinental lives”; we may study commodity chains in order to understand the connections between groups of workers in different parts of the world; we may analyse transcontinental waves of protest (1916-1921, 1965-1975) or international labour movements; and we may study separate occupational groups or segments of the working class across the globe. The present collection of essays belongs to the last-mentioned category, and is part of a larger number of explorations.¹

The foregoing case studies of largely empirical research, *inter alia*, highlight the development and continued relevance, or not, of trade unions, aspects of industrial relations, strikes, lock-outs, technological change, social and cultural differences and synergies, labour regulation and deregulation, forms of employment, working conditions, and shipbuilding labour's linkages to general protest movements connected to rapid political change. Shipbuilding and ship repair are truly global industries supplying the major conduit of globalisation – shipping.

After 1950, world shipbuilding has been completely transformed – not only in the numbers of participating countries engaging in the market, reflected in changing market shares, but in the actual process of shipbuilding itself. Shipbuilding had always been an assembly industry requiring the input of a great number of specific trades as ships were largely bespoke in nature and in operation. However, over the course of the twentieth century, the earlier emphasis on long-term apprenticeships to inculcate skills relevant to the division of labour required in shipyards has been fundamentally altered. Technological change through increased automation of processes in shipbuilding is easily transferable; however, the costs of setting up new greenfield shipbuilding sites are hugely prohibitive. The

¹ In the introduction, we have already mentioned global research projects on dockers and textile workers: Davies *et al.* (eds), *Dock Workers*; Heerma van Voss, Hiemstra, and van Nederveen Meerkerk (eds), *The Ashgate Companion to the History of Textile Workers*. In addition we make reference to: Hoerder, van Nederveen Meerkerk, and Neunsinger (eds), *Towards a Global History of Domestic and Caregiving Workers*; Lichtenstein and de Vito (eds), *Global Convict Labor*; Rodríguez García, van Nederveen Meerkerk, and Heerma van Voss (eds), *Selling Sex in the City*.

block-assembly method of construction, while not universally followed, is now the dominant process in large shipyards around the world, often undertaken in giant fabrication sheds adjacent to building docks. Blocks of ever increasing dimensions are built and transferred by giant cranes to the dock, and thereafter welded together in sequence.

The multiplicity of hull trades once common to shipbuilding are now largely a thing of the past: just as caulkers and riveters eventually gave way to welders, so too have welders been subjected to the ever increasing use of automatic welding machinery away from the ship. The use of optical marking and plate-cutting machines and computer aided manufacturing fundamentally altered the trade of ships' platers, as did computer aided design for ships' draughtsmen. Technical advancement in shipbuilding has resulted in fewer jobs overall and drastic curtailment of training for individual trades.

As competition between nations has intensified, employers have attempted to cut costs, especially those of labour. Workers' terms and conditions of employment vary greatly in global shipbuilding and repair. Lack of trade union representation and precariousness of employment due to hiring and firing sometimes on a daily basis, but essentially short-term sub-contracted work – especially in late industrialising countries such as China, India, the Philippines, and Vietnam, but also in advanced capitalist countries such as Japan, as Takeshi Haraguchi and Kazuya Sakurada demonstrate – have considerably worsened workers' terms and conditions. In this there is a historical parallel with the British shipbuilding and repair industry in the early twentieth century when daily hiring and firing was the norm even though trade unionism was highly organised. Short-term contracts not giving defined social benefits such as pensions, sickness pay, or accident compensation without recourse to long legal processes are now ubiquitous in shipbuilding and -repair around the world. This situation is reinforced by the increasing use of non-union migrant labour in many countries. Where trade unions are not recognised or their activities are severely curtailed by repressive governments or unscrupulous employers, then great sacrifices are required by workers to improve their collective lot, as evidenced by Wonchul Shin's chapter on Hanjin Heavy Industries in this volume.

Clearly the extent of trade union or other forms of workplace organisation is crucial in the protection of workers' rights and conditions of employment and ultimately in managing contraction, as are the labour laws of individual countries. This is particularly true in the case of West European countries. The United Kingdom shipbuilding industry is a classic example of

managed contraction over time from global market dominance to relative insignificance. As Hugh Murphy notes, its solutions to its ever decreasing market share after 1950 – closures of shipyards, numerous government-sponsored reports on aspects of shipbuilding, and attempts to increase competitiveness by mergers, increasing use of planned redundancies, and ultimately state direction leading to nationalisation, during which it had recourse to European Community (EC) aid through the Shipbuilding Intervention Fund, and back to privatisation – were mirrored in Sweden and the Netherlands. The shipbuilding industries of Finland, Italy, and Germany increasingly concentrated on high value-added tonnage such as cruise liners as Western consumers' disposable incomes grew, and new entrant countries gained increasing market shares. Norwegian shipbuilders diversified their productive resources towards new markets in oil and gas exploration in the North Sea, and were far more successful in doing so than their British counterparts. In the late industrialising countries such as South Korea, low value-added tonnage such as very large crude carriers initially dominated output. Western technical know-how and equipment aided quick market penetration and cost-cutting in labour, and this, reflected in lower ship prices, further augmented market share.

Indeed, over time, East Asian competition led to increased labour-market uncertainty and intervention in West European economies. Existing labour laws and regulations were questioned as competition impacted negatively on shipbuilding and -repair. In looking at the history of workers' organisations generally in Western Europe, one finds that trade union leaderships at the national levels, in their own interests to preserve employment, largely tend to accommodate the status quo rather than challenge it. Only when extant working practices are challenged or when businesses are failing do they become divorced from management orthodoxy and challenge it. However, this observation has to be tempered according to each country's level of social provision regarding *ex gratia* payments and redundancy owing to length of service or not. In this regard, West European and Scandinavian countries have social provision that is far superior to that of their East Asian or South American counterparts.

In reading this volume, one can see a clear divergence in the treatment of shipbuilding and -repair workers in late industrialising countries in comparison with West European nations, where the dominant theme after 1970 has been managed contraction in countries of the European Union, in direct contrast to expansionist East Asian countries. No revolutionary activity occurred as volume merchant shipbuilding all but disappeared in the UK, Sweden, and the Netherlands, for example. Moreover, within Europe

as a whole, for a substantial part of the twentieth century, there had been a great divergence between workers in liberal democracies and those in the authoritarian dictatorships of Spain and Portugal, or the former Soviet satellites of Poland and Romania. States were direct producers or regulators of production and, crucially, provided either direct finance to companies or subsidised them through loan guarantees, access to foreign capital, grants, or other financial incentives including taxation before their collapse. Workers in Argentina and Brazil also had to endure military dictatorships, and their eventual collapse exposed their respective shipbuilding industries to the stark realities of withering international competition.

As Rubén Vega García shows, closure was fiercely resisted in the Asturian city of Gijón, in post-Franco Spain, where “organisational loyalties and forms of collective action that had originated at the end of the dictatorship crystallised in the years of democratic transition”, and “remained almost immutable in the following decades through productive restructuring, defence of employment, and the struggle for the survival of the shipyard”. As José Gómez Alén shows, the Spanish state, following the merger of Astilleros Españoles SA (AESAs) and Empresa Nacional Bazán, began the commitment to the restructuring of the public shipbuilding sector only in December 2000 with the newly created state conglomerate, IZAR, which included the Bazán-Ferrol shipyard in northern Galicia. As in the UK in its nationalisation phase in 1977 under British Shipbuilders Plc, IZAR “integrated loss-making shipyards, some in their terminal phase, with others that were more profitable but had to take a share of the losses of the whole sector, as was the case of Bazán-Ferrol”. As a member of the European Economic Community from January 1986 (Portugal joined the EEC at the same time), the Spanish government’s attempts to prop up IZAR through subsidies fell afoul of the European Commission rules on subsidisation through state aid, giving an unfair advantage over companies from other member states. By a decision in October 2004 the Commission ruled that €556 mn of state aid to IZAR was not compatible with EU state aid rules and had to be recovered. Spain invoked the national security exception of the EU Treaty, and transferred IZAR’s naval warship-building and -repair shipyards to a new public company, Navantia, owned by a state-holding company. This decision effectively left Gijón in terminal difficulty. Before Spain’s accession to the EEC, there had been reluctance to curb shipbuilding capacity through wholesale yard closures or rationalisation schemes. EC membership entailed acceptance of managed contraction of shipbuilding capacity in response to East Asian dominance on a community-wide basis after 1990.

As was the case in Spain, Portuguese shipbuilding was also hit hard in the wake of the 1973-1974 OPEC crisis, particularly in those shipyards set up for VLCC construction. In both the Spanish and Portuguese cases, construction of hulls to be outfitted in Northern Europe offered a temporary respite, as it did later in Poland and Romania. In Spain and Portugal, the preservation of employment trumped economic reality, as it did to differing extents in Western and Northern Europe. Shipbuilding and -repair in terms of national economies contributed less and less to gross national product, but in regional terms within countries shipyards were important to local economies – not just the yards themselves but those who supplied them with services, and for the cumulative purchasing power of those employed. These factors also applied to the late industrialising countries, where shipbuilding was seen as a growth area with many benefits, strategic and economic, not least, as Nicola Mocci notes, as a “primary source of exporting potential, and therefore of foreign-currency accumulation”.

Unlike all European countries, Japanese shipowners did not desert their domestic shipbuilding industry, leaving at least a base level of demand to be filled. Japan’s response to the huge drop in demand for VLCCs post-OPEC was to rationalise its productive resources to fit the new reality, and to reorient its productive strategy accordingly. Similarly, the nascent South Korean industry did likewise over time, and both it and Japan later invested heavily in overseas shipyards with much lower labour costs and regulation in countries such as Brazil, the Philippines, Romania, and Vietnam. Dutch ventures such as Verolme in Brazil and in the Republic of Ireland were less successful owing to that company’s eventual bankruptcy, although the Dutch Damen group is now heavily involved in Vietnam. Italy’s state-owned Fincantieri, the largest shipbuilder in Europe and the fourth-largest in the world, now owns numerous shipyards around the globe, including in the USA, perhaps the last redoubt of high-cost shipbuilding, both in the merchant ship- and naval warship-building sectors, but an industry which has had a base level of work owing to its Jones Act protectionism reserving the building of American merchant ships to American yards. Setting aside the USA, in the highly competitive international market for ships, to cut labour costs, both Japan and South Korean shipyards over time have placed greater reliance on cheaper sub-contracted labour forces, as have many other countries. The Western idea that a full-time, socially protected, and insured workforce is necessary in shipbuilding has rapidly gone out of fashion. In economies with little social provision, and high birth rates such as India, China (in the private shipbuilding sector), and the Philippines, workers are easily exploited by unscrupulous employers and agencies.

Ironic, then, that exploitation of agency workers still persists in Japanese shipbuilding and that, given the struggles of South Korean workers, their counterparts in South Korean-controlled shipyards in the Philippines are much worse off in comparison.

Clearly East Asian dominance of shipbuilding is likely to continue; what is left of European volume shipbuilding, with some exceptions, is largely dependent on warship construction, which is conveniently not subject to European Union rules on subsidies and competition. We can therefore state with some certainty that those states with active navies will retain shipbuilding capability, and therefore a measure of employment. Overall, rather than the private sector, ultimately it is state influence as the arbiter of domestic economies that is crucial. State intervention was crucial in the cases of Argentina and Brazil, where Cintia Russo and Juliana Frassa note that a neo-liberal privatisation agenda had taken hold, only for the state to renationalise the industry. In Australia, as Lisa Milner notes, Australian strategic policy militated against the retention of its oldest shipbuilding and repairing centre, Cockatoo Dockyard. That its labour relations closely followed the British model no doubt also had an impact. As Mocci notes, Thailand can be distinguished from the norm of state intervention, as the Thai state “has made a different choice, concentrating its resources on other economic activities, and causing the de facto de-development of what used to be a main and Asia-wide competitive industry”. Moreover, in what remains of Thai shipbuilding, the paternalistic depoliticisation of workers through the constant erosion of the rights of their organisations has simultaneously prevented underlying labour conflicts from rising to the surface. In India, examined by S.M. Fahimuddin Pasha, overbureaucratic governance and a managerial cadre that had little experience of managing labour-intensive large shipbuilding yards obviously had a detrimental impact on the industry. Given the industry’s lack of competitiveness, the Indian government belatedly accepted the concept of liberalisation through privatisation in 1991, and provided special subsidies to shipbuilding by actively promoting a PPP (public-private partnership) in the industry. How serious the Indian government takes rampant corruption in its economy remains open to question as does its policing of its multifarious labour laws, which are all too easily subverted by unscrupulous employers. One can also pose the same question of many of the countries considered in this volume.

Shipbuilding and -repair do not exist in a vacuum. To some extent the concerns of other workers in different industries mirror those in shipbuilding and -repair where workers are not immune to the general economic, political, and social situation in their respective countries. Issues

of identity, class, gender, race, and ethnicity are common to all countries. Labour history, whether it is undertaken by an approach of history “from below” by emphasising workers’ collective contributions and identities in the workplace, or by highlighting the contributions of neglected groups such as sub-contracted or agency workers, remains a vital area of study in an increasingly globalised world.

What seemingly unites shipbuilding and ship repairing labour at present, despite social, economic, and political divergences between countries, is the increasing precariousness of employment through widespread use by employers of sub-contracted and/or temporary labour. Shipbuilders in Western Europe and in Japan and South Korea have increasingly concentrated on sophisticated tonnage, whereas China initially focused on tanker and bulk carrier construction, but this is changing as military shipbuilding forms a more technologically sophisticated part of Chinese state shipbuilding. China’s initial cost advantages in labour are likely to decrease over time as has been the case in Japan and later, South Korea, as labour eventually organises and demands better terms and conditions of employment, but not without struggle.

However, there has been a marked trend towards labour-market deregulation around the world in line with neo-liberal free-market ideology. That ideology has increasingly come under criticism since the 2008 world financial crisis, where now it is generally accepted that the prime cause was the deregulation of financial markets and therefore lack of state supervision in the USA, the United Kingdom, and elsewhere. Costs of ships remain the major preoccupation of shipowners, with quality, delivery, and advantageous post-delivery credit packages next in importance. Shipping has always been an industry subject to trade cycles, with shipbuilding more so: shipbuilding labour unions have always known this, as have employers. Governments, to preserve employment, have historically come up with a plethora of fiscal arrangements and subsidies to ameliorate this market reality. The danger to workers is that a race to the bottom to win orders is a real danger, where their plight is seen as secondary in terms of remaining internationally competitive. Shipbuilding and -repair workers around the globe are in the same boat as regards their occupation, but evidently not in their living standards and future prospects. There remains a huge gulf in social provision between West and East and between Latin America and North America.

This volume, through its case studies, enhances our understanding of global shipbuilding labour. Although labour historians have other preoccupations and areas of interest, this and similar studies of other occupations

give comparative ballast to present and future studies in labour history. If labour history is to continue to be meaningful, then labour historians need to have a continual cross-national comparative dialogue; in that manner the future of the discipline can continue to be debated, and the voices of repeatedly dispossessed and exploited labour so often ignored by governments can continue to be heard.

Appendix 1: The effects of the oil price shocks on shipbuilding in the 1970s

Hugh Murphy and Stig Tenold

This small chapter attempts to give the reader an appreciation of the effects of the two oil price shocks on the market for ships. We address changes both on the demand side (shipping) and the supply side (shipbuilding) in the 1970s and early 1980s. It is not, however, an exhaustive explanation but an indicative one.

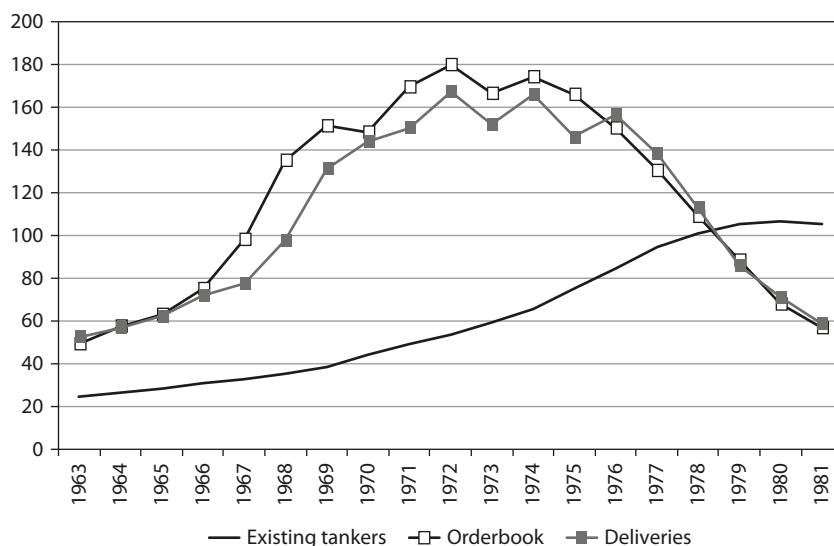
In the 1950s and 1960s the search for economies of scale led to increased demand by shipowners for larger and larger tankers. From 1967, with the closure of the Suez Canal consequent on the Arab-Israeli war and its continuing non-use to 1975, this trend accelerated, as vessels now had to take the far lengthier route around the Cape of Good Hope.¹ A dearth of shipbuilding capacity led to an increase in newbuilding prices, motivating speculative demand. Some VLCCs were sold immediately after they had been completed at a considerable premium to the price originally contracted for, while other contracts were even sold at a profit before the building of the ship was finished.

The quest for economies of scale had important implications for the shipbuilding industry. The average size of the vessels on order more than trebled in the decade after 1962. Shipyards had to adjust to this, only to see the development stagnate, then reverse, after the 1973-1974 oil price increase. This is undoubtedly one of the roots of the crises in shipping and shipbuilding. Figure A.1.1 shows the growth in the average size of tankers ordered in the 1960s and first half of the 1970s, and the drastic reduction in average size after the freight market broke down.

The hump-like properties of the orderbook and deliveries in Figure A.1.1 are echoed in – and partly explained by – the development of the demand for oil transport. Again, strong growth in the 1960s was followed by stagnation, then by an absolute decline from the last part of the 1970s onwards.

¹ A tanker sailing from Bombay to London via the Suez Canal travelled roughly 6,200 nautical miles. The same tanker taking the Cape of Good Hope route travelled 10,800 nautical miles.

Figure A.1.1 Average size of existing tankers, deliveries and orderbook 1963-1981 (1000 dwt)

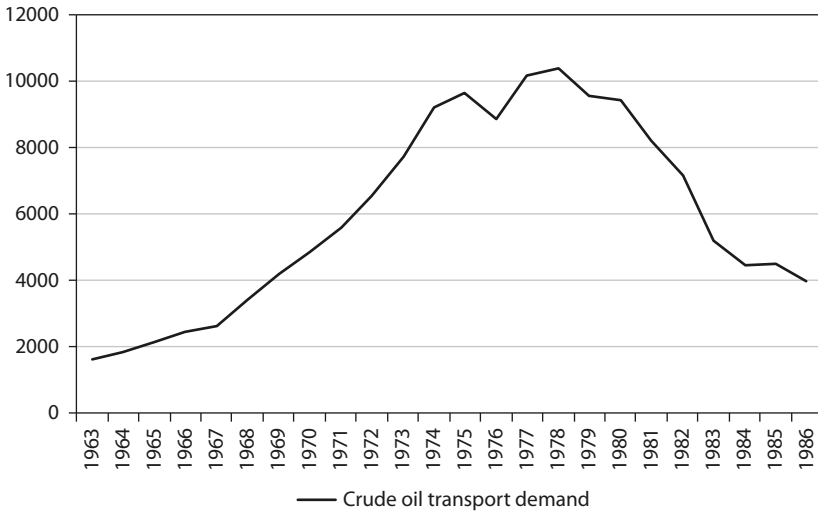


Source: Based on dwt-figures for oil tankers from Fearnley and Eger, *Review*, various issues

The basis for the breakdown of the tanker freight market was the Organization of the Petroleum Exporting Countries (OPEC)² price hikes of 1973-74, with its associated embargoes following the Yom Kippur War. These eventually led to a tripling and then quadrupling of the price of a barrel of crude oil.³ The price increase had profound effects on the demand for shipping and shipbuilding and on Western economies as a whole, which were plunged into recession. The effects were further compounded by another rise in the oil price in 1979-80. Then, hoarding of oil as a result of

2 OPEC was created at the Baghdad conference on 10-14 September 1960 by five founder member countries: Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela. They were later joined by Qatar (1961), Indonesia (1962), Libya (1962), United Arab Emirates (1967), Algeria (1969), and Ecuador (1973). OPEC was originally headquartered in Geneva but moved to Vienna on 1 September 1965. Its formation was a direct challenge to the then hegemonic position of the seven oil majors. OPEC's original rationale was to co-ordinate and unify petroleum policies among member countries, with the aim of giving a fair return on capital. Before the concerted actions in late 1973 and early 1974, the organisation did not succeed in acting as a cartel.

3 The posted price increased from USD \$3.011 per barrel up until 16 October 1973 to USD \$11.651 per barrel after 1 January 1974: OPEC, *OPEC 1989 Statistical Bulletin*, 126-127.

Figure A.1.2 Crude oil transport demand 1963-191985 (bn ton-miles)

Source: Based on ton-mile figures for crude oil from Fearnley and Eger, *Review*, various issues

the Iranian Revolution, which deposed the shah of Iran, pushed oil prices even higher.⁴ As Daniel Todd put it:

Upsurges in oil prices in 1973 and 1979 ... also sufficed to scuttle the oil carrying trades. From an unprecedented boom in 1973, the tanker market slid into the depths of a Stygian slump.⁵

At the beginning of 1973 ships that could transport oil – tankers and combination carriers – made up more than 80 per cent of the orderbook, and during the year the share jumped to more than 85 per cent.⁶ Then new orders for tankers and combination carriers more or less dried up – the share of new orders fell to around a fifth in 1975, 1976, and 1977.

In the aftermath of the first oil price hike, between the end of 1974 and the beginning of 1976 some 50 mn dwt of world tanker tonnage on order was summarily cancelled – a figure which reached 60 mn dwt by 1977.⁷

4 In the twelve months following the Iranian Revolution, the price of a barrel of crude oil rose from an average of USD \$16 per barrel to just under USD \$40 per barrel.

5 Todd, *Industrial Dislocation*, 4.

6 Based on dwt figures from Fearnley and Eger, *Review*, various issues.

7 Beth, Hader, and Kappel, *25 Years of World Shipping*, 36, and OECD, *Maritime Transport, 1976*, 80.

Table A.1.1 Annual volume of orders placed and annual completions 1970-1976 (mn grt)

Year	Volume of orders placed	Completions
1970	41.03	20.98
1971	29.64	24.39
1972	30.36	26.75
1973	73.60	30.41
1974	28.37	33.54
1975	13.79	34.20
1976	12.94	33.09

Source: *Lloyd's List* Statistical Reports, various years

The effects of the crisis lasted longer than anticipated, and by 1978 there was more than 30 per cent oversupply of tanker tonnage. With the second oil price hike of 1979 the situation worsened, and by 1982 more than 60 per cent of the tanker fleet was surplus to demand.⁸ In that year, demand for tanker shipping was slightly lower than it had been in 1970, but over the same period the tanker fleet had increased by almost 150 per cent.⁹ Table A.1.1 shows the immediate effect of the oil crisis on the annual volume of orders placed, with completions exceeding new orders by 1974.¹⁰

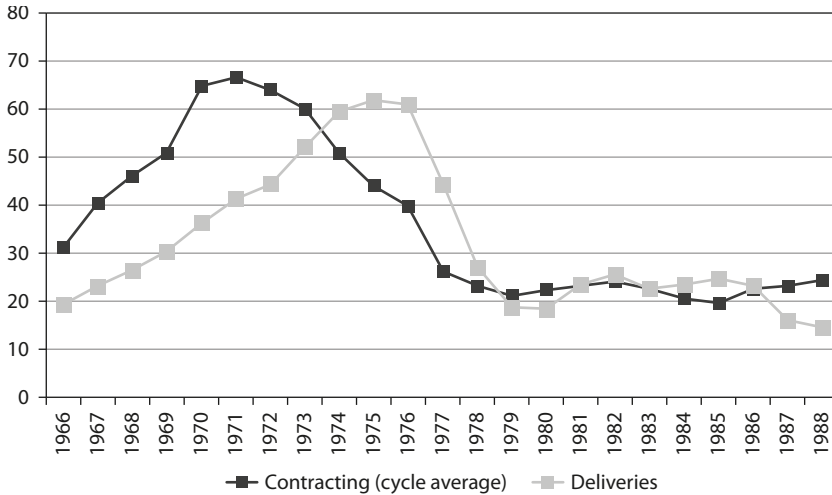
The shipbuilding industry had experienced a latent demand surplus throughout the first post-war decades, leading to a substantial increase in the volume of outstanding orders. The industry responded as expected – by increasing capacity. Ironically, when the production capacity reached the scale needed to fulfil the anticipated demand, the new orders collapsed. Figure A.1.3 shows the gap between new orders and deliveries in the second half of the 1960s. By 1973 shipbuilding production capacity had increased to more than 60 mn dwt – more or less exactly the average annual ordering over the five previous years. From the following year onwards, the demand for new ships collapsed.

Again, the shipbuilding industry response lagged – the decline in new orders fell faster than the industry could adjust its capacity. However, by the early 1980s a new equilibrium was reached, at around the half of the level from the early 1970s.

8 Todd, *Industrial Dislocation*, 5.

9 Tenold, *Tankers in Trouble*, 86.

10 For a more expansive introduction to the shipping crisis, see *ibid*, *passim*.

Figure A.1.3 New orders (seven-year average) and deliveries 1966-1988 (mn dwt)

Note: In order to neutralise the effect of the variations along the shipping cycle, the contracting figures are presented as seven-year average, corresponding to the “rule-of-thumb” size of the cycle.

Source: based on dwt-figures for world contracting and world deliveries from Fearnleys, *Review*, various issues

There were also lag effects affecting both shipowners and shipbuilders,¹¹ but the latter were potentially the hardest-hit, as they tended to be the bigger firms in the industry with many orders in hand – simply because of the size of the product – and had oriented their productive resources, particularly steel output and plant and equipment towards VLCC construction.¹² Although there was a short-term inelasticity of demand for oil, the crisis hit relatively quickly, shipbuilders were left to finish contracts, which were

11 The lag between contracting and delivery when shipbuilders had large orderbooks led to a rise in the tanker fleet post-OPEC. Shipowners were also slow to adapt to oversupply as cyclical downturns, usually of short duration, had always been a feature of the market and, by the time that all concerned realised that expected growth had failed to materialise, the difficulty of adapting supply to changed market circumstances was apparent.

12 This was particularly true in the UK case where its three largest shipbuilders and employers, Swan Hunter on the Rivers Tyne and Tees, Scott Lithgow on the Lower Clyde, and Harland and Wolff at Queens Island, Belfast, all made disastrous entries into the VLCC and ULCC market in a period of intense international competition. All were hit badly by cancellations and legal wrangling post-OPEC and by the collapse of Maritime Fruit Carriers, originally an Israeli reefer company, which had moved into VLCC tankers on a speculative basis and had gone bust in 1976, when its orders comprised some 35 per cent of all work in UK shipyards. By the time the industry was nationalised in July 1977 all three firms were basically bankrupt.

semi-finished or fitting-out, or on which steel had already been ordered with no other alternative for its use. Shipowners found it easy – but expensive – to cancel contracts not yet begun. Usually the penalty was around 10 to 20 per cent of the contract price, but in some cases the yards demanded as much as two-thirds of the price.¹³ As receiving a superfluous vessel would be even more costly, shipowners were willing to pay substantial cancellation fees. One Norwegian company paid a cancellation fee of around USD \$20 mn for a tanker on order in Germany, but “[d]espite the size of the amount, this loss can, in hindsight, be regarded as a good investment in the continuing existence of the company”.¹⁴

Some owners were left in a dilemma when construction was at an advanced stage, with no real prospect of a charter. Many refused delivery of vessels, dragging out contracts by picking faults, which would have been largely ignored if lucrative charters had been forthcoming. Such legalistic wrangling had always been a feature of the shipbuilder-client relationships and, as such, contracts were far more tightly drawn up than in the past to compensate. An alternative for shipowners was to lay up tonnage to save on operating costs, or, alternatively, to use it for storage of oil, but both options had cost implications.¹⁵ Many of the tankers still operating reduced speed to conserve fuel following the increase in the cost of bunkers; in the latter half of the 1970s such “slow steaming” absorbed a larger share of the surplus than laid-up ships.¹⁶ As the shipping crisis intensified it was not uncommon for laden tankers to anchor off land-based terminals for unspecified periods. This allowed oil companies to supplement their storage capacity in line with market movements.¹⁷

From 1974 onwards, shipbuilders’ rationale was to get VLCCs off their premises as quickly as possible in order to mitigate the effects of increasing inflation, as many of these contracts had been taken on at fixed prices, given the increasing competition in this market. In 1974 and 1975 the amount of tanker tonnage completed and delivered reached record levels and more

13 Letter from a Norwegian shipowner, dated 24 November 1975, in Archives of Norges Rederiforbund, folder 6B K 75 – Krisen 1975/IV/011075-301175.

14 Nerheim and Utne, *Under samme stjerne*, 250.

15 According to OECD, *Maritime Transport, 1976*, para. 221. The cost of laying up a VLCC might be as much as USD \$75,000 per month, and the one-off cost of preparation or of site acquisition could be in the region of USD \$700,000.

16 Tenold, *Tankers in Trouble*, 79. Slow steaming is undertaken when the fuel cost savings are higher than the profits foregone in additional voyages.

17 In 1978, 5 mn dwt of tanker capacity was used for storage purposes off the coast of Japan: see Fearnley and Eger, *Review*, 1978, 38.

Table A.1.2 Annual tonnage launched in selected countries, 1975-1983 (000 grt)

Year	Japan	South Korea	West Germany	Brazil	Sweden	UK	World
1975	17,987	441	2,549	389	961	1,304	35,897
1976	14,310	689	1,792	426	957	1,341	31,047
1977	9,943	455	1,390	572	360	1,119	24,167
1978	4,921	424	600	698	360	813	15,407
1979	4,317	479	385	467	229	610	11,788
1980	7,288	629	462	615	227	244	13,935
1981	8,857	1,229	669	549	364	339	17,066
1982	8,247	1,530	722	455	434	528	17,290
1983	7,071	1,201	651	359	525	527	14,888

Source: Lloyd's Register Statistical Reports, various years

than 40 mn dwt was delivered in 1976. An alternative strategy was to convert tanker newbuildings contracts to dry bulk or general cargo carriers, though these types of tonnage in terms of cost per ton were more expensive than VLCCs. In 1975 alone, around 10 mn dwt of tanker tonnage was converted to other ship types, and according to Fearnley and Eger in 1977 a figure of 15 mn dwt was registered as conversions.¹⁸

The tonnage conversion, as well as the redeployment of combination carriers from wet to dry markets, combined with the general recession to give a surplus of ships outside the tanker sector as well.¹⁹ The end result was a rapid deterioration of new orders, in spite of a subsidy race to ensure that the shipbuilding capacity was utilised. The biggest subsidies came in the countries that were the least competitive; the Swedish Guarantee Fund, for example, offered public money to lend as much as 75 per cent of the value of vessels that shipyards built for stock, i.e. ships for which no orders had been received.²⁰

Shipbuilders in many countries experienced a marked diminution in demand for new ships as lack of demand and overcapacity of supply predominated in a period of intense international competition. Table A.1.2 gives an indication of the drop in demand in four established shipbuilding

18 Fearnley and Eger, *Review*, 1976, 5.

19 In 1972 less than 20 per cent of combination carriers operated in the dry bulk market; by 1981 the corresponding figure was more than 75 per cent. The combination carriers increased the supply of dry bulk tonnage by around 25 per cent, with the evident effect on freight rates – and newbuilding demand – in this market; data from Fearnley and Egers, *Review*, various issues, Tables 3 and 15.

20 Stråth, "Industrial Restructuring in the Swedish Shipbuilding Industry", 233.

Table A.1.3 Employment in newbuildings of merchant ships in five countries, selected years

Year	UK	West Germany*	Sweden	Netherlands	Japan
1975	48,000	47,000	25,000	21,000	256,000
1980	25,000	25,000	12,000	10,000	164,000
1985	13,000	22,000	6,000	6,000	134,000
1990	6,000	15,000	553	4,000	89,000

Note: * Excludes the former East German shipyards. In 1990 these had 19,000 employees.

Source: De Voogd, "Public Intervention and the Decline of Shipbuilding in the Netherlands", 252

countries, Japan, West Germany, Sweden and the UK and in two new entrants, South Korea and Brazil. The sheer scale of the drop – in addition to the relocation of the remaining production – indicates an industry going through seismic changes.

In 1975, the leading shipbuilding nation, Japan, launched just over 50 per cent of the world total; by 1983, it was 47.5 per cent, with large fluctuations in demand in between necessitating a drop in full-time employment and a concomitant rise in a part-time and sub-contracted workforce. By this stage, both the UK and Sweden had nationalised from 1977 their shipbuilding industries to preserve employment. In both countries, market realities, particularly the trend shift of shipbuilding production to the Far East with South Korea, by this stage the major competitor,²¹ made nationalisation an expensive gamble. It was one that both countries ultimately lost, with serious effects on employment and the loss of merchant shipbuilding capacity.²² Table A.1.3 gives an indication of the long-term effects of the shipping crisis on employment levels in five established shipbuilding nations.

Over the period 1975 to 1990 British shipbuilding retained just 13 per cent of the workforce employed in 1975. Corresponding percentages for West Germany, Sweden, Netherlands, and Japan are 32, 2, 19 and 35 per cent respectively. Over the period, Sweden experienced a precipitous drop in employment of 98 per cent, and Japanese shipbuilding lost far more

21 For this, see Bruno and Tenold, "The Basis for South Korea's Ascent in the Shipbuilding Industry".

22 See Johnman and Murphy, *British Shipbuilding and the State Since 1918*. For the consequences of state intervention and the impact on shipbuilding firms in four established shipbuilding nations, see Berggren, "The Effects of the Shipbuilding Crisis in Malmö", Devos, "The Belgian/Flemish Shipbuilding Industry", Johnman, "Public Intervention and the Hollowing-Out of British Shipbuilding", and de Voogd, "Public Intervention and the Decline of Shipbuilding in the Netherlands".

employees than the other four nations combined. Many of these losses had resulted from planned redundancies, shipyard closures, and rationalisation of production through mergers. Still, what ultimately determined the scale of job losses after the oil crises of the 1970s despite the high levels of government subsidies was the market, and which nations had the financial resources and the willpower to remain in merchant shipbuilding and to deal with oversupply and cutthroat international competition. Nevertheless, as the Swedish and UK cases show, government largesse by taking the industries into public ownership for employment reasons was not sufficient to ensure their survival.²³

23 For the losses involved in the British case under public ownership, see Johnman and Murphy, *British Shipbuilding and the State Since 1918*, 240.

Appendix 2: Shipbuilding in 2013: an analysis of shipbuilding statistics

Victoria Culkin

From 1956 onwards, Japan remained the world's major producer of ships in the latter half of the twentieth century. By the 1980s, and almost from a standing start, South Korea had become a major challenger, followed in the mid-1990s by the People's Republic of China. That South Korea and China vied to become the principal shipbuilding country in the world in little more than three decades is indicative of a paradigm shift of world shipbuilding production to East Asia.¹ Statistics for 2013 show that more than 93 per cent of world shipbuilding completions were built in China, South Korea, or Japan.² This appendix seeks to address this shift in the world shipbuilding industry using statistics from *Lloyd's Register's Statistical Tables*, *Lloyd's Register- Fairplay Statistical Tables*, and *IHS Fairplay Statistics*. I examine the shipbuilding statistics further, looking at the categories of ships and countries of build during 2013, as well as the vessels currently on order.

Lloyd's Register is the world's oldest classification society and its first surveyor in Japan was appointed in 1885. By 1959 Lloyd's Register employed 55 surveyors in Japan and today retains the largest share of classification work of ships built in Japan for export.³ Lloyd's Register's work in China has continued since 1869, and in 1978 it signed a reciprocal survey agreement with the Register of Shipping of the People's Republic of China (now the China Classification Society), and became the first foreign classification society to be invited into the country. It now has offices in many of the major ports in China, which reflects the major growth in shipbuilding in the area.⁴ Lloyd's Register's work also grew rapidly in South Korea during the 1970s and thereafter as that country took a leading position in world shipbuilding.⁵

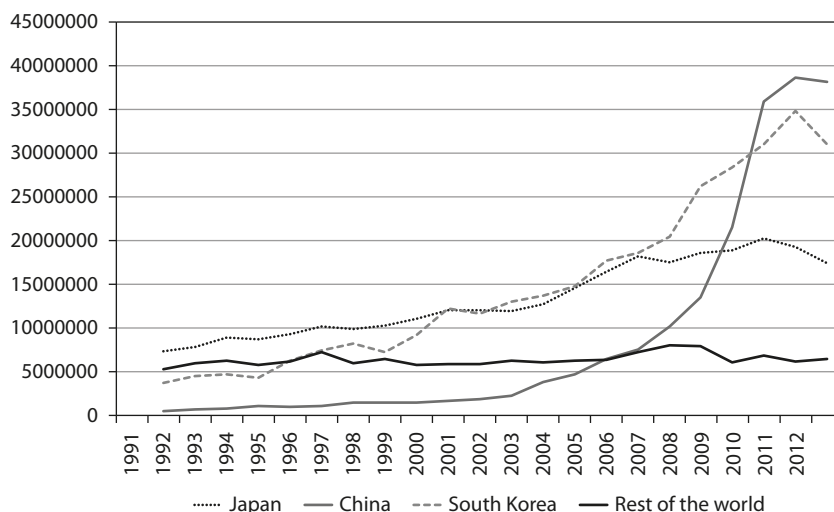
1 For this, see, Todd, *Industrial Dislocation*, and Todd, "Going East". For South Korea, see Amsden, *Asia's Next Giant*, Jonsson, *Shipbuilding in South Korea*, and Bruno and Tenold, "The Basis for South Korea's Ascent in the Shipbuilding Industry". For Japan, see, Chida and Davies, *The Japanese Shipping and Shipbuilding Industries*.

2 IHS Fairplay, *World Fleet Statistics 2013* (Statistical Notes, Note 5 Shipbuilding Statistics).

3 Watson, *Lloyd's Register 250 Years of Service*, 330-331.

4 *Ibid.*, 314-315.

5 *Ibid.*, 332-333.

Figure A.2.1 Completions, 1991-2013 by gross tonnage

Source: Lloyd's Register Statistical Tables 1991-2012; Lloyd's Register-Fairplay Statistical Tables; IHS Fairplay Statistical Tables

Figure A.2.1 shows the gross tonnage of completions by country of build from 1991 through to 2012. This shows the overall growth of the now principal shipbuilding countries, China, South Korea, and Japan in relation to the rest of the world. We can see that the tonnage figures for the rest of the world remained relatively stable between 1991 and 2012, remaining on average around 6.3 mn grt. There was a dip in output for the rest of the world in 1997 when the gross tonnage dropped from 7.2 mn in 1996 to 5.9 mn the following year. The rest of the world output grew steadily until 2007-08, until output peaked at just over 8 mn grt, then dropped to approximately 6 mn grt before rising slightly again over the next three years.

Japan remained the dominant shipbuilding country until 2000 when the output of South Korea slightly overtook that of Japan, in terms of gross tonnage, with 12.28 mn grt to 12.02 mn grt respectively. South Korea's output continued to rise from 2000 to 2010, peaking in 2011 with 34.8 mn grt, before dropping slightly in 2012 to an output of 31 mn grt. In 2013, South Korea's output stood at approximately 23.8 mn grt.⁶ In 1991, the shipbuilding output of China stood at 509,795 grt; by 1994, China had nearly doubled its output

6 IHS Fairplay Shipbuilding Statistics for the quarters ending March-December 2013.

to 1.07 mn grt. Another significant rise occurred between 1996 and 2002, from 1.07 mn grt to 2.2 mn grt. Thereafter, output rose again with China increasing its output by a couple of million tons each year until 2008 when the rise was more marked. In 2007, gross tonnage stood at 10.2 mn; in 2008 it was 13.5 mn followed by a huge leap in 2009 to just over 21.5 mn grt. The year 2010 saw another large increase in Chinese output to just over 35 mn grt, which rose steadily until 2012. China's completions for 2013 stand at 25.5 mn grt:⁷ with South Korea overtaking China for two quarters of 2013 (June and March) in terms of output.

Tables A.2.1 and A.2.2 show the completions by gross tonnage and country of build for 2013. When we analyse the number of ships built during 2013, the top three shipbuilding countries are China (41.7 per cent), Japan (15.2 per cent), and South Korea (12.3 per cent). In terms of gross tonnage completed during the year, the top three shipbuilding countries are China with 36.9 per cent of world output, South Korea with 35.1 per cent, and Japan with 20.9 per cent of world output. These figures show that, in terms of the number of ships, Japan ranks higher than South Korea with 540 ships completed to South Korea's 386.

The difference between China and South Korea is more marked in terms of the number of ships completed in 2013. China built almost three times the number of ships that South Korea did, but again when we look at the gross tonnage of the ships completed in 2013 we see that the difference between China and the second-largest shipbuilding country, South Korea, is only 536,000 tons. This is because South Korea builds larger and more sophisticated ships.

Nearly a third of the ships built in 2012 in China are for the domestic market, totalling 11.5 mn grt. In comparison, those built in South Korea for the domestic market total one-tenth and the percentage of ships built in Japan for the domestic market is well over half at 65 per cent. In terms of gross tonnage, South Korea completed more ships for the export market, totalling over 28.4 mn grt, but built far less for the domestic market, totalling thirty-four ships with a gross tonnage of 2.7 mn.

The top three shipbuilders for 2012, in terms of gross tonnage, are all South Korean, Daewoo Shipbuilding and Marine Engineering (sixty-six ships, 6.3 mn grt), Hyundai Heavy Industries, Ulsan (sixty-four ships, 5.4 mn grt), and Samsung Heavy Industries (fifty ships, 4.5 mn grt).⁸ In fact, of the largest shipbuilders by gross tonnage, seven are based in South

7 *Ibid.*

8 *IHS World Fleet Statistics, 2012: Statistics Notes 5&6 (IHS Fairplay, 2013).*

Table A.2.1 Completions by country of build, 2013

Country of build	Gross tonnage of completions
Bangladesh	30,000
Brazil	169,000
China	25,204,000
Chinese Taipei	482,000
Croatia	88,000
Finland	65,000
France	183,000
Germany	350,000
India	250,000
Iran	11,000
Italy	172,000
Japan	14,588,000
Netherlands	68,000
Philippines	1,332,000
Poland	108,000
Romania	503,000
South Korea	23,804,000
Turkey	194,000
USA	190,000
Vietnam	541,000

Source: IHS Fairplay World Shipbuilding Statistics, 2013

Table A.2.2 Completions per quarter for 2013 and 2014

Month	Number of ships	Gross tonnage
March 2013	881	22,900,000
June 2013	772	18,800,000
September 2013	739	15,600,000
December 2013	658	12,900,000
Total	3,050	70,200,000
March 2014	781	18,000,000
June 2014	697	17,200,000
Total (January-June 2014)	1,478	35,200,000

Source: IHS Fairplay Shipbuilding Statistics, March-December 2013 and March-June 2014)

Table A.2.3 Completions by selected ship types for each quarter of 2013

Shiptype	March 2013		June 2013		September 2013		December 2013	
	No.	grt	No.	grt	No.	grt	No.	grt
Liquefied gas carriers	23	591,651	12	299,967	18	827,394	15	903,191
Chemical carriers	37	729,212	36	634,801	44	811,233	24	318,976
Oil tankers	81	4,161,307	64	2,760,897	58	1,547,434	55	1,123,471
Bulk carriers	238	10,896,668	170	7,661,880	152	6,609,607	158	6,906,441
Cargo (general)	63	669,402	61	600,460	66	593,739	58	458,592
Container ships	58	3,864,235	70	5,170,202	53	3,764,811	29	1,955,262
Ro-ro (cargo and passenger)	35	630,408	23	312,829	24	401,463	34	396,541
Passenger and cruise ships	2	210,376	8	343,479	3	1,300	2	867
Totals	537	21,753,259	444	17,784,515	418	14,556,981	375	12,063,341

Source: IHS Fairplay Shipbuilding Statistics for the quarters ending March-December, Table 8: Under construction/commenced/completed/orders reported – by ship type category)

Table A.2.4 Orderbook by ship type and country of build (country of build up to July 2013)

Country of build	Tankers		Bulk carriers		Container ships		General cargo ships		Passenger ships	
	No.	dwt	No.	dwt	No.	dwt	No.	dwt	No.	dwt
China	266	21,794,000	826	63,839,000	206	12,757,000	159	3,671,000	20	63,000
South Korea	363	29,443,000	95	9,397,000	156	19,892,000	67	1,854,000	0	0
Japan	77	4,410,000	532	43,506,000	14	1,146,000	69	2,130,000	10	37,000
Rest of the world	237	7,114,000	82	4,730	66	4,427,000	135	934,000	60	267,000

Source: ISL, Shipping Statistics and Market Review, 57 9/10 (2013), 24, Table 2.3: Total world orderbook by type and country of build and delivery schedule as of 1 July 2013

Korea, with 26.8 mn grt and 350 ships. More than 86 per cent of South Korea's output was built at seven of the largest shipbuilders. China's largest shipbuilders produced far fewer ships than those of South Korea: they built just over 12 mn grt and 146 ships. Japan's largest shipbuilder built 1.4 mn grt, or 9 ships.⁹

Table A.2.3 shows that the majority of ships completed in 2013 were bulk carriers. Overall output for the year shows that 95 per cent of ship types were cargo-carrying. In 2012, bulk carriers made up over 34.3 per cent of the world merchant fleet (in terms of gross tonnage), with an average age of nine years for a bulk carrier. In 2013, the bulk carrier fleet was 39 per cent of the total overall world fleet.¹⁰

Orderbook – 2013 onwards

The orderbook for 2013 shows 3,964 ships on order. Over 80 per cent of these ships will be built by the three principal shipbuilding countries and 41.3 per cent (or 1,637 ships) will be built in China.

The orderbook, when viewed by country of build, shows that little will change in the position of the shipbuilding countries. China will remain the dominant shipbuilding nation, closely followed by South Korea and then Japan. As we would expect, the statistics for each country vary greatly depending on the type of ships. Typically, Germany, Italy, and Finland still dominate large cruise-ship output, and China remains the leading country for bulk carriers. For the December quarter of 2013, there were more than 1,500 bulk carriers on order.¹¹ Although China has more container ships on order in terms of numbers, when we consider the tonnage (in this case deadweight tonnage) we see that South Korea has far larger container ships on order.

9 *Ibid.*

10 ISL, *Shipping Statistics and Market Review*, 57, 9/10 (2013), 17, Table 1 World Merchant Fleet.

11 IHS Fairplay, *World Shipbuilding Statistics for the Quarter Ending December 2013*, Notes 3: Summary of shipbuilding activity for the quarter by top twenty cargo-carrying ship type.

Table A.2.5 Orderbook (2013) by ship type

Ship type	No of ships	GT
Liquefied gas	289	15,475,788
Chemical tanker	490	10,618,795
Oil carrier	386	22,110,372
Bulk carrier (dry cargo)	1,575	70,092,930
Cargo (general)	382	3,772,177
Container ship	490	38,968,122
Ro-Ro (passenger and cargo)	208	5,871,438
Passenger and cruise ship	69	2,580,621

Source: IHS Fairplay, *World Shipbuilding Statistics 2013*, Table 7

Conclusion

The far more export-oriented South Korean shipbuilding industry has increasingly concentrated on building larger and more specialised high-value ships compared to those being built in China. Although South Korea produced fewer ships, there is very little difference in gross tonnage between South Korea and China. A major difference is the amount of domestic tonnage built, and China's output was far greater than the other two largest shipbuilding countries in terms of the number of ships as well as the number of ships completed. In 2005, China completed 6.3 mn grt of merchant shipping, but by 2012 this had rocketed to 38.2 mn. China has increased its shipbuilding output by six times in terms of the tonnage of ships and by nearly four times in relation to the number of merchant ships produced, which rose from 310 ships in 2005 to more than 1,160 ships in 2012. The orderbook and schedule for completion show that China will remain the dominant shipbuilding nation, closely followed by South Korea and Japan.

Glossary of shipping and shipbuilding terms

Block assembly

The block-assembly method, as a result of the shipbuilding industry's principal method of metal joining – welding – is the most common method of shipbuilding today and involves the assembly of pre-fabricated sections, which are in effect cross-sections of the superstructure. Blocks are normally constructed in covered fabrication shops and then transported to the building dock. The pre-erected block weight depends on available crane capacity. Three-dimensional blocks are designed by CAD (computer-aided design) methods. Production phases are the manufacture and assembly of flat and curved steel panels, pre-assembly of stiffeners on plate, assembly of the pre-assembled parts in sections, assembly of blocks, and then erection of and subsequent joining of blocks by welding on building berths. Block assembly utilises fully and semi-automated machine welding techniques and insertion of pipework, plumbing, and electrical cabling etc., before transfer to the building dock. The proportion of welding carried out by various processes and the amount of mechanisation vary from shipyard to shipyard. Blocks are often primed or fully painted beforehand. It follows that the extent of automation utilised can have a great impact on productivity and on staffing levels. Process planning is of particular importance in this type of construction. However, the capacity of the physical facilities will be limited by the efficiency with which they are operated. Productivity is to some degree determined by equipment but is more to do with organisation and operating systems and the way in which the facilities are managed. The planning of the production process and the details of design have a major influence on the level of performance and thereby the output that a shipyard can achieve.

Bulk cargo carriers

Tankers: The use of the word tanker alone generally refers to oil tanker, carrying either crude oil or oil derivatives (normally referred to as “oil products”) such as petroleum, kerosene, or naphtha. Generally speaking, crude oil moves in large amounts in very large ships (normally above 100,000

dwt) and products in smaller “parcels” in smaller ships (up to around 70,000 dwt, but typically in ships carrying up to around 45,000 dwt).

Bulk carriers: Normally refers to “dry bulk” cargoes as opposed to tankers that carry “wet bulk” cargoes. The major bulk cargoes, including coal, grain, and iron ore, generally move in large quantities up to around 170,000 tonnes. Minor bulk cargoes, including for example animal feed or bulk sugar, are typically transported in ships carrying up to around 50,000 dwt.

Combination carriers: An ore-bulk-oil carrier, also known as combination carrier or OBO, is a ship designed to be capable of carrying wet or dry cargoes. The idea is to reduce the number of empty (ballast) voyages, in which large ships only carry a cargo one way and return empty for another.

Container ships: Carry containerised cargoes, sometimes referred to as “unitised” cargoes. There are a wide range of sizes of ships on a wide range of routes, typically following an established “hub and feeder” pattern. Very large ships (the largest of which now rival the largest category of tankers in terms of physical dimensions) carry containers on trans-oceanic routes serving the main hub ports in the Far East, Europe, North America, and the Middle East. Smaller “feeder” ships then distribute the boxes from the main hub ports to local ports. The contents of the containers are made up of “general cargo”, and may include diverse items such as machinery, white goods, clothing, electronic equipment, etc.

The above four ship types make up by far the largest portion of the world fleet and a significant proportion of the output from the shipbuilding industry.

Contracts and finance

Having selected the preferred bidder, the ship owner will normally sign a “letter of intent to build” and will then proceed to negotiate the contract, either directly with the shipyard or through a ship broker. In the latter case, tenders will be solicited from a number of shipyards. Central to the negotiation in each case will be price – the key factor – which will have been specified in the original offer, but which will be negotiated against the terms of the contract. Traditionally, payment terms were normally made by the owner in stages during the construction of the ship to assist with working

capital in the shipyard: initial signing of the contract, ordering of steel, laying of the keel, launch, and completion. The balance of these payments will have significant cost implications for the owner and the shipyard, and these implications will be taken into account in determining the final price. Traditionally, payment was by five instalments of 20 per cent spread over the duration of the contract period; however, this has largely been superseded in recent years by payment terms that are advantageous to the buyer, used as an incentive to attract business by the shipyard. Financial terms of contracts stipulating as much as 70 per cent of the payment delayed until delivery have become common in recent years, and place a great burden on the shipbuilder to maintain liquidity, that is, working capital in the business.

Guarantees: Owners require guarantees for return of downpayments in the case of default by builders. Such guarantees must be acceptable to the owner's financiers. A shipyard that is unable to provide such guarantees as a result of a poor credit rating is unlikely to be able to sell ships.

Delivery date: The owner's aim is likely to be to obtain delivery as fast as possible, but this has to be balanced against the shipyard's existing orderbook commitments.

Penalty clauses: All contracts will include penalty clauses to cover the eventualities that the shipyard may not perform in delivering the ship on time or that the ship does not perform to the specified operational capabilities. Both situations will have serious financial implications for the buyer and will be covered by financial penalties for the shipbuilder.

Specification: The shipyard may offer a standard design at the price originally offered. The owner may subsequently seek to change details of the design or to add extra features. In this case, the shipyard will charge such changes as extras. The builder may also offer a standard list of manufacturers of major equipment, such as engines, pumps, electronic equipment, etc. However, the owner may seek to substitute his own preferred makers, which will have an implication on the price.

Options: The owner may seek to reserve additional slots in the builder's programme to add further ships under the contract at a later date, normally at the same price. These reservations will be held for a limited time period only, after which time the slots will be offered to others. The degree of power in each side of the negotiation will depend to some degree on the nature of

the buyer. Established shipping companies with extensive fleets are likely to be regular buyers of ships and as such wield a greater level of influence than one-off or occasional speculative buyers. Major shipping companies are also more likely to have their own technical departments with their own views on the detail of design and the manufacturers' list. The power balance also depends on the state of the market and the backlog at the shipyard. A shipyard with a full orderbook is likely to negotiate harder than one in need of work. Having placed the order, the buyer will make provisions for the supervision of the construction of the ship. The owner is entitled to have representation on site during the building period to monitor activity and ensure that the work is to standard. This role is in addition to the supervision by the classification society chosen. Many owners have their own staff on site to undertake this role, acting directly on their behalf. For smaller owners the work may be sub-contracted to the classification society or surveyors contracted for the purpose. In addition to inspections by the owner and the classification society, the flag state authority under whose jurisdiction the ship is to be registered will also seek to inspect the ship, in particular with relation to safety features. After delivery, the shipbuilder provides a warranty covering workmanship, equipment, and materials normally lasting for one year.

Financing the order: In addition to negotiating for the construction of the ship, the owner will also have to negotiate a finance package to support the purchase. Newbuild finance is a highly complex and specialised field. The financial package behind the purchase is likely to consist of a number of instruments, but the buyer is likely to have to include some of his own capital as part of the deal to satisfy the requirements of lenders. There are a number of banks that specialise in newbuild finance through syndicates of banks, rather than individual banks, to spread the risk. Regular buyers are likely to have established links to preferred banks with which they have a good credit record. In particular cases, funding may be raised through the financial markets using instruments such as rights issues. Such mechanisms are normally used when the ship has the prospect of guaranteed employment such as through long-term charters. In other cases investment by private individuals may be possible through syndicates formed specifically to provide funding for ship purchase. Such syndicates may be encouraged by favourable tax regimes for shipping investment. In some cases, the operator may lease the ship back from a leasing company that will finance and purchase the vessel on his behalf. Some lenders may also require an interest in a ship as security for a loan through a ship mortgage, which legally consists

of three parts: the mortgage loan, the mortgage deed, and the rights derived from the mortgage deed onto the lender. Ship mortgages differ from other types of mortgage in three ways. First, some privileged claims could have a higher ranking over that of mortgagee against the ship. Second, ships naturally move between jurisdictions. And, third, a ship is always at risk of partial or total loss at sea. To take effect, ship mortgages must be registered.

Jumboisation

This consists of enlarging a ship by adding an entire section to it, allowing an increase in its value and utility without purchasing or building a ship from scratch. Large vessels such as tankers often have uniform mid-sections, which lends itself to jumboisation as the ship is cut into two sections and an additional section is inserted in between. The type of additional section depends on the purpose of the ship – for example, it can be an oil tank, dry bulk hold, or a group of cabins. Smaller vessels with less uniform profiles are usually jumboised by replacing the entire bow or stern section of the ship.

Lloyd's Register of Ships

Lloyd's Register (LR) provides the most complete database of the world's merchant fleet that is available. LR has maintained a listing of ships since the eighteenth century and the current database lists around 90,000 vessels, including ships on order as well as existing ships. All ships have to be registered with a national authority to be able to trade. Lloyd's Register includes a list of all registered ships and is regarded as the "official" listing of the global fleet. This database has been used as the source of fleet and orderbook statistics. (It should be noted that the LR organisation also includes a classification society that provides quality assurance services to shipping and shipbuilding, among other industries, and a publishing company.)

Niche ship types

Construction of niche ship types is restricted to a small number of builders. Entry costs are very high due to high capital costs and the high cost of technology development to meet the demands of these most technologically sophisticated of ship types.

Cruise: The characteristics that mark cruise ships out from other market sectors are the complexity of the product (arguably, along with major warships, these are the most complex products produced by any industry) and the standard of finish required. The size of ships has been increasing over time: for example, the *Queen Mary II*, at some 140,000 cgrt, dwarfs the *Titanic* at around 30,000 grt. The construction cycle is measured in years, rather than in months as is the case for bulk ship types, and much of the work involved in construction is related to fitting of public spaces aboard the ship and the increasingly complex systems for running the vessel.

LNG: Liquid natural gas (methane) is carried at temperatures of around $-160\text{ }^{\circ}\text{C}$ and as such presents very significant technical difficulties in the design of the cargo containment system. The ships are large and the potential hazard represented by the cargo (an explosion of one of these ships would represent a blast of several mega-tonnes) dictates that the standards of construction are higher than any other class of ship. Construction is therefore restricted to a small number of licensed builders, and entry costs into this sector are very high. Two containment systems have been developed. The original system used spherical tanks and is based on a design by the Norwegian shipbuilder, Moss Rosenberg. These ships are often called “Moss type” or “spherical type”. The alternative system uses more conventionally shaped tanks based on designs by the French Gaz Transport or Technigaz, normally referred to as “membrane type”.

Other types of ships

Suezmax: Refers to the largest tanker that can transit the Suez Canal fully laden, around 150,000 dwt.

Aframax: AFRA stands for “American Freight Rate Association”. This term has become the standard designation of smaller crude oil tankers, typically around 115,000 dwt.

Panamax: This refers to the maximum size of ship that can transit the Panama Canal, with a width restriction of 32.2 m. This is a relatively new class in the products tanker fleet (Panamax is traditionally a dry bulk ship classification) with a size typically around 70,000 dwt.

Handysize / Handymax: Typical products tankers are between around 35,000 dwt and 45,000 dwt. The designation “handysize” is taken from a similar ship size in the dry bulk fleet, traditionally the workhorse of the dry bulk trades and thus earned the designation. The size of ships in this category has gradually increased giving rise to the term Handymax, which has no specific limit.

Capsize: Refers to ships that are too large to transit the Panama Canal and therefore have to route around Cape Horn. These ships carry major bulk cargoes on long-haul routes and are typically around 170,000 dwt.

Post-Panamax: Refers to container ships that are too large to transit the Panama Canal (Panamax container ships of 3,000 to 4,500 TEU can). This class of ship tends to work on trans-oceanic routes, and the largest ships now rival VLCC tankers in terms of physical dimensions. The size range was typically around 5,500 TEU (i.e. capacity to carry 5,500 containers) up to over 8,000 TEU. However, the maximum size of ship is continuously increasing (now 10,000 TEU).

Other cargo-carrying ship types

Chemical tankers: Designed to carry relatively small parcels of higher-value chemicals, such as acids or polymers. Ships are typically relatively small, up to around 25,000 dwt. Chemical tankers are classed according to categories dictated by the International Maritime Organization (IMO) which classes chemicals according to the level of hazard they represent. IMO class I represents the greatest hazard and requires ships with sophisticated tanks and cargo-handling systems; often manufactured from stainless steel, these types of vessels have also been used to transport alcohol such as vodka. IMO class II represents a lower class of hazard with relatively normal tanks and cargo-handling systems. IMO class III refers to low-hazard chemicals, such as many petroleum products. There is a blurring of the distinction between products and chemical tankers for these lower classifications. (Lloyd’s Register’s classification “chemical/products carrier” normally refers to a products tanker rather than a chemical tanker.)

LPG tankers: Designed to carry liquefied propane or butane under pressure, with typical sizes up to around 25,000 dwt. The level of sophistication in the cargo containment system is relatively high compared to crude oil or

petroleum products tankers, but is far below the complexity of an LNG (methane) carrier.

Ro-ro: An acronym standing for “roll-on-roll-off”, which refers to the method of loading the cargo on wheeled vehicles, or trailers via ramps that lower onto the quayside. Subtypes include dedicated vehicle carriers for transport of cars and other vehicles from the manufacturer to the distributor. Such ships can be large and there is no typical size. The characteristics of this ship type are large cargo capacity and multiple internal decks. The complexity in building largely arises out of the complexity of the structure, the thin nature of the plate from which the ships are fabricated, and sophisticated hydraulic ramps and other cargo-loading systems.

Ferry: Designed for transporting passengers and often vehicles as well; the market divides into three main groups. Ro-ro ferries tend to be large ships, often operating on relatively short sea routes such as across the English Channel or within archipelagos. A new generation of ships has emerged for longer routes, known as cruise-ferries, which offer a higher standard of passenger accommodation and some of the facilities offered by cruise ships. Finally there are fast ferries that tend to be smaller, may have multiple hulls (catamarans), and are often built from aluminium rather than steel.

Organisation for Economic Co-operation and Development Working Party on Shipbuilding

The Paris-based OECD established on 30 September 1961 (now with thirty-four member countries) has maintained a shipbuilding working group for a number of decades. The aim of this group has largely been to work to achieve a level playing field in the shipbuilding industry, and it has undertaken research in particular relating to capacity and price. The group publishes regular papers on the results of its research.

Overcapacity

Simply put, overcapacity occurs when there are too many shipyards chasing too few orders. The ill effects of overcapacity have long been known in shipbuilding and the control of capacity was at the core of the restructuring of the industry in the 1970s and 1980s in both Europe and Japan. Within

the European Community, from the 1970s, shipbuilding subsidy directives permitted subsidy to shipbuilding while simultaneously restricting capacity. No capacity development was permitted, and during the 1980s large-scale shipyard closures and job reductions were seen throughout Western Europe. In Japan the rationalisation programme also saw a major reduction in the workforce along with rationalisation of shipyards. In addition to this the Japanese government controlled the rate of intake of new orders to stop any tendency towards capacity expansion as order volume eventually improved. These measures were aimed specifically at trying to ensure that, once the market had recovered, the industry globally could return to normal economic conditions.

Shipbuilding

The hulls of the vast majority of commercial ships are constructed from steel. A small number of specialised types (notably some fast ferries) are built from aluminium. Composites (fibre- or glass-reinforced plastic) are very rarely used in commercial ship construction.

Shipbuilding can broadly be classed as an assembly industry. The traditional view of the process is that it has two distinct stages:

Steelwork: The pre-fabrication, assembly, and erection of the steel structure of the ship.

Outfit: The installation of the main and auxiliary engines, steering gear, pumps, lifting gear-deck cranes, equipment, and fittings into the ship.

Traditionally, the two parts of the process were undertaken sequentially, with outfitting starting once the steel structure had been finished. Since the 1960s, however, with the rise of block-assembly methods of production, the two stages have been undertaken as far as possible in parallel to improve efficiency. The basic unit of the ship's structure is a steel panel constructed from plate to which steel bars are welded to give adequate stiffness. The majority of panels in a ship will be flat but a proportion has to be shaped in two or three dimensions to provide curves. Steel plates and bars are cut to a pre-determined shape prior to fabrication, with the cutting process being automated in a fabrication shop in a modern shipyard. Much of the flat-panel production can also be automated using "panel-assembly lines" that require little human intervention to produce large quantities of fabricated

steel. Flat and curved panels are joined together to form three-dimensional steel assemblies. As much of the outfit equipment and fittings as possible is incorporated into these assemblies at the earliest stage since the cost of outfitting increases significantly as the shipbuilding process proceeds. Assemblies may be further blocked together before final erection in the building dock or on the building berth. Most leading shipbuilders now build in docks. The limit on the size of block that can be erected is determined by the capacity of the dock, the overhead gantry cranes, and/or adjacent berth cranes. Fundamentally, the larger the block that can be erected at this stage, the more efficient the shipyard can potentially be. The steel and outfitting work on the ship will be completed as far as is practical in the dock before the dock is flooded and the ship floated out: the modern equivalent of launching from an inclined slipway. After float-out, the systems will be commissioned and tested, and the ship will complete a series of trials including reaching contractual speed before delivery.

While it has been possible to automate some shipbuilding processes, in particular at early stages of production, shipbuilding remains a relatively highly skilled enterprise. It also remains labour-intensive with the number of man-hours required for the production of a ship typically being of the order of 0.3 to 1.5 mn. The major trades used include steelworker, welder, pipefitter, mechanical fitter, electrician, sheetmetal worker, and joiner/outfitter. The shipyard is likely to carry most of these skills itself but a proportion of the production work will be sub-contracted to specialist companies. Traditionally, sub-contracting covered installation of air conditioning, hydraulic systems, and painting; however, sub-contracting now covers most shipyard trades, as employers strive to cut costs in an increasingly competitive market for ships.

The balance of skills, in particular between the steelworking and outfitting trades, varies by type of ship. The characteristics of the shipbuilding facilities also vary by type and size of ship. For example, a shipyard set up to build tankers in series, with high-volume throughput and a predominance of steelwork, will be less efficient at building niche ship types with a high outfit work content and low throughput. Such ships can be built in the same facilities but it may be difficult to achieve this mix economically without significant investment to avoid disruption to the main production flow.

In addition to the production capabilities of a shipyard (incorporating the characteristics of physical facilities and the balance of workforce skills), management and organisational skills are of paramount importance in the shipbuilding process. A typical ship will involve the assembly of millions of parts, and the logistical skill of a yard in planning work and controlling

material flow is one of the keys to its effectiveness. Design skills are also a key to efficiency. Design at all levels of detail can have a major effect on the efficiency of the production process, as well as the operational efficiency of the finished ship. The products of the modern shipbuilding industry are among the most technologically sophisticated produced by any industry.

Shipbuilding costs

The basic relationship between production costs and price are that direct costs plus overhead costs equal operating costs plus interest costs and depreciation equal breakeven cost plus profit-loss-subsidy.

Direct costs: The direct costs for the production of the ship include four main elements: material costs (including sub-contracts), labour costs, working capital costs for the construction of the ship, and other direct charges including classification fees, design costs, warranty provision, and insurance.

Overhead costs: The revenue from the ship must make a contribution to overhead costs. The main categories are costs of sales and marketing, general costs, and administration costs.

Operating costs: The sum of the direct costs and overhead provision gives the operating cost, and the difference between this value and the price gives the operating profit. It is often the operating profit that is quoted by shipyards when discussing profit. This is not a measure of profitability of the company, however, because it does not include provision for below-the-line items, in particular the financial burden imposed by the investment in the facility. In shipbuilding this can be very high because of the high cost of developing facilities and technology.

Interest costs: This category includes the cost of interest in relation to the development of the shipyard and the overall financial situation of the company, rather than working capital interest, which is included in direct costs. Interest costs in shipbuilding can be substantial, because of the high cost of development of the facility and, in some cases, the high cost of financing accumulated losses.

Depreciation: The contract should make a contribution to the cost of development of the facilities in which it is constructed. In the profit-and-loss

equation this is done through depreciation. In terms of cash flow the contract should make a contribution to the debt-servicing commitments of the company in cash terms. In a shipyard, cash to repay loans has to be generated from the construction of ships, and the price must include a provision to reflect this.

Breakeven cost: This is the level at which profitability should be measured. In shipbuilding, when prices are low, it is often convenient for shipbuilders to price with reference to the operating cost without taking below-the-line costs into account. The alternative may be not to take the contract, an outcome that is difficult to accept in shipbuilding because of the imperatives of keeping a large workforce and expensive facilities busy. This is a high-risk strategy, given the sizeable cost of operating a shipyard.

Profit-loss-subsidy: If the breakeven cost is lower than the price, then the shipyard will generate a profit. Alternatively the contract will make a loss. In a healthy business the occasional loss over a contract could be regarded as normal. If too many of the contracts are loss-making, however, a subsidy will be required to keep the business open. Subsidies, overt and covert, have been consistent features of shipbuilding.

Added value: Added value is, effectively, that portion of the revenue from the ship that is available to run the business of the shipyard, covering labour costs, overhead, interest, depreciation, and profit.

Shipbuilding and ship-repairing labour

Shipbuilding and ship repairing are relatively skills-intensive supply-side industries, and direct and indirect jobs have always been at the mercy of global, sectoral, and regional collapse in shipping. Although the sector has historically been highly unionised in North America and Western Europe, the amount of direct and unionised employment has steadily fallen over the past century, and the trend continues as competition for available orders intensifies. Changes in production and technological progress have impacted strongly on trade boundaries and employment, as have the increasing use of sub-contract and mostly non-unionised labour. Outsourcing of hull production to cheaper countries has also had an impact on the balance of trades in shipbuilding, and in ship repair, given global competition, sub-contract workers predominate over directly employed

workers in the business models of ship repairing firms. The number of days worked is directly related to orders won by firms, a situation that gives rise to precarious employment with insufficient social compensation from governments. Within the European Union, where workers have a right to work in any member country, there has been a great deal of continental migration of workers in shipbuilding.

Ship conversion

Normally, but not exclusively, undertaken in ship repairing establishments. Oil tankers, for example, can be converted into floating production storage and offloading units.

Ship ownership and nationality

The ownership and nationality of a ship are complex issues. It should be noted that terminology varies and definitions are open to debate.

Registered owner: The registered owners of all ships are listed in Lloyd's Register of Shipping; there are, however, a number of complications that cloud this category. First, the registered owner may be a finance company providing a mortgage on the ship or a leasing company that leases the ship to an operator. Such an ownership gives no indication of the effective buyer of the ship. Second, it is common practice that ships are purchased through limited companies specifically formed for the purpose of owning that single ship. This company may well be part of a web of companies, and such companies are normally registered offshore in countries such as Panama. The registration of the company therefore is not a reliable guide to the nationality of the buyer or the effective operator of the ship.

Beneficial owner: This term refers to the owner that derives benefit from the operation of the ship. The beneficial owner may be the registered owner or may operate the ship on behalf of others. Such third-party operations may be in the form of a manager of the ship on behalf of another owner or as the effective owner of a ship that is technically the property of a financial institution, such as a bank or leasing company that buys the ship on the owner's behalf. Lloyd's Register uses the term "country of economic

benefit” to designate the best country in which to count ownership, based on beneficial ownership.

Ship manager: The ship’s owner may not wish to operate the ship at all, in which case it may be given to a ship-management company to handle day-to-day operations. Major owners often operate a fleet that is made up of ships they own directly (albeit through single-purpose offshore companies), ships owned by financial institutions but for which they are the beneficial owner, and ships managed on behalf of others.

Charterer: Ships are commonly operated on a charter basis in the shipping industry. The basis of the charter may be a contract to use part of the ship for a specific cargo, an entire ship for a specific voyage, or a contract to operate the ship for a specific period. This latter arrangement is known as a “time charter”. Under a time charter the owner or manager may operate the ship on behalf of the charterer or the charterer may seek to operate the ship himself, using his own crew and ship-management facilities. In this case the charter is known as a “bareboat charter”, and the ship will appear to all intents and purposes to be owned by the charterer. This will often include having the ship repainted to match the charterer’s livery and using the charterer’s own crew. In recent years there has been an increase in the number of ships purchased for specific time charters. In this case the effective owner of the ship may be regarded as the charterer rather than the registered owner. As a consequence of this ownership structure, the notion of an importing company for the goods produced by a shipyard is obscured. For example a German container ship operator may acquire a ship bought on their behalf by a group of German private investors through a single-purpose company registered in the Bahamas. The ship will be leased or chartered back to the operator.

Ship repairing

In ship repair, time and tide are most important for shipowners. Ships are mobile and expensive items of capital equipment and are required to earn as much as they can over their lifetimes. Time spent in port or in dock therefore limits earning potential. Shipowners obviously prefer having their vessel repaired in the terminal port in which it was based or where it discharged its cargo and awaited a new cargo. Historically, ship repair firms grew to service the type of vessels using the port, small or

large, cargo vessels, passenger ships, bulk carriers, tankers, etc., and the size of ships dictated the size of dry docks. Ship repair therefore, grew as a service to shipping where firms traded in commodities. Ship repairing ranges from routine maintenance of vessels over a short duration on an annual or bi-annual basis: de-fouling, repainting of the hull to prevent excessive corrosion, overhauling of main or auxiliary engines, etc., to voyage repairs, or major damage repairs or conversions, including jumboisation, which could last weeks or months. Ship repairers use the same techniques as the hull side of shipbuilding and the same machinery as the specialist marine-engine builder. Historically, labour in the ship repairing industry was casualised (workers being hired for the day or for a fixed term and being paid wages in cash) and this has persisted, but in the different form of sub-contracting. Modern ship repairing firms tend to employ a very low percentage of full-time workers requiring pensionable employment and contractual legal obligations.

Sub-contracting

A sub-contractor is either an individual or in many cases a business that signs a contract to perform part or all of the obligations of another's contract. Sub-contractors are normally hired by a general (or prime or main) contractor to perform job-specific tasks. The incentive to hire sub-contractors is either to reduce labour, taxation, pension, and welfare costs, or to mitigate project risks where the shipbuilder has little expertise at lower overall risk.

Tonnage

Gross registered tonnage (grt): A measure of volume, not weight. It measures the volume of enclosed space in a vessel, one gross registered ton being the equivalent of 100 cubic feet of volume. Merchant shipbuilding output in launching and completion was commonly expressed in terms of grt.

Compensated gross registered tonnage (cgrt): Since 1978 (sponsored by the OECD, with the joint agreement of the Association of Western European Shipbuilders and the Shipbuilders Association of Japan) this is the now generally accepted measure as it became widely understood that it took considerably longer to build a container ship rather than a simple bulk carrier. The grt measure made no allowance for variations in work content

in tonnage produced. The cgrt measure is calculated by multiplying gross tonnage by agreed coefficients that measure the work involved in producing different types of ships. The coefficients are designed to reflect standard man-hours required to produce different types of vessels. It is now common practice to record national shipbuilding statistics in cgrt.

Deadweight tonnage (dwt): A true measure of weight not of the ship, but of the maximum tonnage of cargo and fuel when the vessel is loaded down to its summer load line. It is widely employed on vessels such as tankers and bulk carriers, but is not usually applied to passenger vessels.

Standard displacement tonnage (std): Exclusively applied to naval vessels as a measure of the weight of water displaced by a warship when fully manned and equipped, including stores and ammunition, but excluding fuel and reserve water.

TEU: Denotes “twenty-foot equivalent unit”, this is the key measurement of the cargo-carrying capacity of a container ship. One TEU is the standard shipping container that can be seen on trucks and train carriages; it is a steel box with dimensions of 8’6” high and wide and 20’ in length. While there may be some variation within that space, for example possibly incorporating a tank for carrying liquids or a refrigerated space, the dimensions of the unit will not vary. However, some routes and ships permit the use of a double-sized box at 8’6” high and wide and 40’ in length. This may be referred to as one FEU or “forty-foot equivalent unit”, or two TEU.

Cubic capacity: Certain ship types may have a size designated by the cubic capacity of the cargo it carries. Chief among this category are liquid gas carriers with size designated in cubic metres, equivalent to the volume of liquid gas they may carry.

Other measures: Specific ship types may have their capacity designated in the most appropriate units, for example in number of cars for a car transporter, in number of passengers for a cruise ship, or in the number of animals for a livestock carrier.

ULCC: Ultra-large crude carrier: the biggest tankers of 400,000 dwt and above.

VLCC: Very large crude carrier: a large tanker of 200,000 dwt and above.

Collective bibliography

- Aamundsen, Thorvild Ring, *Reisningen av den norske skibsbyggingsindustri* (Oslo, 1941).
- Aardweg, H.P. van den *et al.*, *1900-1952. Een halve eeuw "Droogdok"* (Rotterdam, 1952).
- Adams, Stephen B., *Mr Kaiser Goes to Washington: The Rise of a Government Entrepreneur* (Chapel Hill, NC, 1997).
- Agosti, Aldo, *Il partito provvisorio. Storia del Psiup nel lungo Sessantotto italiano* (Rome and Bari, 2013).
- Ågotnes, Hans-Jakob, *100 år i kamp og samarbeid: jernarbeiderne i Bergen: Bergen jern og metall, Avd. 5: 1890-1990* (Bergen, 1990).
- Ågotnes, Hans-Jakob, "Skipsbygging, jernarbeidarar og fagleg kamp: om arbeidsprossar, skipsbygging og fagleg verksemd i jern- og metallindustrien 1900-1920", hovedoppgave i historie, *Arbeidslivsprosjektets skriftserie no. 2* (Bergen, 1985).
- Akamatsu, Kaname, "A Historical Pattern of Economic Growth in Developing Countries", *The Developing Economies*, 1, 1 (1962).
- Albert, Götz, *Wettbewerbsfähigkeit und Krise der deutschen Schiffbauindustrie 1945-1990* (Frankfurt am Main, 1998).
- Alén, José Gómez, *As Comisiões Obreiras de Galicia e a conflictividade laboral durante o franquismo* (Vigo, 1995).
- Alén, José Gómez, "El Ferrol y la Bazán. Ciudad e industria", in Rubén Vega (ed.), *Astilleros en el Arco Atlántico. Trabajo, historia y patrimonio* (Gijón, 2013).
- Alén, José Gómez, *Manuel Amor Deus. Unha biografía da resistencia obreira ao franquismo*, Fundación 10 de Marzo (Santiago, 2008).
- Alén, José Gómez, "La organización del trabajo y los conflictos laborales en Galicia, 1960-1975", in S. Castillo (coord.), *El trabajo a través de la Historia* (Madrid, 1995).
- Alén, José Gómez, and Víctor Santidrán, *O 10 de Marzo: unha data na historia*, (Santiago, 1997).
- Alén Gómez, José, and Víctor Santidrián Arias, *Historia de Comisiões Obreiras de Galicia nos seus documentos* (Sada, 1996).
- Alexander, K.J.W., and C.L. Jenkins, *Fairfields: A Study in Institutional Change* (London, 1970).
- Alexandru, Ing. C., and Ing. L. Aburel, *ICEPRONAV Galați, 25 de ani de activitate, 1966-1991. Istoric – prezentare – realizări* (Galați, 2008).
- Allen, G.C., *A Short Economic History of Modern Japan* (London, 1972).
- Alonso, Ángel, "Astilleros varados. Construcción naval de Gijón, el ocaso de un gigante", in Rubén Vega García (ed.), *Astilleros en el Arco Atlántico. Trabajo, historia y patrimonio* (Gijón, 2013), 103-128.
- Altwater, Elmar, Jyer Hübner, *et al.*, *Die Armut der Nationen. Handbuch zur Schuldenkrise von Argentinien bis Zaire* (Berlin, 1987).
- Alveng, Dag, and Hanne Müller, *Verftet i Solheimsviken* (Bergen, 1990).
- Amsden, Alice H., *Asia's Next Giant: South Korea and Late Industrialization* (New York and Oxford, 1989).
- Andaya, L.Y., "Interaction with the Outside World and Adaptation in Southeast Asian Society, 1500-1800", in N. Tarling (ed.), *The Cambridge History of Southeast Asia*, vol. I (New York, 2008; 1st edn, 1992).
- Andersen, Håkon With, *Fra det britiske til det amerikanske produksjonsideal: forandringer i teknologi og arbeid ved Aker mek. verksted og i norsk skibsbyggingsindustri 1935-1970* (Trondheim, 1986).

- Andersen, Håkon With, Bo Stråth, and Thommy Svensson (eds), *Olje, verft og redere: et seminar om norsk og svensk skipsbyggingsindustri og norske redere i vårt århundre* (Trondheim, 1980).
- Anderson, Karen, *Wartime Women: Sex Roles, Family Relations, and the Status of Women During World War II* (Westport, CT, 1981).
- Andersson, Ingemar, and Mats Sjölin, *Ackordsliv* (Göteborg, 1990).
- Antunes, Maria Paula, “No tempo em que os homens usavam chapéus. Uma abordagem à Resistência Operária na Marinha Grande durante o Estado Novo”, Dissertação de mestrado (Lisboa, 2010).
- Antunes, Ricardo, *O novo sindicalismo* (São Paulo, 1991).
- Aplin, Graeme, and John Storey, *Waterfront Sydney: 1860-1920* (Sydney, 1984).
- Arcary, Valério, “Os limites da estabilidade social. Até quando irá a sociedade ‘aguentar’ o estado a que isto chegou?”, in Raquel Varela (coord.), *A segurança social é sustentável. Trabalho, estado e segurança social em Portugal*, 365-430.
- Archibald, Katherine, *Wartime Shipyard: A Study in Social Disunity* (Los Angeles, 1947).
- Arlebäck, Sven Olof, *Från ägarmakt till företagsledarmakt u p a* (Lund, 1995).
- Assis, Luiz F. “Desafios, necessidades e perspectivas na formação e capacitação de recursos humanos na Área Aeronáutica e Aquaviária”, Senado Federal – audiência pública de infraestrutura, Brasília, 31 May 2010.
- Australian Bureau of Statistics, *2011 Census of Population and Housing* (Canberra, 2011).
- Australian Bureau of Statistics, *Employee Earnings, Benefits and Trade Union Membership Australia* (August 2011), Doc. 6310.0, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/6310.0Main+Features1August%202011?OpenDocument> (last accessed 29 August 2016).
- Australian Government, *Report from the Joint Committee of Public Accounts upon the Commonwealth Naval Dockyard, Cockatoo Island* (Sydney, 1919).
- Ayre, Sir Amos, “Merchant Shipbuilding During the War”, *Transactions of the Institute of Naval Architects*, April 1945.
- Azpiazu, Daniel, and Eduardo Basualdo, “Las privatizaciones en la argentina. Génesis, desarrollo y principales impactos estructurales” (Buenos Aires, 2004), <http://bibliotecavirtual.clacso.org.ar/ar/libros/argentina/flacso/azpiazu.pdf> (last accessed 29 August 2016).
- Azpiazu, Daniel, and Martin Shorr, *Hecho en Argentina. Industria y economía. 1976-2007* (Buenos Aires, 2010).
- Bachman, D. (ed.), *Romania: A Country Study* (Washington, DC, 1989).
- Badaró Mattos, Marcelo, *Novos e velhos sindicalismos no Rio de Janeiro* (Niterói, 1999).
- Bae Sukman (배석만), “The Attempt at Capital Accumulation and the Causes of Its Failure at the Korea Shipbuilding and Engineering Corporation in the 1950s” (1950년대 대한조선공사의 자본축적 시도와 실패원인), *Busan Historical Review* (부산사학), 25-26 (1994), 157-202.
- Bae Sukman (배석만), “The Management of Choseon Heavy Industries Inc. During the Pacific War and Its Reorganization After the Liberation of Korea” (조선중공업주식회사의 전시경영과 해방 후 재편과정), *History and Boundary* (역사와 경계), 60 (2006), 221-268.
- Baer, Werner, *The Brazilian Economy: Growth and Development* (Boulder, 2008).
- Baker, Christopher John, and Pasuk Phongpaichit, *A History of Thailand* (New York, 2009; 1st edn, 2005).
- Balch, Roger, “Patrol Vessel Programmes and Requirements in South East Asia”, *Military Technology*, 26, 2 (1 February 2002).
- “Baltexpo '88: Die Schiffbaukrise in der Welt und in Polen”, *Schiff und Hafen*, 6 (1988).
- Banco de Bilbao, *Galicia. Su realidad socio-económica* (Bilbao, 1970).

- Barbosa Pereira, Luisa, "Navegar é preciso: sindicalismo e judicialização ativa dos trabalhadores da indústria naval carioca", PhD Thesis (Rio de Janeiro, Universidade Federal do Rio de Janeiro, 2014).
- Barnett, Correlli, *The Audit of War: The Illusion & Reality of Britain as a Great Nation* (London, 1986).
- Barragán, Ivonne, "Acción obrera durante la última dictadura militar, la represión en una empresa estatal. Astillero Río Santiago (1974-1984)", in Victoria Basualdo (ed.) *La clase trabajadora argentina en el siglo XX: experiencia de lucha y organización* (Buenos Aires, 2011).
- Barragán, Ivonne, "Disciplinamiento industrial, represión y conflictividad obrera en una empresa estatal. Astillero Río Santiago (1973-1976)", in *VI Jornadas de Historia del Trabajo y II Seminario Internacional Mundos del Trabajo* (Rio de Janeiro, 2012).
- Barreto, António, and Clara Valadas Preto, *Portugal 1960/1995: indicadores sociais* (Mirandela, 1996).
- Barsted, Dennis, *Medição de Forças: o movimento de 1953 e a época dos operários navais* (Rio de Janeiro, 1982).
- Bastida, Francisco J., *Jueces y franquismo. El pensamiento político del Tribunal Supremo* (Barcelona, 1986).
- "La batalla de las elecciones sindicales", *Nuestra Bandera*, 49-50 (1966), 8-10.
- Beeson, M., "The United States and East Asia: The Decline of Long Distance Leadership?", *Asia-Pacific Journal*, 43, 1 (26 October 2009).
- Beeson, Mark, "Who Pays the Ferryman? Industry Policy and Shipbuilding in Australia", *Australian Journal of Political Science*, 32 (1997), 437-454.
- Behling, Helmut, and Reinhold Thiel, *Bremer Vulkan. Ende einer Ära* (Bremen, 1997).
- Bellini, N., *Stato e industria nelle economie contemporanee* (Rome, 1996).
- Berggren, Lars, *Ångvisslans och brickornas värld: Om arbete och facklig organisering vid Kockums mekaniska verkstad och Carl Lunds fabrik i Malmö 1840-1905* (Lund, 1991).
- Berggren, Lars, "The Effects of the Shipbuilding Crisis in Malmö, Southern Sweden", in Randi Ertesvåg, David J. Starkey, and Anne Tove Austbø (eds), *Maritime Industries and Public Intervention* (Stavanger, 2002), 194-204.
- Berggren, Lars, "Från arbetarskydd till arbetsmiljö", in *Det tyser en framtid: Svenska Metallindustriarbetareförbundet 1957-1981* (Stockholm, 2008), 577-657.
- Berggren, Lars, and Lars Olsson, "Arbetsmiljö, hälsa och arbetarskydd", in *Metall 100 år – fem uppsatser* (Stockholm, 1988), 53-82.
- Beth, L., A. Hader and R. Kappel, *25 Years of World Shipping* (London, 1984).
- Bigazzi, Duccio, "Culture ed etica del lavoro", in Paolo Favilli and Mario Tronti (eds), *Classe operaia. Le identità: storia e prospettiva* (Milan, 2001).
- Binneveld, J.M.W., *De stakingen in de Rotterdamse metaalindustrie in 1965* (Rotterdam, 1974).
- Birke, Peter, *Wilde Streiks im Wirtschaftswunder. Arbeitskämpfe, Gewerkschaften und soziale Bewegungen in der Bundesrepublik und Dänemark* (Frankfurt am Main and New York, 2007).
- Bjørnhaug, Inger, et al. (eds), *I rettferdighetens navn. LO 100 år. Historiske blikk på fagbevegelsens meningsbryntinger og veivalg* (Oslo, 2000).
- Bjørnhaug, Inger, et al., "Solidaritetsens grenser. Tariffpolitiske betraktninger i et hundreårsperspektiv", in Inger Bjørnhaug et al. (eds), *I rettferdighetens navn. LO 100 år. Historiske blikk på fagbevegelsens meningsbryntinger og veivalg* (Oslo, 2000).
- Blanchard, W. (ed.), *Thailand, Its People, Its Society, Its Culture* (New Haven, CT, 1958).
- Blanco Núñez, José María, *La construcción naval en Ferrol, 1726-2011* (Madrid, 2011).
- BNDES (Brazilian Development Bank), "Construção naval no Brasil e no mundo", *BNDES Informe de Infra-estrutura* n.º 14. Área de Infra-estrutura/Gerência de Estudos Setoriais, 3 September 1997.

- Bohlin, Jan, *Svensk varvsindustri 1920-1975: Lönsamhet, finansiering och arbetsmarknad* (Göteborg, 1989).
- Bollard, Robert, "The Active Chorus: The Mass Strike of 1917 in Eastern Australia" (PhD, Victoria University, 2007).
- Bologna, Sergio, *Le multinazionali del mare. Letture sul sistema marittimo-portuale* (Milan, 2011).
- Booz-Allen and Hamilton International, *British Shipbuilding, 1972: A Report to the Department of Trade and Industry* (London, 1973).
- Bore, Ragnhild Rein, and Tor Skoglund, *Fra håndkraft til høyteknologi – norsk industri siden 1829* (Oslo, 2008) <http://www.ssb.no/a/publikasjoner/pdf/sa100/sa100.pdf> (last accessed 29 August 2016).
- Borges, José C., and Carlos R.L. Silva, "Indústria da construção naval: a crise e recuperação", *BNDES Conjuntura Setorial*, July 2003, 47-50.
- Borodziej, Włodzimierz, *Geschichte Polens im 20. Jahrhundert* (Münich, 2010).
- Borselen, Jan Willem van, *De Kriegsmarine in Rotterdam tijdens de Tweede Wereldoorlog* (Rotterdam, 2012).
- Borthwick, A., *Yarrows: The First Hundred Years* (Glasgow, 1965).
- Botta, Livia, "Gli anni cinquanta a Genova", *Classe*, 19 (1981).
- Bouman, P.J., *Gedenkboek Wilton-Fijenoord: Dok- en werf maatschappij Wilton-Feijenoord NV* (Schiedam, 1954).
- Bowen, Wayne H., *Spain During World War II* (Columbia, MO, 2006).
- Bowornwathana, Bidhya, "Responses of Public Administration of Thailand to Global Challenges", in Sirajuddin Salleh and Ledvina Carino (eds), *Globalization and the Asian Public Sector* (Kuala Lumpur, 1995).
- Brandão de Brito, José Maria, *A industrialização portuguesa no pós-guerra. O condicionamento industrial* (Lisbon, 1989).
- Brej, Bert, *Een kwestie van principe, getuigschrift voor stakers. De fascinerende strijd van de Industriebonden in 1973* (Baarn, 1973).
- Bremische Bürgerschaft, *Drucksache 14 / 1147 Landtag 16.10.98, 14. Wahlperiode*, <http://www.bremische-buergerschaft.de/uploads/media/uabremervulkan.pdf> (last accessed 5 March 2014).
- Brenner, R., "What Is Good for Goldman Sachs Is Good for America: The Origins of the Present Crisis", Center for Social Theory and Comparative History (2009), www.sscnet.ucla.edu/issr/cstch/papers/BrennerCrisisTodayOctober2009.pdf.
- Brett, Judith, *Robert Menzies' Forgotten People* (Sydney, 1992).
- Brezeanu, Ioan, *Universitatea din Galați. Istorie și tradiții universitare* (Galați, 1992).
- Broeze, Frank, *The Globalisation of the Oceans: Containerisation from the 1950s to the Present* (St John's, 2002).
- Brown, A., *Labour, Politics and the State in Industrializing Thailand* (London and New York, 2004).
- Brugge, Jeroen ter, Gerbrand Moeyes, and Elisabeth Spits (eds), *Scheepsbouw in perspectief. Werven in Nederland circa 1870-2009* (Zutphen, 2009).
- Brugmans, I.J., *Paardenkracht en mensenmacht. Sociaal-economische geschiedenis van Nederland 1795-1940* (The Hague, 1961).
- Bruno, Lars, and Stig Tenold, "The Basis for South Korea's Ascent in the Shipbuilding Industry", *The Mariner's Mirror*, 97, 3 (2011), 201-217.
- Buchan, A., *The Right to Work* (Glasgow, 1972).
- Burawoy, Michael, *The Politics of Production: Factory Regimes Under Capitalism and Socialism* (London, 1985).

- Burawoy, Michael, and Pavel Krotow, "Der Übergang vom Sozialismus zum Kapitalismus in der früheren Sowjetunion: Arbeiterkontrolle und Bargaining in der Ökonomie", *Prokla* 88, 4 (1992), 508-552.
- "Burma's Unions Criticise Thailand over the Rights of Migrant Workers", BBC Monitoring Asia Pacific, London, 14 June 2011.
- Burrell, D., *The History of Furness, Withy and Company Limited, 1891-1991* (Kendal, 1992).
- Buxton, I., "The British Ship Repair Industry, 1900-1953; Four Case Studies", in D.J. Starkey and H. Murphy (eds), *Beyond Shipping and Shipbuilding: Britain's Ancillary Maritime Industries in the Twentieth Century* (Hull, 2007).
- Buxton, I., *Warship Building and Repair During the Second World War* (Glasgow, 1998).
- Cabanas, José A., et al., "La construcción integrada: una herramienta eficaz en la colaboración entre astilleros", in *XLIII Sesiones técnicas de ingeniería naval* (Ferrol, 2004).
- Cahill, Rowan, and Terry Irving, *Radical Sydney: Places, Portraits and Unruly Episodes* (Sydney, 2010).
- Calá, C., I. Mauro, F.Y. Graña, and J. Borello, *La industria naval argentina: antecedentes, dinámica reciente y situación actual* (Mar del Plata, 2008), nulan.mdp.edu.ar/1099/1/00562.pdf (accessed 8 July 2013).
- Calvo-Gonzalez, O., "American Military Interests and Economic Confidence in Spain Under the Franco Dictatorship", *Journal of Economic History*, 67, 3 (2007), 740-767.
- Cameron, G.C., "Post-War Strikes in the North-East Shipbuilding and Ship-Repairing Industry 1946-1961", *British Journal of Industrial Relations*, 2, 1 (March 1964), 1-22.
- Capmany, Joan, et al., *La industria en la economía de Galicia* (Barcelona, 1980).
- Caras, G., "US Maritime Administration Financing Procedures Available for New Ship Construction", *The Business Lawyer*, 36, 4 (1981), 1887-1897.
- Cardoso, Adalberto, *A década neoliberal* (São Paulo, 2003).
- Carlsson, Bo, "Industrial Subsidies in Sweden: Macro-Economic Effects and an International Comparison", *Journal of Industrial Economics*, 32 (1983), 1-23.
- Carminati, Mario, *Il settore delle costruzioni navali tra globalità e nazionalità* (Genova, 1991).
- Carmona Badia, Xoan, "La economía gallega en el periodo franquista, 1939-1975", in Jesús de Juana and Julio Prada (eds), *Historia Contemporánea de Galicia* (Barcelona, 2005).
- Carrubba, Pippo, *Lettere dalla fabbrica (1978-1999)* (Milan, 2000).
- Castronovo, Valerio (ed.), *Storia dell'Ansaldo* (Rome and Bari, 1994-2003).
- Caterino, Aldo, *Fucina di navi. Storia del cantiere navale di Sestri Ponente* (Genoa, 2012).
- CBS (Centraal Bureau voor de Statistiek), *Overzicht van den omvang der vakbeweging in Nederland op 1 januari 1932* ('s-Gravenhage, 1932).
- CBS (Centraal Bureau voor de Statistiek), *Produktiestatistieken Industrie. Scheepsbouw- en scheepsbouwreparatiebedrijven 1951-1986* (The Hague, 1959-87).
- CBS (Centraal Bureau voor de Statistiek), *Statistisch Zakboek 1972* ('s-Gravenhage, 1972).
- CBS (Centraal Bureau voor de Statistiek), *Vijfennegentig jaren statistiek in tijdreeksen 1899-1994* ('s-Gravenhage, 1994).
- CEP (Centro de estudios para la producción), *Fichas sectoriales: estructura y evolución 1991-2012*, Ministerio de Industria de la nación, www.industria.gov.ar/cep/informes-y-estadisticas/industriales/ (accessed 30 October 2013).
- CEP (Centro de estudios para la producción), *La industria naval en la Argentina*, Subsecretaría de desarrollo productivo de la Secretaría de Industria de la Nación (Buenos Aires, 2005), www.cep.gov.ar/descargas_new/panorama_sector_industria/estudios_del_sec_ind/2005/industria_naval.pdf (accessed 25 July 2013).

- Chang, Dae-Oup, "Fetishised State and Reified Labour: A Critique of the Developmental State Theory of Labour", www.iippe.org/wiki/images/a/ao/Fetishised_state_and_reified_labour-daeoup.pdf.
- Chida, Tomohei, and Peter N. Davies, *The Japanese Shipping and Shipbuilding Industries: A History of Their Modern Growth* (London, 1990).
- Chmiel, Beata, and Elżbieta Kaczyńska (eds), *Postulaty 1970-71 i 1980. Materiały źródłowe do dziejów wystąpień pracowniczych w latach 1970-1971 i 1980* (Warszawa 1998).
- Cho, D.S., and M.E. Porter, "Changing Global Industry Leadership: The Case of Shipbuilding", in M. Porter (ed.), *Competition in Global Industries* (Boston, 1986).
- Choi, Jangjip, *Labor and the Authoritarian State: Labor Unions in South Korean Manufacturing Industries, 1961-1980* (Seoul, 1989).
- Cîmpineanu, Jeni, "Marina comercială română (1944-1954). Sovromtransport", in Carmen-Irène Atanasiu and Andreea Atanasiu-Croitoru (eds), *Flota maritimă comercială română între tradiție și actualitate* (Constanța, 2011), 207-224.
- CINAR (Complejo naval industrial argentino), *Informe al Honorable Congreso de la nación* (Buenos Aires, 2011).
- Clarke, J.F., *Building Ships on the Northeast Coast: A Labour of Love, Risk and Pain*, 2 vols (Whitley Bay, 1997).
- Clemente, Eloy Fernández, "Problemas y ritmos de la modernización económica peninsular en el siglo XX", in Hipólito de la Torre Gomez (ed.), *Portugal y España contemporáneos* (Madrid, 2000).
- Comissão Coordenadora das Comissões de Trabalhadores da Indústria Naval, *7º Encontro de Trabalhadores da Indústria Naval* (1982).
- Comitato interministeriale per la Programmazione Economica, *Relazione della commissione interministeriale di studio per i cantieri navali* (Rome, 1966).
- Commission on Industrial Relations, *Report No. 22: Shipbuilding and Repairing* (London, August 1971).
- Conceição, Alberto et al., *Setenave, História de um estaleiro 1971-1989* (Lisbon, 2015).
- Connell, R.W., *Ruling Class, Ruling Culture. Studies of Conflict: Power and Hegemony in Australian Life* (Cambridge, 1977).
- Connell, R.W., and Terry Irving, *Class Structure in Australian History* (Melbourne, 1980).
- Cooke, N., "The Junk Trade and Commodity Production in Eastern Cambodia, c. 1820s-1862", paper presented at the 15th Biennial Conference of the Asian Studies Association of Australia, Canberra, 29 June-1 July 2004.
- Coomans, Paul, Truike de Jong and Erik Nijhof, *De Eenheidsvakcentrale (EVC) 1943-1948* (Groningen, 1976).
- Coordinamenti nazionale Fiom-Cgil del gruppo Fincantieri, *Il caso Fincantieri. Capire oggi cosa accade domani* (Rome, 2007).
- Corlett, Ewan, *The Ship* (vol. 10 of *The Revolution in Merchant Shipping, 1950-1980*) (London, 1981).
- Corzo, Raúl, *Un sentimiento llamado Astillero* (Buenos Aires, 2010).
- Creigh, Stephen, *Australia's Strike Record: The International Perspective* (Sydney, 1986).
- Criterios ante una posible situación conflictiva*, Ministerio de Trabajo, 1971, Boletín Informativo de la Dirección General de Seguridad, 18 (Madrid, 1972).
- Cudahy, Brian J., *Box Boats: How Container Shipping Changed the World* (New York, 2006).
- Cushman, Jennifer Wayne, *Fields from the Sea: Chinese Junk Trade with Siam During the Late Eighteenth and Early Nineteenth Centuries* (Ithaca, NY, 1993).
- Dascălu, Dan Ioan, "Modelul 'Omului nou' în ideologiile totalitare din România secolului XX", *Analele Universității "Ștefan cel Mare" Suceava, Secțiunea Filosofie și Științe Socio-Umane* (2004), 31-49.

- Davies, A.F., *Images of Class: An Australian Study* (Sydney, 1967).
- Davies, Peter N., *Japanese Shipping and Shipbuilding in the Twentieth Century: The Writings of Peter N. Davies* (Leiden: 2009).
- Davies, Peter N., "The Role of National Bulk Carriers in the Advance of Shipbuilding Technology in Post-War Japan", *International Journal of Maritime History*, 4, 1 (1992), 131-142.
- Davies, Sam, et al. (eds), *Dock Workers: International Explorations in Comparative Labour History, 1790-1970*, 2 vols (Aldershot, 2000).
- Dekker, Ariëtte, *Cornelis Verolme. Opkomst en ondergang van een scheepsbouwer* (Amsterdam, 2005).
- Del Águila, Juan José, *El TOP. La represión de la libertad (1963-1977)* (Barcelona, 2001).
- Dempster, Peter, Terry Maidment and Michael Poole, *Review of the Shipbuilding Bounty: Occasional Paper 25* (Canberra, 1995).
- Department of Scientific and Industrial Research, *Research and Development Requirements of Shipbuilding and Marine Engineering* (London, 1960).
- Department of Trade, *Court Line, Final Report* (London, 1978).
- "Developments in Polish Marine Technology: Computers in Shipbuilding", in *JPRS Report: Science and Technology. Europe & Latin America* (Springfield, 1987), 95-103.
- Devos, Greta, "The Belgian/Flemish Shipbuilding Industry on the Slopes, 1978-1990", in Randi Ertesvåg, David J. Starkey, and Anne Tove Austbø (eds), *Maritime Industries and Public Intervention* (Stavanger, 2002).
- Deyo, F., *Beneath the Miracle: Labour Subordination in the New Asian Industrialism* (Berkeley, 1989).
- Dick, Howard, "Shipping", in Howard Dick and David Merrett (eds), *The Internationalisation Strategies of Small-Country Firms: The Australian Experience of Globalisation* (Cheltenham, 2007).
- Dirkzwager, J.M., "Scheepsbouw", in H.W. Lintsen et al., *Geschiedenis van de techniek in Nederland*, deel 4 (Zutphen, 1993), 67-102.
- Doner, R.F., *The Politics of Uneven Development: Thailand's Economic Growth in Comparative Perspective* (New York, 2009).
- Dores, Priscila B., Elisa S. Lage, and Lucas D. Processi, "A retomada da indústria naval brasileira", *BNDES 60 anos: perspectivas setoriais*, 1 (2012), 274-299.
- Doria, Marco, *Ansaldo. L'impresa e lo stato* (Milan, 1989).
- Dougan, D., *The History of the Shipconstructors and Shipwrights Association, 1882-1963* (Newcastle, 1975).
- Dows, Chip, et al., *Os moradores à Conquista da Cidade. Comissões de Moradores e lutas urbanas em Setúbal, 1974-76* (Lisbon, 1978).
- Dragicevic, Darjan, *The Political Economy of Shipbuilding in Post Socialist Transition: A Comparative Study of Croatia and Poland* (Budapest, 2007).
- Dubofsky, Melvin, and Joseph A. McCartin (eds), *American Labor: A Documentary Collection* (New York, 2004).
- Dudziak, Jan, *Rys historyczny polskiego przemysłu okrętowego* (Gdańsk, 2005).
- Earnshaw, Paul, "Australian Naval Shipbuilding: 1960s to the Present", *Journal of the Australian Naval Institute*, 24 (1998).
- Echigo, Kazunori, *Nihon zosenkogyo ron* (Tokyo, 1956).
- Eckhart, Bertil Johannes, "Djurgårdsgänget", in Manne Dunge (ed.), *Varvsliv: Minnen från en svensk industriepok* (Stockholm, 2004), 82-89.
- Eden, Anthony, *Full Circle: the memoirs of Anthony Eden* (London, 1960).

- Edwards, L., "The War Effort and Organisation of British Shiprepairing", *Transactions of the North East Coast Institution of Shipbuilders and Engineers* (1946-47).
- Einemann, Edgar, *Industriearbeiter in der Wirtschaftskrise. Zum Krisenbewußtsein von Werftarbeitern* (Bremen, 1982).
- Eisenhower, Dwight D., *The White House Years*, vols I-II (New York, 1963-65).
- Eisler, Jerzy, *Grudzień 1970: geneza, przebieg, konsekwencje* (Warsaw, 2000).
- Ekman, S., "Turun hitsaava teollisuus", *Hitsaustekniikka*, 3 (1958).
- Elphick, P., *Liberty: The Ships That Won the War* (London, 2001).
- Engels, Benno, "The Gentrification of Glebe: The Residential Restructuring of an Inner Sydney Suburb", PhD Thesis (University of Sydney, 1998).
- Estigarríbia, D., "La mesa nacional de concertación de la industria naval argentina", http://www.industrianaival.org.ar/noticias.php?id_noticia=152 (last accessed 25 July 2013).
- Exim Bank, *Machines.in*, 02 February 2011, http://machinist.in/index.php?option=com_content&task=view&id=3053&Itemid=1 (last accessed 20 June 2014).
- Fadda, E.A., "Construção naval – uma indústria global: as estratégias para a retomada do crescimento", in *SOBENA 18º Congresso Nacional*, Publicação 98, 2000, <http://www.transportes.gov.br/bit/estudos/constr-naval/industria-global.pdf> (last accessed 15 August 2010).
- Fairfield Shipbuilding and Engineering Co., *Fairfield, 1860-1960* (Glasgow, 1960).
- Faria, Miguel Figueira de, *Lisnave. Contributos para a história da indústria naval em Portugal* (Lisbon, 2001).
- Federação dos Sindicatos de Metalurgia, Metalomecânica e Minas de Portugal, *Indústria naval faz falta a Portugal / Debate nacional / a situação económica e social e as propostas dos trabalhadores* (1987).
- "Federation of Thai Industries Chairman Comments on Shipping Industry", Thai News Service, 24 December 2011.
- Fernandes, Jorge, "As relações sociais de trabalho na Lisnave: crise ou redefinição do papel dos sindicatos?", Master's Thesis (Instituto Superior de Ciências do Trabalho e da Empresa, 1999).
- Ferraz, João C., *Determinants and Consequences of Rapid Growth in the Brazilian Shipbuilding Industry* (London, 1986).
- Ferraz, João C. *et al.*, "Estudo da competitividade de cadeias integradas no Brasil: impactos das zonas de livre comércio", UNICAMP/IE, December 2002.
- Finnie, Richard (ed.), *Marinship: The History of a Wartime Shipyard* (San Francisco, CA, 1947).
- Fioratti, Nereo (ed.), *Ansaldo navi* (Rome, 1959).
- First Marine International. "Overview of the International Commercial Shipbuilding Industry: Background Report", report for the European Community (May 2003).
- Fogg, E., "Labour Organization in Thailand", *Industrial and Labour Relations Review*, 6, 3 (1953), 367-377.
- Forscherguppe "Metallerstreik 74", *Streik und Arbeiterbewußtsein. Bericht über eine sozialwissenschaftliche Untersuchung des Metallerstreiks im Unterwesergebiet 1974* (Bremen, 1978).
- Foster, J., and C. Wolfson, *The Politics of the UCS Work-In* (London, 1986).
- Fragiacomo, Paolo, *L'industria come continuazione della politica. La cantieristica italiana 1861-2011* (Milan, 2012).
- Frassa, Juliana, "Estrategias de resistencia laboral frente a la política privatizadora neoliberal. Reflexiones a partir del estudio de una empresa industrial", *Revista THEOMAI, Estudios sobre Sociedad y Desarrollo*, 22 (2010).
- Frassa, Juliana, "Los límites a la precarización del empleo. Reflexiones a partir del análisis de los mercados internos de trabajo y las relaciones laborales existentes en la empresa", in M.

- Busso and P. Pérez (comp.), *La corrosión del trabajo. Estudios sobre informalidad y precariedad laboral* (Buenos Aires, 2010).
- Frassa, J., and C. Russo, "Trayectoria reciente y perspectivas futuras de la industria naval pesada argentina: los astilleros estatales", *Revista Estudios Regionales y Mercado de Trabajo*, 8 (2012), 77-98.
- Frassa, Juliana, Mariana Versino, Claudiana G. Jesus, and Leda M.C. Gitahy, "El rol estatal en sectores estratégicos: la industria naval pesada en Argentina y Brasil", *Revista de Historia Industrial Economía y Empresa*, 1, 47 (2011), 151-181.
- Friedmann, Petra, "Arbeitsplatzabbau ohne Opfer?" in Heiner Heseler and Hans Jürgen Kröger (eds), *"Stell Dir vor, die Werften gehören uns ..." Krise des Schiffbaus oder Krise der Politik?* (Hamburg, 1983), 75-84.
- Furtado, Celso, *The Economic Growth of Brazil: A Survey from Colonial to Modern Times* (Berkeley, CA, 1963).
- Galicia. Su realidad socio-económica* (Bilbao, 1970).
- Galisi, Roberto, *Dai salvataggi alla competizione globale. La Fincantieri dal 1959 al 2009* (Milan, 2011).
- Garten, Klaus auf dem, *Boote, Yachten und Kleinschiffe aus Bremen. Ein (fast) vergessenes Kapitel Industriegeschichte 1847-1997* (Bremen, 2012).
- Garton Ash, Timothy, *The Polish Revolution* (London, 1983).
- Gascoigne, Steven, and Noel Whiteside, "Work and Welfare: A Comparison of the Swedish and British Shipbuilding Industry in the Context of Economic Decline", in Heide Haggren, Johanna Rainio-Niemi, and Jussi Vauhkonen (eds), *Multi-Layered Historicity of the Present: Approaches to Social Science History* (Helsinki, 2013), 233-246.
- Gaudio, Ricardo, *Sindicatos y empresas públicas* (Buenos Aires, 1986).
- Gibelli, Antonio, "I 'grandi costruttori': etica del lavoro, miti produttivistici e lotte operaie a Genova (1949-1951)", in Alfredo Micheli, *Ansaldo 1950. Etica del lavoro e lotte operaie a Genova* (Turin, 1981).
- Gibelli, Antonio, "Tecnici e operai. Percorsi professionali e identità sociale", in Gabriele De Rosa (ed.), *Storia dell'Ansaldo, V: Dal crollo alla ricostruzione 1919-1929* (Rome and Bari, 1998), 161-181.
- Gibson, Andrew, and Arthur Donovan, *The Abandoned Ocean: A History of United States Maritime Policy* (Columbia, SC, 2001).
- Giełżyński, Wojciech, *Robotnicy '88. Gdańsk, maj 88* (London, 1989).
- Giese, Fritz E., *Kleine Geschichte des deutschen Schiffbaus* (Berlin, 1969).
- Gilje, Harald, *Skip fra vik og våg – historien om Bergens Mekaniske Verksteder* (Haugesund, 2010).
- Gitahy, Leda, "Inovação tecnológica, subcontratação e mercado de trabalho", *São Paulo em Perspectiva*, 8, 1 (January/March 1994), 144-153.
- Gitahy, Leda, *A New Paradigm of Industrial Organization: The Diffusion of Technological and Managerial Innovations in the Brazilian Industry* (Uppsala, 2000).
- Glassman, J., "Economic Crisis in Asia: The Case of Thailand", *Economic Geography*, 77, 2 (Apr. 2001), 122-147.
- Główny Urząd Statystyczny, *Rocznik statystyczny gospodarki morskiej* (Warsaw, 2005).
- Gołębiowski, Andrzej, "Polish Shipyards Emerging from Troubles", *Schiff und Hafen*, 9 (1988).
- González Climent, A., *Historia de la industria naval argentina* (Buenos Aires, 1973).
- González Vidal, Francisco, *Paco Balón. Memorias de un comunista ferrolano* (Sada, 1999).
- Gordon, Andrew, *The Evolution of Labor Relations in Japan: Heavy Industry 1853-1955* (Cambridge, MA, 1985).
- Horst, A., and L. Johnman, *The Suez Crisis* (London, 1997).

- Goularti Filho, Alcides, "A trajetória da marinha mercante brasileira: administração, regime jurídico e planejamento", *Revista Pesquisa e Debate*, 21, 2 (2010).
- Gråbacke, Carina, "Internationalisering och teknisk omvandling", in *Det lyser en framtid: Svenska Metallindustriarbetareförbundet 1957-1981* (Stockholm, 2008), 31-255.
- Grace Under Pressure: *A History of the International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers, and Helpers*, AFL-CIO (Kansas City, KS, 2006).
- Graf, Pieter, *Een ongelijke strijd. Wilton-Fijenoord 1983-1988* (Houten, 1988).
- Gregory, Chester W., *Women in Defense Work During World War II* (Westport, CT, 1980).
- Grönros, Jarmo, "Aurajoen rautakourat – laivanrakennus Turussa", in *Aurajoen rautakourat – laivanrakennus Turussa* (Turku, 1996).
- Grönros, Jarmo, *Laivanrakentaja 1938-1988, työ- ja tuotantoprosessin muutos Wärtsilän Turun telakalla* (Turku, 1992).
- Grönros, Jarmo, "Lustjakter, passagerfartyg och lyxkryssare byggda i Åbo", *ABOA*, 66 (2004).
- Grönros, Jarmo, "Suurten merten seikkailijat", in Sanna Kupila (ed.), *Sisua, Siloa ja sinappia. Merkkituotteita Turusta* (Turku, 2004).
- Grove, Hjordis, and Knut Grove, *Verkstedklubben på Laksevåg: arbeiderne og verkstedet gjennom hundre år* (Bergen, 2007).
- Grove, Knut, and Jan Heiret, *I stål og olje. Stord Jern og Metall 50 år* (Stord, 1996).
- Grove, Knut, Jan Heiret and Hans-Jakob Ågotnes, "Konsernbedriften som transnasjonal møteplass. Arbeid og inkludering ved Laksevåg Verft", in *Arbeiderhistorie. Årbok for Arbeiderbevegelsens Arkiv og Bibliotek 2010* (Oslo, 2010).
- Grupo de Trabalho ad hoc, "A indústria naval em Portugal: contributos para a sua viabilização" (document, 1984).
- Grupo Executivo da Indústria de Construção Naval (GEICON)* (Rio de Janeiro, 1958).
- Guedes de Jesus, Claudiana, "A retomada da indústria de construção naval brasileira: reestruturação e trabalho", PhD Thesis (Campinas, Unicamp, 2013).
- Guedes de Jesus, Claudiana, and Leda Gitahy, "Transformações na indústria de construção naval brasileira e seus impactos no Mercado de Trabalho (1997-2007)", 1st Congresso Redes e Desenvolvimento Regional de Cabo Verde, Cabo Verde, 2009.
- Haavikko, Paavo, *Wärtsilä 1934-1984. Wärtsilä-yhtiön ja siihen liitettyjen yritysten kehitysvaiheita kansainvälistyväksi monialayritykseksi* (Porvoo, 1984).
- Haga, Trond, "Stordabuen går offshore: arbeid og faglig politikk ved A/S Stord Verft 1970-83", *AHS Serie A 1993-4* (Bergen).
- Hall, D.C.E., *A History of Southeast Asia* (London, 1981).
- Halvorsen, Terje, *Jern og Metall 100 år. Bind II. 1940-1991* (Oslo, 1990).
- Hamark, Jesper, "Strikingly Indifferent: The Myth of Militancy on the Docks Prior to World War II", *Labor History*, 54, 3 (2013), 271-285.
- Hamilton, Carl, "Public Subsidies to Industry: The Case of Sweden and Its Shipbuilding Industry", seminar paper at the Institute for International Economic Studies, University of Stockholm, 1981.
- Hammerborg, Morten, et al., *Jernvilje. Et stykke bergensk industrihistorie, 1850-2000* (Bergen, 2000).
- Hanjin Heavy Industries Corporation (한진중공업주식회사), "A Sixty-Year History of Hanjin Heavy Industries" (한진중공업 60년사) (unpublished manuscript).
- Hanjin Heavy Industries Union (한진중공업노동조합), *The Fortieth Annual Activity Report* (제 40년차 활동보고서) (Busan, 2003).
- Harbron, John, *Communist Ships and Shipping* (New York, 1963).
- Harki, Ilmari, *Sotakorvausten aika* (Jyväskylä, 1971).

- Harmsen, Ger, Jos Perry, and Floor van Gelder, *Mensenwerk. Industriële vakbonden op weg naar eenheid* (Baarn, 1980).
- Harmsen, Ger, and Bob Reinalda, *Voor de bevrijding van de arbeid. Beknopte geschiedenis van de Nederlandse vakbeweging* (Nijmegen, 1975).
- Hassink, Robert, and Dong-Ho Shin, "South Korea's Shipbuilding Industry: From a Couple of Cathedrals in the Desert to an Innovative Cluster", *Asian Journal of Technology Innovation*, 13, 2 (2005), 133-155.
- Heerma van Voss, Lex, Els Hiemstra, and Elise van Nederveen Meerkerk (eds), *The Ashgate Companion to the History of Textile Workers, 1650-2000* (Farnham, 2010).
- Heginbotham, E., "The Fall and the Rise of Navies in East Asia", *International Security*, 27, 2 (2002), 86-125.
- Heino, Erik, "Muutamia huomionarvoisia seikkoja siirryttäessä laivanrakennuksessa niitatusta laivasta hitsattuun rakenteeseen", *Hitsaustekniikka*, 4 (1950), 74-78.
- Heiret, Jan, "International Management Strategies and Models of Industrial Relations – A Norwegian Experience", in Daniel Fleming and Christer Törnquist (eds), *Nordic Management-Labour Relations and Internationalization. Converging and Diverging Tendencies* (Copenhagen, 2003).
- Heiret, Jan, "Three Norwegian Varieties of a Nordic Model: A Historical Perspective on Working Life Relations", *Nordic Journal of Working Life Studies*, 2, 4 (2012), 45-66.
- Heißner, Herbert, *Strukturwandlungen und Konjunkturschwankungen im Schiffbau und ihr Einfluß auf die finanzielle Entwicklung der deutschen Werftindustrie* (Kallmünz, 1933).
- Henriks, Eric, et al., *De zwarte nacht van Wilton-Fijenoord. Roodboek van een bedrijfsbezetting* (Nijmegen, 1970).
- Herlitz, Lars, "Svensk varvsindustri och norsk sjöfart", in Håkon With Andersen, Bo Stråth, and Thommy Svensson (eds), *Olje, verft og redere: et seminar om norsk og svensk skipsbyggingindustri og norske redere i vårt århundre* (Trondheim, 1980).
- Herman, Arthur, *Freedom's Forge: How American Business Produced Victory in World War II* (New York, 2012).
- Herron, Frank, *Labour Market in Crisis: Redundancy at Upper Clyde Shipbuilders* (London, 1975).
- Heseler, Heiner, *Europäische Schiffbaukrise und lokale Arbeitsmärkte* (Bremen, 1987).
- Heseler, Heiner, "Vom Tankerboom zum Werftenverbund", in Peter Kuckuk and Hartmut Roder (eds), *Von der Dampfbarkasse zum Containerschiff. Werften und Schiffbau in Bremen und der Unterweserregion* (Bremen, 1988), 210-229.
- Heseler, Heiner, and Hans Jürgen Kröger (eds), *"Stell Dir vor, die Werften gehören uns ..." Krise des Schiffbaus oder Krise der Politik?* (Hamburg, 1983).
- Heseler, Heiner, and Heike Löser, *Die Transformation des ostdeutschen Schiffbaus. Restrukturierung, Privatisierung, Arbeitsmarktfolgen 1990-92* (Rostock, 1992).
- Hien, Wolfgang, *Am Ende ein neuer Anfang? Arbeit, Gesundheit und Leben der Werftarbeiter des Bremer Vulkan* (Hamburg, 2002).
- Hien, Wolfgang, *Ein neuer Anfang wars am Ende nicht. Zehn Jahre Vulkan-Pleite: Was ist aus den Menschen geworden?* (Hamburg, 2007).
- Hilditch, P., "The Decline of British Shipbuilding Since the Second World War", in S. Fisher (ed.), *Lisbon as a Port Town: The British Seaman and Other Maritime Themes* (Exeter, 1988).
- Hillier, Lew, *Meet the Ship Painters & Dockers* (St. Kilda, 1981).
- Hoerder, Dirk, Elise van Nederveen Meerkerk, and Silke Neunsinger (eds), *Towards a Global History of Domestic and Caregiving Workers* (Leiden, 2015).
- Hogwood, B., *Government and Shipbuilding: The Politics of Industrial Change* (Farnborough, 1979).
- Horn, Gerd-Rainer, and Bernd Gehrke (eds), *1968 und die Arbeiter. Studien zum "proletarischen Mai" in Europa* (Hamburg, 2007).

- Høstaker, Roar, "Føretak i endring. Samanhengar mellom teknisk-organisatoriske endringer, sosialisering og kollektiv handling ved A/S Bergens Mekaniske Verksteder, 1940-1955", *AHS Serie A 1993-2* (Bergen, 1993).
- Houpt, Stefan, and José María Ortiz-Villajos, *Astilleros Españoles 1872-1998. La construcción naval en España* (Madrid, 1998).
- Hübner, Christa, "Die polnische Krise 1970/71", *Jahrbuch für Forschung zur Geschichte der Arbeiterbewegung*, 3 (2010), 29-52.
- Hugill, Peter J., *World Trade Since 1431* (Baltimore, 1993).
- "Human Resources: Employment of Foreigners", Economist Intelligence Unit – Country Commerce, 1 December 2010.
- Hume, John R., and Michael Moss, *Beardmore: The History of a Scottish Industrial Giant* (London, 1979).
- Hurley, Edward N., *The Bridge to France* (Philadelphia, PA, 1927).
- Hurley, Edward N., *The New Merchant Marine* (New York, 1920).
- Hutchins, John G.B., "History and Development of the Shipbuilding Industry in the United States", in F.G. Fasset Jnr (ed.), *The Shipbuilding Business of the United States of America*, vol. I (New York, 1948).
- Ianoş, Ioan, Cristian Tălângă, Cristian Braghina, and Cătălina Andra Gheorghe, "Characteristics of the Industrialization Process Around the Moment of Collapse of a Centralized Political System: Romania as a Case Study", *Forum geografic. Studii și cercetări de geografie și protecția mediului*, 9 (2010), 161-172.
- ILO (International Labour Organization), *Global Employment Trends 2012: Preventing a Deeper Jobs Crisis* (Geneva, 2012).
- Inaba, Kouichi, "Industrial Relations in the Australian Engineering Industry, 1920-1945: The Amalgamated Engineering Union and Craft Unionism", PhD Thesis (University of Wollongong, 1997).
- Inglis, Brian, "Transport", in *Technology in Australia, 1788-1988: A Condensed History of Australian Technological Innovation and Adaptation During the First Two Hundred Years*, compiled by Fellows of the Australian Academy of Technological Sciences and Engineering (online 2000), <http://www.austehc.unimelb.edu.au/tia/513.html> (last accessed 29 August 2016).
- Inman, P., *Labour in the Munitions Industries* (London, 1957).
- Ireland, Tracy, *Cockatoo Island: Assessment of Cultural Significance* (Sydney, 1987).
- Irvin, George, "Vietnam: Assessing the Achievements of Doi Moi", *Journal of Development Studies*, 31 (June 1995).
- Isidorsson, Tommy, *Striden om tiden: Arbetstidens utveckling i Sverige under 100 år i ett internationellt perspektiv* (Göteborg, 2001).
- J.R., "Strengthening of Japanese Ties with Siam", *Far Eastern Survey*, 5, 15 (15 Jul. 1936).
- Jamrozik, Adam, Cathy Boland, and Robert Urquhart, *Social Change and Cultural Transformation in Australia* (Cambridge, 1995).
- Jarecki, Edward, *Stocznia Gdańska im. Lenina. Życie społeczno-polityczne w latach 1945-1984* (Gdańsk, 1985).
- Jeliński, Bohdan, *Międzynarodowa specjalizacja w przemyśle okrętowym* (Gdańsk, 1984).
- Jenkins, Robin Dearmon, "Linking Up the Golden Gate: Garveyism in the San Francisco Bay Area, 1919-1925," *Journal of Black Studies*, 39, 2 (2008), 266-280.

- Jeon Gabseang (전갑생), "A Study on the National Council of Choseon Labor Union Belonging to National Security and Directive League of Busan City" (부산지역 전평 소속 보도연맹 연구), *History Studies* (역사연구), 20 (2011), 207-244.
- Jeremy, John, *Cockatoo Island: Sydney's Historic Dockyard* (Sydney, 2005).
- Jeremy, John, *The Island Shipyard: Shipbuilding at Cockatoo Island 1870 to 1987* (Sydney, 2006).
- Jesus, C.G., "Retomada da indústria de construção naval brasileira: reestruturação e trabalho", Campinas/SP: DPCT/UNICAMP (Tese Doutorado), 2013, <http://www.bibliotecadigital.unicamp.br/document/?code=000905896> (last accessed 15 August 2014).
- Jesus, C.G., and L.M.C. Gitahy, "Indústria da construção naval, trabalho e desenvolvimento regional em Angra dos Reis no início do século XXI", in *Anais do XI Seminário Internacional de la Red Iberoamericana de Investigadores sobre Globalización y Territorio* (Mendoza, 2010), vol. I.
- Jesus, C.G., and L.M.C. Gitahy, "Transformações na indústria de Construção Naval Brasileira e seus impactos no mercado de trabalho (1997-2007)", in *1º Congresso de Desenvolvimento Regional de Cabo Verde, 15º Congresso da APDR – Associação Portuguesa de Desenvolvimento Regional* (Cidade da Praia, Cabo Verde, 2009), 3898-3916.
- Jetin, B., "Distribution of Income, Labour Productivity and Competitiveness: Is the Thai Labour Regime Sustainable?", *Cambridge Journal of Economics*, 36 (2012), 895-917.
- Jiang, Liping, "Assessing the Cost Competitiveness of China's Shipbuilding Industry", University of Southern Denmark, Department of Environmental and Business Economics, IME Working Paper # 111/11 (2011).
- JICA (Japan International Cooperation Agency), "Annual Evaluation Reports 2000, Chapter 3: Ex-Post Evaluation IV JICA/OECF Joint Evaluation" (2001), http://www.jica.go.jp/english/our_work/evaluation/reports/2000/pdf/2001_0420.pdf (last accessed 29 August 2016).
- JICA (Japan International Cooperation Agency) and ARG Co., *Report on the Survey on the Current Status and Industrial Cooperation of Shipbuilding Industry in Thailand*, March 1997.
- Johnman, Lewis, "The Privatisation of British Shipbuilders", *International Journal of Maritime History*, 8, 2 (1996).
- Johnman, Lewis, "Public Intervention and the Hollowing-Out of British Shipbuilding: The Swan Hunter Closure", in Randi Ertesvåg, David J. Starkey, and Anne Tove Austbø (eds), *Maritime Industries and Public Intervention: The Fourth North Sea History Conference 18-20 August 1995 Stavanger, Norway* (Stavanger, 2002), 223-239.
- Johnman, Lewis, and Hugh Murphy, "The British Merchant Shipping Mission in the United States and British Merchant Shipbuilding During the Second World War", *The Northern Mariner/Le Marin du Nord*, 12, 3 (2002), 1-15.
- Johnman, Lewis, and Hugh Murphy, *British Shipbuilding and the State Since 1918: A Political Economy of Decline* (Exeter, 2002).
- Johnman, Lewis, and Hugh Murphy, "The Development of the British Ship Repair Industry, 1945-1985", in D.J. Starkey and H. Murphy (eds), *Beyond Shipping and Shipbuilding: Britain's Ancillary Maritime Industries in the Twentieth Century* (Hull, 2007).
- Johnman, Lewis, and Hugh Murphy, "No Light at the End of the Dock: The Long Rise and Short Life of the Firth of Clyde Dry Dock Company", *International Journal of Maritime History*, 12, 2 (1998), 91-123.
- Johnman, Lewis, and Hugh Murphy, "The Norwegian Market for British Shipbuilding, 1945-1967", *Scandinavian Economic History Review*, 46, 2 (1998), 55-78.
- Johnman, Lewis, and Hugh Murphy, "An Overview of the Economic and Social Effects of the Interwar Depression on Clydeside Shipbuilding Communities", *International Journal of Maritime History*, 18, 1 (2006).

- Johnman, Lewis, and Hugh Murphy, "The Rationalisation of Slow Speed Marine Diesel Engine Building in the UK, 1912-1990", in D.J. Starkey and H. Murphy (eds), *Beyond Shipping and Shipbuilding: Britain's Ancillary Maritime Industries in the Twentieth Century* (Hull, 2007).
- Johnman, Lewis, and Hugh Murphy, *Scott Lithgow: Déjà vu All Over Again! The Rise and Fall of a Shipbuilding Company* (St John's, 2005).
- Johnman, Lewis, and Hugh Murphy, "Scotts of Greenock and Submarine Building, with Special Reference to Australia", *Journal for Maritime Research*, December (2003).
- Johnman, Lewis, and Hugh Murphy, "Subsidy and Treasury: The Trade Facilities Acts and the UK Shipbuilding Industry in the 1920s", *Contemporary British History*, 22, 1 (March 2008), 89-110.
- Johnman, Lewis, and Hugh Murphy, "A Triumph of Failure: The British Shipbuilding Industry and the Offshore Structures Market, 1960-1990: A Case Study of Scott Lithgow Ltd", *International Journal of Maritime History*, 14, 1 (2002), 63-92.
- Johnman, Lewis, and Hugh Murphy, "A Very British Institution'. A Study in Under-Capitalisation: The Role of the Ship Mortgage Finance Company in Post-Delivery Credit Financing in British Shipbuilding, 1951-1967", *Financial History Review*, 6 (October 1999).
- Johnman, Lewis, and Hugh Murphy, "Welding and the British Shipbuilding Industry: A Major Constraint?", in R. Harding (ed.), *The Royal Navy, 1930-2000: Innovation and Defence* (London, 2005), 89-117.
- Johnson, C., *MITI and the Japanese Miracle: The Growth of Japanese Industrial Policy, 1925-1975* (Stanford, CA, 1982).
- Johnson, Simon, and Gary Loveman, *Starting over in Eastern Europe: Entrepreneurship and Economic Renewal* (Cambridge, MA, 1995).
- Johnston, I., *Ships for a Nation, 1847-1971: John Brown & Company, Clydebank* (Glendaruel, UK, 2000).
- Johnston, Ian, and Hugh Murphy, "The Newshot Isle Project", *Scottish Geographical Journal*, 117, 3 (2001), 207-217.
- Jones, Leslie, *Shipbuilding in Britain: Mainly Between the Two World Wars* (Cardiff, 1957).
- Jong, L. de, *Het Koninkrijk der Nederlanden in de Tweede Wereldoorlog*, vol. 10b (The Hague, 1981).
- Jonsson, Gabriel, *Shipbuilding in South Korea: A Comparative Study* (Stockholm, 1995).
- Jüres, Ernst August, and Herbert Kühl, *Gewerkschaftspolitik der KPD nach dem Krieg: Der Hamburger Werftarbeiterstreik 1955* (Hamburg, 1981).
- Kaarbø, Reidar (managing director of BMV from 1943), "A/S Bergens Mekaniske Verksteder under den tyske okkupasjon 1940-45", typescript acquired from the author.
- Kamata, Satoshi, *Document zosen fukyo* (Tokyo, 1993).
- Kappel, Robert, "Bremer Schiffbau im Strudel der Weltschiffbaukrise – Entwicklungen und Perspektiven", in Peter Kuckuk and Hartmut Roder (eds), *Von der Dampfbarkasse zum Containerschiff. Werften und Schiffbau in Bremen und der Unterweserregion* (Bremen, 1988), 230-242.
- Kauppinen, Timo, and Tuomo Alasoini Kauppinen, *Työtaistelut telakoilla. Yhteenveto Wärtsilän ja Rauma-Repolan telakkakohtaisten työtaistelutkimusten tuloksista* (Helsinki, 1985).
- Kelly, Lindy, *No Surrender: The Story of the 1989 Cockatoo Island Dockyard Dispute* (Sydney, 1990).
- Kelly, Roy W., and Frederick J. Allen, *The Shipbuilding Industry* (Boston, MA, 1918).
- Kennedy, Michael D., *Professionals, Power and Solidarity in Poland: A Critical Sociology of Soviet-Type Society* (Cambridge, 1991).
- Kerr, Clarke, and Abraham Siegel, "The Interindustry Propensity to Strike: An International Comparison", in Arthur Kornhauser *et al.*, *Industrial Conflict* (New York, 1954).

- Kessleman, Amy, *Fleeting Opportunities: Women Shipyard Workers in Portland and Vancouver During World War II* (Albany, NY, 1990).
- Kettunen, Pauli, "Strike: An Outdated Topic?", in Pauli Kettunen (ed.), *Strike and Social Change* (Turku, 1993), 9-16.
- Kiesel, Wolfgang, *Bremer Vulkan. Aufstieg und Fall. 200 Jahre Schiffbaugeschichte* (Bremen, 1997).
- Kim Yonggi (金鎔基), "The Business Management of a Korean Company and Workers in the 1950s: A Case Study of KSEC" (1950年代韓國企業の經營管理と労働者), *Journal of Ohara Institute for Social Research* (大原社會問題研究所雜誌), 479 (1997), 1-21.
- Kleij, H.C., *Sociaal Ondernemerschap. Een rechtssociologische studie van de antwoorden van J.C. van Marken jr. op de Sociale Kwestie* (Utrecht, 1986).
- Kloberg, Erik, *Werftensterben in Hamburg: der Niedergang des Schiffbaus 1970-1988 und die Politik des Senats* (Hamburg, 1990).
- Knorring, Nils von, *Aurajoen veistämöt ja telakat. Muistiinpanoja Turun telakoiden historiasta* (Vaasa, 1995).
- Kochanowski, Jerzy, "Geographie des Schwarzmarktes in der Volksrepublik Polen", *Zeitschrift für Ostmitteleuropaforschung*, 60 (2011), 378-417.
- Kohama, Hirohisa, *Industrial Development in Postwar Japan* (London, 2007).
- Kommunistiese Eenheidsbeweging Nederland (ml), *Metaalstaking 1972. Massaal antwoord op verscherpte uitbuiting en politieke onderdrukking* (Rotterdam, 1972).
- Kon, Jarosław, *Stocznia Gdańska a przemiany ustrojowe w Polsce* (Gdańsk, 2007).
- Korea Employers Federation (한국경영자총협회), *A Forty-Year History of Labour and Economy* (노동경제40년사) (Seoul, 1989).
- Korea Offshore & Shipbuilding Association (한국조선해양플랜트협회), *Shipbuilding Yearbook* (조선자료집) (Seoul, 2013).
- Korea Shipbuilders' Association (한국조선공업협회), *Shipbuilding Yearbook* (조선자료집) (Seoul, 1994-2010).
- Korean Entrepreneurs' Association (전국경제인연합회), *The Korean Shipbuilding Industry* (한국의 조선산업) (Seoul, 1997).
- Korean Metal Workers' Union Hanjin Heavy Industries Local (전국금속노동조합 한진중공업지회), *The Forty-Fourth Annual Activity Report* (제44년차 활동보고서) (Busan, 2007).
- Kosacoff, B. (ed.), *El desempeño industrial argentino más allá de la sustitución de importaciones* (Buenos Aires, 2000).
- Kozminski, Andrzej, "Market and State in Centrally Planned Economies", *Current Sociology*, 338 (1990), 133-155.
- KSEC (Korea Shipbuilding and Engineering Corporation) (대한조선공사), *Chogong* (조공), August 1979.
- KSEC (Korea Shipbuilding and Engineering Corporation) (대한조선공사), *A Thirty-Year History of the Korea Shipbuilding and Engineering Corporation* (대한조선공사삼십년사) (Busan, 1969).
- Kuckuk, Peter, *Die A.G. "Weser" in der Nachkriegszeit. 1945-1953* (Bremen, 2005).
- Kuckuk, Peter (ed.), *Unterweserwerften in der Nachkriegszeit. Von der "Stunde Null" zum "Wirtschaftswunder"* (Bremen, 1989).
- Kühn, Harmut, *Das Jahrzehnt der Solidarność. Die politische Geschichte Polens 1980-1990* (Berlin, 1999).
- Kühn, Manuel, et al., *Beschäftigung, Auftragslage und Perspektiven im deutschen Schiffbau. Ergebnisse der 21. Betriebsrätebefragung im September 2012* (Hamburg und Bremen, 2012).

- Kumar, Vijay, "Launching India into the Global Shipbuilding Competition", 9 April 2012, <http://www.marinelink.com/news/shipbuilding-launching343676.aspx> (last accessed 29 August 2016).
- Kuron, Jacek, and Karol Modzewlewski, *Monopolsozialismus. Offener Brief on the Polnische Vereinigte Arbeiterpartei* (Hamburg, 1969).
- Kuuse, Jan, *Varven och underleverantörerna: Förändringar i fartygsbyggandets industriella länkeffekter* (Göteborg, 1983).
- Laakso, Veikko, *Turun kaupungin historia 1918-1970. Ensimmäinen nide* (Turku, 1980).
- Laakso, Veikko, "Turun teollisuus manufaktuureista bioteknologiaan", in Sanna Kupila (ed.), *Sisua, Siloa ja sinappia. Merkkituotteita Turusta* (Turku, 2004).
- Laba, Roman, *The Roots of Solidarity: A Political Sociology of Poland's Working-Class Democratization* (Princeton, NJ, 1991).
- Labaree, Benjamin W., et al., *America and the Sea: A Maritime History* (Mystic, CT, 1998).
- Labour Research Association, "Zosen fukyo wo kojitsu ni shita futo na shimei kaiko", *Rodo undo*, 12 (1980), 222-230.
- Lăcătuș, Vasile, "Cercetare tehnologică pentru dezvoltarea Șantierului Naval Galați. Etapa I-a: 1944-1960", *Caietele Colocviilor Constructorilor de Nave*, 3 (2013), 8-15.
- Lăcătuș, Vasile, "Epopoea construirii platformelor de foraj marin românești", *Caietele Colocviilor Constructorilor de Nave*, 1 (2012), 18-21.
- Lăcătuș, Vasile, "Personalități din cadrul Șantierului Naval din Galați", *Caietele Colocviilor Constructorilor de Nave*, 3 (2013), 79-82.
- Lăcătuș, Vasile, and Mihăiță Aruscuței, "Cercetare tehnologică pentru dezvoltarea Șantierului Naval Galați. Etapa a III-a: 1971-1980", *Caietele Colocviilor Constructorilor de Nave*, 3 (2013), 36-45.
- Lăcătuș, Vasile, and Ioan Călina, "Cercetare tehnologică pentru dezvoltarea Șantierului Naval Galați. Etapa a II-a: 1961-1970", *Caietele Colocviilor Constructorilor de Nave*, 3 (2013), 17-25.
- Lăcătuș, Vasile, and Valentin Popescu, "Cercetare tehnologică pentru dezvoltarea Șantierului Naval Galați. Etapa a IV-a: 1981-1999", *Caietele Colocviilor Constructorilor de Nave*, 3 (2013), 52-59.
- Lago, Pedro, *La construcción del movimiento sindical en sistemas políticos autoritarios. Las Comisiones Obreras de Galicia 1966-1975* (Barcelona, 2011).
- Landau, Zbigniew, and Jerzy Tomaszewski, *The Polish Economy in the Twentieth Century* (New York, 1985).
- Lane, Frederic C., *Ships for Victory: A History of Shipbuilding Under the US Maritime Commission in World War II* (Baltimore, MD, 1951).
- Latorre, Robert G., "US Shipbuilding Potential in the World Market", in William A. Lovett (ed.), *United States Shipping Policies and the World Market* (New York, 1996), 245-256.
- Lavery, Jason, *The History of Finland* (Westport, CT, 2006).
- Lee Byeong-Cheon (이병천) (ed.), *Developmental Dictatorship and the Period of Park Chung-Hee: The Political and Economic Origin of Our Times* (개발독재와 박정희시대: 우리 시대의 정치경제적 기원) (Paju City, 2003).
- Leimu, Heikki, Jukka Niemelä and Juha Pusila, "Johdanto", in Heikki Leimu and Juha Pusila (eds), *Tuotantotavan muutos Suomen laivanrakennuksessa* (Turku, 1995).
- Levinson, Marc, *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger* (Princeton, NJ, 2006).

- Li Tana, "Ships and Shipbuilding in the Mekong Delta, c. 1750-1840", in N. Cooke and Li Tana (eds), *Water Frontier: Commerce and the Chinese in the Lower Mekong Region: 1750-1880* (New York, 2004), 117-133.
- Lichtenstein, Alex, and Christian G. de Vito (eds), *Global Convict Labor* (Leiden, 2015).
- Lichtenstein, Nelson, *Labor's War at Home: The CIO in World War II* (Philadelphia, PA, 2003).
- Liker, Jeffrey K., and Thomas Lamb, "Que son la construcción y reparación naval Lean?", *Revista de Producción Naval*, 18 (2002).
- Lim, Richard, *Tough Men, Bold Visions: The Story of Keppel* (Singapore, 1993).
- Lima, Marinús Pires de, "Transformações das relações de trabalho e Ação Operária nas Indústrias Navais (1974-1984)", *Revista Crítica de Ciências Sociais*, 18-20 (February 1986).
- Lima, Marinús Pires de, et al., "A ação operária na Lisnave: análise da evolução dos temas reivindicativos", *Análise Social*, 52 (1977), 829-899.
- Lindberg, M., and D. Todd, *Anglo-American Shipbuilding in World War II: A Geographical Perspective* (Westport, CT, 2004).
- Linden, Marcel van der, *Workers of the World: Essays Toward a Labor Global History* (Leiden, 2008).
- Linden, Marcel van der, and Jan Lucassen, *Prolegomena for a Global Labour History* (Amsterdam, 1999).
- Ljungberg, Jonas, *Tillyväxt och stagnation i varvsindustrin 1950-1980: Del I* (Lund, 1981).
- Ljungberg, Jonas, *Tillyväxt och stagnation i varvsindustrin 1950-1980: Del II* (Lund, 1981).
- Longo, Luigi, "Le lotte per il lavoro e il pane degli italiani", *Rinascita*, 11-12 (1950), 504-508.
- López, A., "Una puesta en perspectiva de la industrialización sustitutiva de importaciones: los orígenes estructurales e históricos del rezago de la argentina", in Julio Neffa and Robert Boyer (eds), *La economía argentina y su crisis (1976-2001): visiones institucionalistas y regulacionistas* (Buenos Aires, 2004).
- Lorenz, E.H., *Economic Decline in Britain: The Shipbuilding Industry in Britain, 1890-1970* (Oxford, 1991).
- Lorenz, Edward H., "An Evolutionary Explanation for Competitive Decline: The British Shipbuilding Industry, 1890-1970", *Journal of Economic History*, 51, 4 (December 1991), 911-935.
- Lorenz, E.H., and F. Wilkinson, "The Shipbuilding Industry, 1880-1965", in B. Elbaum and W. Lazonick, *The Decline of the British Economy* (Oxford, 1986).
- Lovett, William A., "Realistic Maritime Renewal", in William A. Lovett (ed.), *United States Shipping Policies and the World Market* (New York, 1996), 299-322.
- Lowenstein, Wendy, *Weevils in the Flour: An Oral Record of the 1930s Depression in Australia* (East Brunswick, 1998).
- Lowler, J., and Choekchai Suttawet, "Globalization and Deregulation in Thailand", in C. Rowley and J. Benson (eds), *Globalization and Labour in the Asia-Pacific Region* (London, 2000).
- Lucassen, Jan (ed.), *Global Labour History: A State of the Art* (Bern, 2006).
- Ludden, D., "Imperial Modernity: History and Global Inequity in Rising Asia", *Third World Quarterly*, 33, 4 (2012), 581-601.
- Ludwig, Thorsten, and Jochen Tholen, *Schiffbau in Europa* (Düsseldorf, 2008).
- Ludwig, Thorsten, and Jochen Tholen, "Shipbuilding in China and Its Impacts on European Shipbuilding Industries" in Jochen Tholen, Francesco Garibaldi,; Morvannou, Philippe Garibaldi (eds), *Is China a Risk or an Opportunity for Europe? An Assessment of the Automobile, Steel and Shipbuilding Sectors* (Frankfurt am Main, 2008), 53-85.
- Ludwig, Thorsten, and Kevin Wolnik, *Beschäftigung, Auftragslage und Perspektiven im deutschen Schiffbau. Ergebnisse der 22. Betriebsrätebefragung im September 2013* (Hamburg and Bremen, 2013).

- Lundh, Christer, *Spelets regler: Om institutioner och lönebildning på den svenska arbetsmarknaden 1850-2010* (Stockholm, 2010).
- Lundin, Johan A., *Malmö industristaden: Addo, Cementa, Ljungmans, Kockums* (Malmö, 2007).
- Lyon, D., *The Denny List* (London, 1975).
- Lysgaard, Sverre, *Arbeiderkollektivet: en studie i de underordnedes sosiologi* (Oslo, 1961).
- M.A.S., "INETOF, Mircea Roibu și elicele pentru nave realizate la Galați", *Monitorul de Galați*, 12 May 2012.
- Mabry, B., *The Development of Labour Institutions in Thailand* (Ithaca, NY, 1979).
- Macintyre, Stuart, "Bloodstained Wattle or Red Heather? The Scottish Strain in the Australian Labour Movement", *Australian Studies*, 12 (1997), 91-103.
- Mackay, Godden, *Cockatoo Island: Conservation Management Plan*, 2 vols (Redfern, 1997).
- Macmillan, Harold, *Riding the Storm, 1956-1959* (London, 1971).
- Macmillan, Harold, *Tides of Fortune, 1945-1955* (London, 1969).
- Madeira, João, "O Arsenal e os Movimentos Populares e Operários nos séculos XIX e XX", *Arquivos da Memória*, 3 (Autumn/Winter 1997), 67-83.
- Maftai, Neculai, "Dezvoltarea industriei navale românești în anii socialismului", *Danubius*, 8-9 (1979), 321-329.
- Maftai, Neculai, *ICEPRONAV Galați. Realizări și perspective în proiectarea și cercetarea navală* (Galați, 1976).
- Maftai, Neculai, *Organizarea și conducerea producției în șantierele navale* (Galați, 1978).
- Maftai, Neculai, *Organizarea și conducerea șantierelelor navale* (Galați, 1988).
- Maftai, Neculai, Raul Șuşnea, Viorel Mircea and Emeric Mihaly (eds), *Șantierele navale Galați pe treptele timpului. 80 de ani de existență* (Galați, 1973).
- Magnusson, Lars, "Metallarbetarnas levnadsförhållanden 1900-1970", in *Metall 100 år – fem uppsatser* (Stockholm, 1988), 109-140.
- Maíz, Bernardo, *Resistencia, guerrilla e represión. Causas e consellos de guerra, Ferrol, 1936-1955* (Vigo, 2004).
- Mäkelä, Pentti, *Ossin aika. Palkkakysymyksiä ja työsuojelua Turun telakalla 1950-luvulta 1980-luvulle* (Turku, 2013).
- Manetti, Daniela, "La cantieristica e le costruzioni navali", in Giorgio Mori (ed.), *Storia dell'Ansaldo*, vol. VII, *Dal dopoguerra al miracolo economico 1945-1962* (Rome and Bari, 2000).
- Manguin, P.Y., "Trading Ships of the South China Sea: Shipbuilding Techniques and Their Role in the History of the Development of Asian Trade Networks", *Journal of the Economic and Social History of the Orient*, 36, 3 (1993), 253-280.
- Mantere, Pertti, *Lippulaivan haaksirikko. Wärttilä Meriteollisuus Oy:n konkurssi 1989 ja alihankkijoiden etuoikeudettomat saamiset* (Turku, 2005).
- Manufacturing Skills Australia, "Metal, Engineering and Boating Industry Statistics as at August 2011" (2011).
- MARAD (US Maritime Administration), "The Economic Importance of the US Shipbuilding and Repairing Industry", Washington, DC, 30 May 2013.
- Marins, Cassiano, "Técnicas avançadas em planejamento e controle da construção naval", Tese de Doutorado (Rio de Janeiro, UFRJ/COPPE, 2009).
- Martin, Ross, *Trade Unions in Australia* (Harmondsworth, 1975).
- Mattox, William C., *Building the Emergency Fleet* (Cleveland, OH, 1920).
- McGill, Jack, *Crisis on the Clyde: The Story of Upper Clyde Shipbuilders* (London, 1973).
- McGoldrick, J., "Crisis and the Division of Labour: Clydeside Shipbuilding in the Interwar Period", in T. Dickson (ed.), *Capital and Class in Scotland* (Edinburgh, 1982), 143-185.

- McGregor, A., *Southeast Asian Development* (New York, 2008).
- McIntyre, W.D., *The Rise and Fall of the Singapore Naval Base, 1919-1942* (Oxford, 1979).
- McKinlay, Alan, "The Interwar Depression and the Effort Bargain: Shipyard Riveters and the Workman's Foreman, 1919-1938", *Scottish Economic and Social History*, 9, 1 (1989), 55-70.
- McKinlay, A., and P. Taylor, "Privatisation and Industrial Relations in British Shipbuilding", *Industrial Relations Journal*, 1 December 1994.
- Mehlum, E., and P.E. Sorensen, "Example of an Existing System in the Ship-Building Industry: The Autokon System", *Proceedings of the Royal Society of London* (1971), 219-233.
- Merotto, G., D. Sacchetto, and V. Zanin, *Fincantieri fabbrica globale e territorio: rapporto di ricerca: Venezia, 21 dicembre 1998* (Mestre, 2000).
- Milert, Werner, and Rudolf Tschirbs, *Von den Arbeiterausschüssen zum Betriebsverfassungsgesetz. Geschichte der betrieblichen Interessenvertretung in Deutschland* (Köln, 1991).
- Mishra, Patit Paban, *The History of Thailand* (Santa Barbara, 2010).
- Mitchell, Winifred, "Sydney's Wharfies: The First Fifty Years of Unionism", in G. Wotherspoon (ed.), *Sydney's Transport: Studies in Urban History* (Sydney, 1983).
- Mizota, Siego, *Zosen jukikai sangyo no kigyō system*, 2nd edn (Tokyo, 1997).
- Mjelva, Hans Kristian, "Stord Verft 1945-75. I spenningsfeltet mellom marknad, teknologi og politikk", in *Sjøfartshistorisk årbok* (Bergen, 1995).
- Mjelva, Hans Kristian, "Tre storverft i norsk industris fineste stund. Ein komparativ studie av Stord Verft, Rosenberg mek. Verksted og Fredrikstad mek. Verksted 1960-1980", Avhandling til dr.art.graden (Historisk Institutt, Universitetet i Bergen, 2005).
- Moffat, A.L., *Mongkut, the King of Siam* (Ithaca, NY, 1968).
- Moisés, Miguel, *Setenave e Lisnave. Duas empresas no contexto da indústria naval portuguesa e no mundo* (Lisbon, 1997).
- Molinari, Augusta, *Lettere al padrone. Lavoro e culture operaie all'Ansaldo nel primo Novecento* (Milan, 2000).
- Mollas-Gallart, Jordi, *Military Production and Innovation in Spain* (Chur, 1992).
- Montes, José, *Astillero Río Santiago, su historia y su lucha relatada por sus trabajadores* (Buenos Aires, 1999).
- Morris, Richard, "The Employer's Free Selection of Labour and the Waterfront Closed Shop", *Journal of Industrial Relations*, 23, 1 (1981), 49-62.
- Mortimer, J.E., *History of the Boilermakers' Society*, 3 vols (London, 1973-96).
- Moşneagu, Marian, *Politica navală postbelică a României (1944-1958)* (Bucharest, 2006).
- Moss, Michael, and John R. Hume, *Shipbuilders to the World: 125 Years of Harland and Wolff, Belfast, 1861-1986* (Belfast, 1986).
- Motta Veiga, Pedro, "Mudança técnica e processo de trabalho na construção naval brasileira", MA Thesis (COPPE, Universidade Federal do Rio de Janeiro, 1984).
- Murillo, M. Victoria, "La adaptación del sindicalismo argentino a las reformas de mercado en la primera presidencia de Menem", *Revista Desarrollo Económico*, 37, 147 (1997), 160-188.
- Murphy, Hugh, "The British Shipbuilding Industry During the Great War: A Contextual Overview Incorporating Standardization and the National Shipyards, 1916-1920", *International Journal of Maritime History*, 24, 2 (2012).
- Murphy, Hugh, "From the Crinoline to the Boilersuit: Women Workers in British Shipbuilding During the Second World War", *Contemporary British History*, 13, 4 (1999), 82-104.
- Murphy, Hugh, "The Health of Electric Arc Welders and the Adoption of Arc Welding in the British Shipbuilding Industry, 1930-1951", *International Journal of Maritime History*, 17, 1 (2005), 69-90.

- Murphy, Hugh, "No Longer Competitive with Continental Shipbuilders: British Shipbuilding and International Competition, 1930-1960", *International Journal of Maritime History*, 25, 2 (2013), 35-60.
- Murphy, Hugh, and Stig Tenold, "Strategies, Market Concentration and Hegemony in Chemical Parcel Tanker Shipping, 1960-1985", *Business History*, 50, 3 (2008), 291-309.
- Murray, Robert, and Kate White, *The Ironworkers: A History of the Federated Ironworkers' Association of Australia* (Sydney, 1982).
- Muscat, R., *The Fifth Tiger: A Study of Thai Development Policy* (Armonk, NY, 1994).
- Muziel, Jan, "Wirtschaftsreformen in Polen. Diskussionen und Probleme seit 1980", in *Sozialismus und Industrialisierung: die Wirtschaftssysteme Polens, Chinas u. Kubas im Vergleich* (Frankfurt am Main, 1985), 133-156.
- Myran, Henrik, and Kåre Fasting, *Herfra går skibe: Aksjeselskapet Bergens Mekaniske Verksteder 1855-1955* (Bergen, 1955).
- Nam, Hwasook, *Building Ships, Building a Nation: Korea's Democratic Unionism Under Park Chung Hee* (Seattle, WA, 2009).
- Nam, Hwasook, "Shipyard Women and the Politics of Gender: A Case Study of the KSEC Yard in South Korea", in Ruth Barraclough and Elyssa Faison (eds), *Gender and Labour in Korea and Japan: Sexing Class* (New York, 2009), 78-102.
- Neidpath, J., *The Singapore Naval Base and the Defence of Britain's Eastern Empire* (Oxford, 1981).
- Nerheim, Gunnar, and Bjørn S. Utne, *Under samme stjerne – Rederiet Peder Smedvig 1915-1990* (Stavanger, 1990).
- "Neue Vereinbarung über den Weiterbau der Stena-Fähren in Polen", *Schiff und Hafen*, 8 (1985).
- Niemelä, Jukka, *Ammattirajoista tiimityöskentelyyn. Työnjaon ja työelämän suhteiden muutos Suomen telakoilla 1980- ja 1990-luvulla* (Turku, 1996).
- Niemelä, Jukka, "Kriisin kautta joustavaan tuotantoon: ristiriidat ja yhteiset edut Suomen telakoilla", *Sosiologia*, 2 (1998).
- Niemelä, Jukka, "Miksi telakoilla ei enää lakkoilla vanhaan malliin?", in Anne Kovalainen and Jarmo Ikonen (eds), *Tieteen boheemi – boheemin tiede* (Turku, 1994).
- Niemelä, Jukka, and Heikki Leimu, "Job Redesign in Finnish Shipyards: Causes and Consequences", in Wolfgang Littek and Tony Charles (eds), *The New Division of Labour: Emerging Forms of Work Organization in International Perspective* (Berlin and New York, 1995).
- Nijhof, Erik, "Villages ouvriers: de l'idéalisme au pragmatisme? L'évolution aux Pays-Bas", in *Villages ouvriers, Utopie ou réalités ? Actes du colloque international au Familistère de Guise (16-17 octobre 1993)*, *L'archéologie industrielle en France*, N° 24-25 (1994).
- Nilsson, Peraxel (ed.), *Kockums marina fartyg* (Malmö, 2008).
- Nilsson, Peraxel (ed.), *Vårt Kockums* (Malmö, 2010).
- Nistor, Dumitru, "Romania's Participation in the Specialization and Cooperation on Production in the Shipbuilding Program of COMECON Member Nations", *Soviet and Eastern European Foreign Trade*, 13/4 (1977), 88-96.
- Nordvik, H., "The Norwegian Shipbuilding Industry: The Transition from Wood to Steel, 1880-1980", in F. Walker and A. Slaven (eds), *One Hundred Years of European Shipbuilding* (London, 1983).
- Noronha, Eduardo, "Ciclo de greves, transição política e estabilização: Brasil, 1978-2007", *Lua Nova*, 76 (2009), 119-168.
- Norsk Jern- og Metallarbeiderforbund. Beretning om forbundets virksomhet* (Oslo, 1939).
- Norsk Jern- og Metallarbeiderforbund. Beretning om forbundets virksomhet* (Oslo, 1940).

- OECD (Organisation for Economic Co-operation and Development), *Maritime Transport, 1976* (Paris, 1977).
- Oeser, O.A., and S.B. Hammond (eds), *Social Structure and Personality in a City* (London, 1954).
- Office of the Marine Promotion Commission and Japan International Cooperation Agency, "Seminar Report on Industrial Cooperation Between Japan and Thailand for Development of Shipbuilding Industry" (September 1998).
- Ofreneo, R.E., *Industrial Relations Challenges in Globalizing Labour Markets In East Asia* (Bangkok, 2008).
- Ogawa, Zensaku, "Zosen tosan chitai/Shikoku wo iku", *Rodo undo*, 5 (1979), 79-87.
- Ohlsson, Rolf, "I kranens tidevarv", in Rolf Ohlsson (ed.), *Malmö stads historia D.7, 1939-1990* (Malmö, 1994).
- Ohlström, Bo, *Kockumsrapporten: Om orsaker till missnöje bland varvsarbetare* (Stockholm, 1970).
- "OIE Plans to Integrate Shipbuilding Industry with Electrical Appliance and Electronics Industry", Thai News Service, 19 February 2009.
- Ojeda, Germán, *Duro Felguera. Historia de una gran empresa industrial* (Oviedo, 2000).
- Oliveira, Paulo, and Paulo Fernandes, "A Lisnave no início da década de 70", in Miguel Figueira de Faria (ed.), *LISNAVE. Contributos para a História da Indústria Naval em Portugal*, 181-225.
- Olsson, Kent, "Big Business in Sweden: The Golden Age of the Great Swedish Shipyards, 1945-1974", *Scandinavian Economic History Review*, 43, 3 (1995), 310-338.
- Olsson, Kent, *Från pansarbåtsvarv till tankfartygsvarv: De svenska storvarvens utveckling till exportindustri 1880-1936* (Göteborg, 1983).
- Olstad, Finn, *Jern og Metall 100 år. Bind I. 1891-1940* (Oslo, 1990).
- Organization of the Petroleum Exporting Countries (OPEC), *OPEC 1989 Statistical Bulletin* (Vienna, 1989).
- Ost, David, *The Defeat of Solidarity: Anger and Politics in Postcommunist Europe* (London, 2005).
- Ost, David, "Polish Labour Before and After Solidarity", *International Labour and Working Class History*, 50 (1996), 29-43.
- Ost, David, *Solidarity and the Politics of Anti-Politics: Opposition and Reform in Poland Since 1968* (Philadelphia, PA, 1990).
- "Outlook for Employment in the Shipbuilding Industry", *Monthly Labor Review*, 76 (1953).
- Palamiuc, Ion, *Nave românești pe meridianele globului* (Galați, n.d.).
- Palmer, David, *Organizing the Shipyards: Union Strategy in Three Northeast Ports, 1933-1945* (Ithaca, NY, 1998).
- Parkinson, J.R., *The Economics of Shipbuilding in the United Kingdom* (Cambridge, 1960), p. 195.
- Pasin, Jorge A.B., "Indústria naval do Brasil: panorama, desafios e perspectivas", *Revista do BNDES*, 9, 18 (October 2002), 121-148.
- Patriarca, Fátima, "Greves", in António Bareto (coord.), *Dicionário de história de Portugal* (Porto, 1999).
- Patriarca, Maria de Fátima, "Operários portugueses na Revolução: a manifestação dos operários da Lisnave de 12 de setembro de 1974", *Análise Social*, 14, 56 (1978), 695-727.
- "Patrol Vessel Programmes and Requirements in South East Asia", *Military Technology*, 26, 2 (1 February 2002).
- Paulden, S., and B. Hawkins, *Whatever Happened at Fairfields* (London, 1969).
- Peebles, H., *Warshipbuilding on the Clyde: Naval Orders and the Prosperity of the Clyde Shipbuilding Industry, 1889-1939* (Edinburgh, 1987).
- Penn, Shana, *Solidarity's Secret: The Women Who Defeated Communism in Poland* (Ann Arbor, MI, 2006).

- Pérez Leñero, José, *Jurados de Empresa* (Valladolid, 1973).
- Pérez Pradal, Cecilia, *Contra el naufragio. Un estudio sobre los conflictos laborales en el caso de Astilleros Río Santiago: 1989-1999* (La Plata, 2003).
- Perspektivanalyse for skipsbyggingsindustrien fra et utvalg nedsatt av Industridepartementet i oktober 1972. Del I.* (Oslo [etc.], 1973).
- Perspektivanalyse for skipsbyggingsindustrien fra et utvalg nedsatt av Industridepartementet i oktober 1972. Del II-IV.* (Oslo [etc.], 1974).
- Persson Bertheaud, Kerstin, Lennart Sandberg and Kjersti Bosdotter (eds), *Kvinna på varvet* (Göteborg, 2005).
- Pessanha, Elina, *Operários navais: trabalho, sindicalismo e política na indústria naval do Rio de Janeiro* (Rio de Janeiro, 2012).
- Pessanha, Elina, and Regina Morel, “Gerações operárias: rupturas e continuidades na experiência de metalúrgicos no Rio de Janeiro”, *Revista Brasileira de Ciências Sociais*, 17, 6 (1991), 69-83.
- Petersen, Kaare, *Et kvartsekel i fremgang. Efterkrigstiden i norsk og europeisk perspektiv* (Oslo, 1972).
- Phiriyarangsang, Sungsidh, “The Formation of a Workers’ Strategic Group: An Analysis of the Labor Movement in Thailand (1958-1976)”, PhD thesis (University of Bielefeld, 1989).
- Pollard, Sidney, “British and World Shipbuilding, 1890-1914: A Study in Comparative Costs”, *Journal of Economic History*, 17, 3 (1957).
- Pollard, Sidney, *Peaceful Conquest: The Industrialization of Europe 1860-1970* (Oxford, 1981).
- Pollard, Sidney, and Paul Robertson, *The British Shipbuilding Industry, 1870-1914* (Cambridge, MA, 1979).
- Porter, Michael E., *Globaler Wettbewerb. Strategien der neuen Internationalisierung* (Wiesbaden, 1989).
- Porter, Michael E., “Location, Competition, and Economic Development: Local Clusters in a Global Economy”, *Economic Development Quarterly*, 14, 1 (2000), 15-34.
- Poujade, J., *Les Jonques des chinois du Siam; Pirogues et Ca-Vom de louest Cochinchinois; Les barques de mer de Rachgia* (Paris, 1942).
- Powell, Joseph Wright, “Labor in Shipbuilding”, in F. G. Fasset Jnr (ed.), *The Shipbuilding Business of the United States of America*, vol. I (New York, 1948).
- Poznanski, Kazimierz, *Poland’s Protracted Transition: Institutional Change and Economic Growth, 1970-1994* (Cambridge, 2004).
- Prados de la Escosura, Leandro, *The Progress of the Spanish Economy, 1850-2000* (Madrid, 2003).
- Price, Steph, “The Cockatoo Island Occupation – 25 Years On”, *Red Flag*, 3 February 2014, <http://redflag.org.au/article/cockatoo-island-occupation---25-years> (accessed 29 August 2016).
- Pritchard, J., *A Bridge of Ships: Canadian Shipbuilding During the Second World War* (Toronto, 2011).
- Quinlan, Michael, “Immigrant Workers, Trade Union Organisation and Industrial Strategy”, PhD Thesis (University of Sydney, 1982).
- Quite, Piet, *Koninklijke Mij. “De Schelde”. 125 jaar scheepsbouw in Vlissingen* (Alkmaar, 1999).
- Radice, H., “The Developmental State Under Global Neoliberalism”, *Third World Quarterly*, 29, 6 (2008), 1153-1174.
- Ramalho, José Ricardo, “Trabalho, direitos sociais e sindicato na Constituição de 1988: duas décadas de acirrada disputa política”, in Ruben George Oliven, Marcelo Ridenti, and Gildo Marçal Brandão (eds), *A Constituição de 1988 na vida brasileira* (São Paulo, 2008).
- Ramírez Gabarrús, M., *La construcción naval militar española, 1730-1980* (Madrid, 1987).

- Rao, T.S. Sanjeeva, *A Short History of Modern Indian Shipping* (Bombay, 1965).
- Rapport van de Commissie Nederlandse scheepsbouw 1965, voorzitter M.J. Keyzer, 10 vols (1965).
- Ratcliffe, M., *Liquid Gold Ships: A History of the Tanker, 1859-1984* (London, 1985).
- Reeves, Andrew, and Andrew Dettmer (eds), *Organise, Educate, Control: The AMWU in Australia, 1852-2012* (Clayton, 2013).
- Reid, A., "Employers: Strategies and Craft Production", in S. Tolliday and J. Zeitlin (eds), *The Power to Manage* (London, 1991).
- Reid, A., *The Tide of Democracy: Shipyard Workers and Social Relations in Britain, 1870-1950* (Manchester, 2010).
- Reinert, E., "The Role of the State in Economic Growth", in P. Toninelli (ed.), *The Rise and Fall of State-Owned Enterprise in the Western World* (Cambridge, 2000), 73-99.
- Report of the Advisory Group on Shipbuilding on the Upper Clyde* (London, 1971).
- Research Department of the Small and Medium Bank (중소기업은행조사부), *The Reality of Subcontracting in the Korean Machine Industry* (기계공업의 하청실태) (Seoul, 1967).
- Rigg, J., "Of Miracles and Crises: (Re-)Interpretations of Growth and Decline in East and South-east Asia", *Asia Pacific Viewpoint*, 43, 2 (2002), 137-152.
- Rimmer, Malcolm, and Paul Sutcliffe, "The Origins of Australian Workshop Organisation, 1918 to 1950", *Journal of Industrial Relations*, 23, 2 (1981), 216-239.
- Rinne, Risto, "Globaalinen kilpailun haasteet ja suomalaisen laivanrakennuksen perinne", in Risto Rinne, Petri Haltia, Petri Hallikainen and Henna Himberg, *Suomalainen laivantekö 2000-luvun vaihteessa. Työstä, turvallisuudesta ja oppimisesta suomalaisessa telakkateollisuudessa* (Turku, 2004).
- Riposo, Jessie, et al., *US Navy Shipyards: An Evaluation of Workload- and Workforce-Management Practices* (New York, 2008).
- Robinson, J., "How Ship Repairing Helped to Win the War", *Smith's Dock Monthly*, December 1919.
- Rocha, Edgar, "Crescimento económico em Portugal nos anos de 1960-73: alteração estrutural e ajustamento da oferta à procura de trabalho", *Análise Social*, 20, 84 (1984-85), 621-644.
- Rode, Reinhard, and Hannes J. Jacobson, *Wirtschaftskrieg oder Entspannung* (Bonn, 1984).
- Roder, Hartmut, "Der Bremer Vulkan: Von der Nachkriegszeit zum Schiffbauboom", in Peter Kuckuk (ed.), *Unterweserwerften in der Nachkriegszeit. Von der "Stunde Null" zum "Wirtschaftswunder"* (Bremen, 1989), 81-109.
- Rodrigues, Iram (org.), *O novo sindicalismo 20 anos depois* (Rio de Janeiro, 1999).
- Rodríguez, Natalio, "El Futuro de la industria naval militar I-II-III, Ferrol", *Análisis*, 22-23-25 (2007-2008-2010).
- Rodríguez García, Magaly, Elise van Nederveen Meerkerk, and Lex Heerma van Voss (eds), *Selling Sex in the City: Prostitution in World Cities, 1600 to the Present* (Leiden, 2017).
- Romero González, Jesus, and Stefan Houpt, "La Sociedad Española de Construcción Naval, 1908-1939. La consolidación de la intervención directa del Estado", in Stefan Houpt and José María Ortiz-Villajos (directs), *Astilleros Españoles, 1872-1998. La construcción naval en España* (Madrid, 1998), 95-146.
- Rosa, Teresa, et al., *Sistemas de Trabalho. Consciência e Acção Operária na Setenave* (Lisbon, 1983).
- Roskill, S., *The War at Sea*, 3 vols (London, 1954-61).
- Rostow, W.W., *The World Economy: History and Prospect* (London and Basingstoke, 1978).
- Rother, Detlef, "Strukturwandel im Weltschiffbau. Auswirkungen auf die westeuropäische Schiffbauindustrie, dargestellt an den Beispielen der Schwerbauindustrien der Bundesrepublik, Japans und Schwedens. Erfolge und Mißerfolge sektoraler Strukturpolitik", in *Erfolg und Mißerfolg sektoraler Strukturpolitik: Bericht über den wissenschaftlichen Teil der 47.*

- Mitgliederversammlung der Arbeitsgemeinschaft Deutscher Wirtschaftswissenschaftlicher Forschungsinstitute e.V. in Bonn am 10. und 11. Mai 1984* (Berlin, 1985), 131-154.
- Rubin, Lester, *The Negro in the Shipbuilding Industry: The Racial Policies of American Industry* (Philadelphia, PA, 1970).
- Rugafiori, Paride, "Da città a quartiere operaio. Uso, memoria, percezione dello spazio urbano", in *Centro ligure di Storia sociale, Immagini e spazi urbani: Sestri Ponente 1880-1960* (Milan, 1986), 26-55.
- Ruiz, David (ed.), *Historia de Comisiones Obreras (1958-1988)* (Madrid, 1993).
- Rulfs, Carsten, *Welthandelsregeln für den Schiffbau und deren Durchsetzung* (Hamburg, 2006).
- Russo, Cintia, and Juliana Frassa, "Trayectoria reciente y perspectivas futuras de la industria naval pesada argentina: los astilleros estatales", *Revista estudios regionales y mercado de trabajo*, 8 (Buenos Aires, 2012).
- Ryggvik, Helge, "Norsk oljepolitikk mellom det internasjonale og det nasjonale", in Odd Einar Olsen and Francis Sejersted (eds), *Oljevirksomheten som teknologitvinklingsprosjekt* (Oslo, 1997).
- Saiote, Vânia, and Paulo Espírito Santo, "A construção naval no Grupo CUF. Do Barreiro aos Estaleiros da Rocha", in Miguel Figueira de Faria (ed.), *Lisnave. Contributos para a História da Indústria Naval em Portugal* (Lisbon, 2001).
- Salomonsson, Karin (ed.), *"Kockumsknogaren"* (Malmö, 1986).
- Salomonsson, Karin, and Magnus Wikdahl, *Varvet som var: Rapport från ett dokumentationsprojekt vid Öresundsvarvet i Landskrona, hösten 1982* (Landskrona, 1984).
- Sampson, Anthony, *The Seven Sisters: Between a New Spirit of Capitalism and the Erosion of State Socialism* (London, 1975).
- Sánchez Aguilar, Antonio, *La crisis de la industria naval ante el desarrollo económico* (Seville, 1988).
- Sandaljian, Claude, "Fifteen Years Since the Cockatoo Island Occupation", *Workers Liberty*, 26 July 2004.
- Santana, Marco Aurélio, *Homens partidos: comunistas e sindicatos no Brasil* (São Paulo, 2001).
- Santidrián, Víctor, *Historia do PCE en Galicia, 1920-1968* (Sada, 2002).
- Santos, Maria de Lourdes, Marinús Pires de Lima, and Vitor Matias Ferreira, *O 25 de Abril e as lutas sociais nas empresas* (Porto, 1976), 3 vols.
- Sato, Toshio, "Zosen dokusen no saihei, kaigai shinshutsu, gunjika no jittai", *Rodo undo*, 5 (1979), 61-72.
- Sattler, Frederike, and Christoph Boyer, "European Economic Elites Between a New Spirit of Capitalism and the Erosion of State Socialism", in Frederike Sattler and Christoph Boyer (eds), *European Economic Elites* (Berlin, 2009), 19-73.
- Sawyer, L.A., and W.H. Mitchell, *The Liberty Ships: The History of the "Emergency" Type Cargo Ships Constructed in the United States During World War II* (Centreville, MD, 1970).
- Schee, Evert van der, *Rotterdamsche Droogdok Maatschappij* (Rotterdam, 1998).
- Scheepsbouw Nederland, *Jaarverslag 2012* ('s-Gravenhage, 2012).
- "Schiffbau und Maschinenbau in den sozialistischen Ländern", *Schiff und Hafen*, 2 (1980).
- Schneider, Aaron, "Dualist Development, Globalized Growth, Segmented Labor Markets, and Community-Based Resistance", *Social Policy* (Spring 2013).
- Schonfield, A., *British Economic Policy Since the War* (Harmondsworth, 1958).
- Schorr, M., *Modelo nacional industrial. Límites y posibilidades* (Buenos Aires, 2005).
- Schroeder, Wolfgang, "Gewerkschaften als soziale Bewegung – soziale Bewegung in den Gewerkschaften in den Siebzigerjahren", *Archiv für Sozialgeschichte*, 44 (2004), 243-265.

- Schumann, Michael, *et al.*, *Rationalisierung, Krise, Arbeiter: Eine empirische Untersuchung der Industrialisierung auf der Werft* (Frankfurt am Main, 1982).
- Schwerdtner, Nils, *Meyer-Werft: 25 Years in the Cruise Industry* (Hamburg, 2011).
- Scindia Steam Navigation Company Ltd, *The Scindia Steam Navigation Company Limited* (Bombay, 1958).
- Scott, J.D., *Vickers: A History* (London, 1962).
- Scotts of Greenock, *Two Hundred and Fifty Years of Shipbuilding by the Scotts at Greenock* (Greenock, 1961).
- Sejersted, Francis, *The Age of Social Democracy: Norway and Sweden in the 20th Century* (Princeton, NJ, 2011).
- Sena Junior, Carlos Zacarias, "Frentes Populares", *Revista História*, Special Issue (2007), 54-61.
- Senén González, Cecilia, "Teoría y práctica de las relaciones industriales. Reflexiones sobre los cambios recientes de las relaciones laborales en Argentina", *Revista latinoamericana de Estudios del Trabajo*, 11 (2006), 171-198.
- Sequeiros, Julio, *El desarrollo económico de Galicia*, vol. II (Santiago, 1986).
- SEU (All-Japan Shipbuilding and Engineering Union), "Zenzosen kikai 40-nenshi" (unpublished paper, 1986).
- Sheldon, Peter, "Compulsory Arbitration and Union Recovery: Maritime-Related Unions 1900-1912", *Journal of Industrial Relations* 40 (1998).
- Shimizu, Hiroshi, *Japanese Firms in Contemporary Singapore* (Singapore, 2008).
- Shimomura, Yasutami, "In Search of Endogenous Elements of Good Governance: The Case of Eastern Seaboard Development Plan in Thailand", in Yasutami Shimomura (ed.), *The Role of Governance in Asia* (Singapore, 2003), 166-189.
- Shin Wonchul (신원철), "The 'Buses Carrying Hopes' Movement: A New Breakthrough and Re-emerging Techniques of Containment" (희망버스 운동: 새로운 돌파와 다시 등장한 봉쇄의 기법들), in Department of Sociology, Pusan National University (부산대학교 사회학과) (ed.), *Questions on Social Conflicts in Busan, Ulsan, and Gyeongnam Areas* (사회갈등을 묻다: 부산 울산 경남 지역의 갈등과 저항) (Busan, 2013), 15-45.
- Shin Wonchul (신원철), "The Evolution of Korean Joint Consultation Committees (1945-1997)" (노사협의회제도의 형성과 전개(1945-1997)), *Society and History* (사회와 역사), 98 (2013), 43-81.
- Shin Wonchul (신원철), "The Evolution of the Enterprise Union System in Korea (1945-1987): With a Focus on the Shipbuilding Industry" (기업별 노동조합체제의 형성과 전개(1945-1987): 조선산업을 중심으로), *Economy and Society* (경제와 사회), 64 (2004), 118-147.
- Shin Wonchul (신원철), "The Evolution of the Plant-Based Job Training Institution: A Case Study of the Korea Shipbuilding and Engineering Corporation" (사내직업훈련제도의 전개: 대한조선공사 사례를 중심으로), *Society and History* (사회와 역사), 85 (2010), 154-194.
- Shin Wonchul (신원철), "The Formation and Evolution of Firm Internal Labor Markets: A Case Study of the Shipbuilding Industry in South Korea" (기업내부노동의 형성과 전개: 한국 조선산업에 관한 사례연구), PhD dissertation (Seoul National University, 2001).
- Shin Wonchul (신원철), "Gongjang-Saemaul-Undong as a Renovation Campaign of the Management: A Case Study of KSEC" (경영혁신운동으로서의 공장새마을운동: 대한조선공사 사례), *Korean Journal of Labor Studies* (산업노동연구), 9, 2 (2003), 353-381.
- Shin Wonchul (신원철), "The Rise and Decline of the Employment of Temporary Workers: A Case Study on KSEC" (조선산업 임시공제도의 형성과 소멸: 대한조선공사 사례), *Journal of Korean Studies* (한국학보), 29, 1 (2001), 183-212.

- Shin Wonchul (신원철), "Wartime Mobilisation and Its Legacies in South Korea" (전시노무동원과 그 유산), in Jongku Lee (이종구) (ed.), *Life-World of Korean Workers in the 1950s (1950년대 한국 노동자의 생활세계)* (Seoul, 2010), 166-206.
- Shipbuilders' Association of Japan, *Nihon zosen kogyokai 30-nenshi* (Tokyo, 1980).
- "Shipbuilding and Repairing Association Hopes to Snare Replacement Market for Coastal Ships", Thai News Service, 28 September 2010.
- Shipbuilding Inquiry Committee 1965-1966 Report, Cmnd. 2937, March 1966 (London, 1966).
- Shipbuilding Orders Placed Abroad by British Shipowners: Report to Minister of Transport by Messrs Peat, Marwick, Mitchell & Company* (London, 1961).
- Shore, Leslie M., *Vickers' Master Shipbuilder: Sir Leonard Redshaw* (Lightmoor, 2011).
- Silvia, Stephen J., "German Trade Unionism in the Postwar Years: The Third and Fourth Movements", in Craig Phelan (ed.), *Trade Unionism Since 1945: Towards a Global History*, 2 vols (Bern, 2009), 65-95.
- Simon, Herbert, *El comportamiento administrativo* (Buenos Aires, 1984).
- SINAVAL, *Cenário 2007: a consolidação da Indústria Naval Brasileira* (Rio de Janeiro, 2007).
- SINAVAL, *Cenário 2009* (Rio de Janeiro, 2009).
- SINAVAL, "Impactos na formação de RH nos estaleiros e a curva de aprendizado" (August 2012), <http://www.sinaval.com.br> (accessed January 2013).
- SINAVAL, *Report 2010*, <http://www.sinaval.com.br> (accessed in January 2013).
- SINAVAL, "SIM Sinaval Informe Mensal: Novos Estaleiros em Implantação" (May 2011), <http://www.sinaval.com.br> (accessed January 2013).
- SINAVAL, "Visão geral da construção naval Brasileira" (March 2012), <http://www.sinaval.com.br> (accessed January 2013).
- Singer, Daniel, *The Road to Gdańsk: Poland and the USSR* (London, 1982).
- Sirnes, Torvald, "Fra skipsbygging til fabrikkering av oljeinstallasjonar: ein studie av Haugesund mekaniske verksted", Hovedoppgave i administrasjon og organisasjon (Universitetet i Bergen, 1987).
- Sklair, L., *The Transnational Capitalist Class* (Oxford, 2001).
- Skórzyński, Jan, and Marek Pernal, *Kalendarium Solidarności 1980-1989* (Warsaw, 2005).
- Slaven, Anthony, *British Shipbuilding 1500-2010: A History* (Lancaster, 2013).
- Slaven, Anthony, "Management Policy and the Eclipse of British Shipbuilding", in F. Walker and A. Slaven (eds), *One Hundred Years of European Shipbuilding* (London, 1983).
- Slaven, Anthony, "Marketing Opportunities and Marketing Practices: The Eclipse of British Shipbuilding, 1957-1976", in L.R. Fischer (ed.), *From Wheel House to Counting House: Essays in Maritime Business History in Honour of Professor Peter Neville Davies* (St John's, 1992).
- Slaven, Anthony, "Self-Liquidation: The National Shipbuilders Security Ltd and British Shipbuilders in the 1930s", in S. Palmer and G. Williams (eds), *Chartered and Unchartered Waters: Proceedings of a Conference on the Study of Maritime History* (Greenwich, 1982).
- Smolders, Yvonne, "Chronologie van de belangrijkste gebeurtenissen voor en tijdens de metaalstaking", *Te Elfder Ure*, 19, 3 (1972), 159-185.
- Sohn, Eunhee, Sung Yong Chang, and Jaeyong Song, "Technological Catching-up and Latecomer Strategy: A Case Study of the Asian Shipbuilding Industry", *Seoul Journal of Business*, 15, 2 (December 2009), 25-57.
- Solling, Max, "The Labour Party in Inner Sydney", *Leichhardt Historical Journal*, 22 (2000), 3-10.
- Solstad, Dag, *Medaljens forside: En roman om Aker* (Oslo, 2001).
- Sorje, Jouko, "Kylmissä lämpötiloissa suoritettavia hitsauksia koskevia määräyksiä", *Hitsaustekniikka*, 5 (1963).
- Sorje, Jouko, "Nykyisistä hitsausmenetelmistä", *Hitsaustekniikka*, 2 (1959).

- Sørli, Erling, "I samme båt? Verkstedklubben ved skipsbyggeriet i BMV fra part til partner", Hovedoppgave i historie (Universitetet i Bergen, 1976).
- SRTUUIU, "Workers' Control in Shipbuilding/Shiprepairing: The Portuguese Experience" (1976).
- "State and Private Sectors to Jointly Develop Shipbuilding Industry", Thai News Service, 20 February 2008.
- Statistisk Årbok* (Oslo, various years).
- Statistiska centralbyrån, *Wages. Part 2: Wage-Earners in the Private Sector* (Stockholm, 1954-86).
- Stephen, A.M., "Full Employment in British Shipyards", Presidential Address to the Institute of Engineers and Shipbuilders in Scotland, 3 October 1944.
- Stephen of Linthouse, *A Record of Two Hundred Years of Shipbuilding at Linthouse, 1750-1950* (Glasgow, 1950).
- Stinchcombe, Arthur L., "Bureaucratic and Craft Administration of Production: A Comparative Study", *Administrative Science Quarterly*, 4, 2 (September 1959), 168-187.
- Stokes, P., *Ship Finance: Credit Expansion and the Boom-Bust Cycle* (London, 1992).
- Stoleroff, Alan, "All's Fair in Love and (Class) War", http://www.snesup.pt/htmls/_dlds/All_is_fair_in_love_and_class_war_Stoleroff.pdf (accessed 15 March 2013).
- Stoleroff, Alan, "Sindicalismo e relações industriais em Portugal", *Sociologia*, 4 (1988).
- Stopford, Martin, *Maritime Economics*, 3rd edn (New York, 2009).
- Stråth, Bo, "Industrial Restructuring in the Swedish Shipbuilding Industry", *Labour and Society*, 14, 2 (1989).
- Stråth, Bo, *La Política de Desindustrialización. La contracción de la industria de la construcción naval en Europa Occidental* (Madrid, 1989).
- Stråth, Bo, *The Politics of De-Industrialisation: The Contraction of the West European Shipbuilding Industry* (London, 1987).
- Stråth, Bo, *Varvsarbetare i två varvsstäder: En historisk studie av verkstadsklubbarna vid varven i Göteborg och Malmö* (Göteborg, 1982).
- "Strengthening of Japanese Ties with Siam", *Far Eastern Survey*, 5, 15 (15 Jul. 1936).
- Strukturproblemer og vekstmuligheter i norsk industri, *NOU 1979:35* (Oslo, 1979).
- Sturme, S.G., *British Shipping and World Competition* (reprint, St John's, 2010).
- Svärd, Jan, *Blåställ* (Malmö, 1987).
- Svensson, Thommy, "Changing Industrial Paradigms: Shipbuilding Labour Management since 1870 in Europe and the Far East", in C. Koninckx (ed.), *Proceedings of the International Colloquium "Industrial Revolutions and the Sea"* (Brussels, 1991), 343-368.
- Svensson, Thommy, *Från ackord till månadslön: En studie av lönepolitiken, fackföreningarna och rationaliseringarna inom svensk varvsindustri under 1900-talet* (Göteborg, 1983).
- Sydney Harbour Federation Trust, *Cockatoo Island: Conservation Management Plan* (Sydney, 2007).
- Sydney Harbour Federation Trust, *Management Plan – Cockatoo Island* (Sydney, 2010).
- Tagliabue, John, "Poland Announces December Closing of Lenin Shipyard", *New York Times*, 1 November 1988, <http://www.nytimes.com/1988/11/01/world/poland-announces-december-closing-of-lenin-shipyard.html> (accessed 6 November 2013).
- Tamames, Ramón, *Estructura económica de España*, vol. I (Madrid, 1980).
- Tatur, Melanie, *Arbeitersituation and Arbeiterschaft in Polen* (Frankfurt am Main, 1983).
- Taylor, V.G., "Sectionalism, Solidarity and Action in Shipbuilding and Shiprepair", in *Industrial Action: Patterns of Labour Conflict* (Sydney, 1980), 64-84.
- Ten Year History of the Japan Development Bank* (Tokyo, 1963).

- Tenold, Stig, *Tankers in Trouble: Norwegian Shipping and the Crisis of the 1970s and 1980s* (St John's, 2006).
- Teräs, Kari, *Paikallisten työmarkkinasuhteiden kausi. Ammattiyhdistykset ja työsuhteiden sääätely Turussa 1880-luvulta 1950-luvulle* (Turku, 1995).
- Teräs, Kari, "Turkulaiset telakat – sataman naapurit", in Jussi T. Lappalainen (ed.), *Turun sataman historia* (Turku, 1999), 319-326.
- Teräs, Kari, "Turkulaisten metallityöläisten henki", in *Aurajoen rautakourat – laivanrakennus Turussa* (1996), 62-68.
- Teräs, Kari, "Työssäoppiminen ja työelämän murros teollistumisen alkuaikoina", in Risto Rinne and Arto Jauhiainen (eds), *Aikuiskasvatus ja demokratian haaste* (Keuruu, 2011), 105-112.
- Teräs, Kari, *Verstastilikeistä suurtaisteluihin. Metallin historia vuosilta 1894-1930* (Tampere, 1985).
- "Thai Navy Signs Contract with DSME for First of Two Multipurpose Frigates", *IHS Jane's Defence Weekly*, 8 August 2013.
- "Thailand: Labour Market", Economist Intelligence Unit – Executive Briefing, 1 December 2004.
- "Thailand Risk: Alert – Skilled Workers May Be in Short Supply", Economist Intelligence Unit – Risk Briefing, 10 October 2013.
- "Thailand Risk: Labour Market Risk", Economist Intelligence Unit – Risk Briefing, 9 October 2013.
- Thelen, Kathleen, *How Institutions Evolve: The Political Economy of Skills in Germany, Britain, the United States, and Japan* (New York, 2004).
- Thiel, Reinhold, *Die Geschichte des Bremer Vulkan 1805-1997 in drei Bänden*, 3 vols (Bremen, 2008-10).
- Thompson, V., *Labour Problems in Southeast Asia* (New Haven, CT, 1947).
- Thompson, Willie, and Finlay Hart, *The UCS Work-In* (London, 1972).
- Thörnqvist, Christer, "Metall och världen", in *Det lyser en framtid: Svenska Metallindustriarbetareförbundet 1957-1981* (Stockholm, 2008).
- Todd, Daniel, "Going East: Was the Shift in Volume Shipbuilding Capacity from Britain and Continental Europe to the Far East and Elsewhere During the Latter Half of the Twentieth Century Inevitable?", *The Mariner's Mirror*, 97, 1 (2011), 259-271.
- Todd, Daniel, *Industrial Dislocation: The Case of Global Shipbuilding* (London, 1991).
- Todd, Daniel, and Michael Lindberg, *Navies and Shipbuilding Industries: The Strained Symbiosis* (Westport, CT, 1996).
- Toews, Arik, *Die Entwicklung des Kündigungsschutzes von den Anfängen bis zur Gegenwart* (Münster, 2004).
- Tognolini, John, "The Cockatoo Island Dockyard Strike-Occupation", *Green Left*, 17 November 1993, <http://www.greenleft.org.au/node/31617>.
- Toral Alonso, Elena, "Breve historia del Dique de Gijón (1859-1950)", in Rubén Vega Garcia (ed.), *Astilleros en el Arco Atlántico. Trabajo, historia y patrimonio* (Gijón, 2013), 27-56.
- Trebilcock, C., *The Vickers Brothers: Armaments and Enterprise, 1854-1914* (London, 1977).
- Trosell, Aino, "Kvinna på varvet – humor och konflikter", in Manne Dunge (ed.), *Varvsliv: Minnen från en svensk industriepok* (Stockholm, 2004), 243-251.
- "Troubled Thai Shipyard Moves to Lower Costs", *Business Times Singapore*, 5 February 1993.
- Tuck, J.N., *The French Wolf and the Siamese Lamb: The French Threat to Siamese Independence, 1858-1907* (Bangkok, 1995).
- Tuckett, A., *The Blacksmiths' History: What Smithy Workers Gave Trade Unionism* (London, 1973).
- Turner, Ian, *Industrial Labour and Politics* (Canberra, 1965).
- Tweede Kamer der Staten-Generaal vergaderjaar 1984-1985, *Verslag van de Enquêtecommissie Rijn-Schelde-Verolme (RSV)*, deel 1.

- Ugalde, A., *Las empresas públicas en la argentina. Magnitud y origen*, CEPAL, Document N° 3 (Buenos Aires, 1983).
- The UK Ship Repair Industry: A Report to the Department of Industry by PA Management Consultants Limited* (London, 1973).
- Ukkonen, Taina, *Metallinaiset työssä ja kotona. Naisten arkea metallimiesten rinnalla 1900-luvun loppupuolen Turussa* (Turku, 2005).
- UNICAMP-IE-NEIT *et al.*, “Estudo da Competitividade da Cadeia Integradas no Brasil: Indústria Naval”, Nota técnica, Campinas, December 2002.
- United Nations Conference on Trade and Development, *Review of Maritime Transport 2011* (New York and Geneva, 2011).
- Uola, Mikko, “*Meidän isä on töissä telakalla*”. *Rauma-Repolan laivanrakennus 1945-1991* (Helsinki, 1996).
- Valente, José, “O Movimento Operário e Sindical (1970-1976): entre o corporativismo e a unicidade”, in J.M. Brandão Brito, *O país em revolução* (Lisbon, 2001), 209-251.
- Varela, Raquel, “A eugeniação da força de trabalho. Trabalho, estado e segurança social em Portugal”, in Raquel Varela (coord.), *A segurança social é sustentável. Trabalho, estado e segurança social em Portugal* (Lisbon, 2013), 23-87.
- Varela, Raquel, *História do Povo na Revolução Portuguesa* (Lisbon, 2014).
- Varela, Raquel, “Ruptura e pacto social em Portugal. Um olhar sobre as crises económicas, conflitos políticos e direitos sociais em Portugal (1973-1975, 1981-1986)”, in Raquel Varela, *Quem Paga o Estado Social em Portugal?* (Lisbon, 2012), 71-108.
- Varvshistoriska föreningen i Malmö*, <http://www.varvshistoria.se/nybyggen.html> (accessed 31 March 2013).
- Vega García, Rubén, “Astilleros, trabajo, cultura, e identidad”, in Rubén Vega García (ed.) *Astilleros en el Arco Atlántico. Trabajo, historia y patrimonio* (Gijón, 2013).
- Vega García, Rubén, “Cerrando el círculo. Eventualidad, reconversión y defensa del empleo en el astillero Naval Gijón (1975-2009)”, in Antonio Simoes Do Paco, Raquel Varela and Sjaak van der Velden (eds), *Strikes and Social Conflicts: Towards a Global History* (Lisbon, 2012), 352-359.
- Vega García, Rubén, *La Corriente Sindical de Izquierda. Un sindicalismo de movilización* (Gijón, 1991).
- Vega García, Rubén, *Crisis industrial y conflicto social. Gijón 1975-1995* (Gijón, 1998).
- Vega García, Rubén, “La fuerza del pasado. Experiencia y memoria en las movilizaciones de los trabajadores de astilleros”, in Santiago Castillo and Roberto Fernandez (coords), *Campesinos, artesanos, trabajadores* (Lérida, 2001), 703-715.
- Velden, Sjaak van der, “Geheim agent verdedigt arbeidersbelangen. De bouwstaking van 1951”, *Onvoltooid Verleden. Kwartaalblad voor de geschiedenis van Sociale Bewegingen*, 20 (2004), 11-18.
- Velden, Sjaak van der, *Stakingen in Nederland. Arbeidersstrijd 1830-1995* (Amsterdam, 2000).
- Velden, Sjaak van der, *Werknemers georganiseerd. Een geschiedenis van de vakbeweging bij het honderdjarig jubileum van de Federatie Nederlandse Vakbeweging (FNV)* (Amsterdam, 2005).
- Velden, Sjaak van der, *Werknemers in actie. Twee eeuwen stakingen, bedrijfsbezettingen en andere acties in Nederland* (Amsterdam, 2004).
- Velden, Sjaak van der, *et al.* (eds), *Strikes Around the World, 1968-2005: Case-Studies of 15 Countries* (Amsterdam, 2007).
- Venneslan, Knut, *Arbeid og erfaring* (Bergen, 1989).
- Venneslan, Knut, Hans Christian Farsethås and Bjørnar Mortensen Vik, *Geo Celtic: En rapport om bygging og utrustning av et seismikkskip på Bergen Yards/BMV* (Bergen, 2008).

- Verolme, Cornelis, *Memoires met medewerking van Leo Ott* (Rotterdam, 1971).
- Voogd, Cees de, "Public Intervention and the Decline of Shipbuilding in the Netherlands", in Randi Ertesvåg, David J. Starkey, and Anne Tove Austbø (eds), *Maritime Industries and Public Intervention: The Fourth North Sea History Conference 18-20 August 1995 Stavanger, Norway* (Stavanger, 2002).
- Wacht, Jan, *Heet voor de vuren. Een halve eeuw ontvoogdingsstrijd der Rotterdamse metaalbewerders* (Rotterdam, 1954).
- Wade, R., *Governing The Market: Economic Theory and the Role of Government in East Asian Industrialisation* (Princeton, NJ, 1990).
- Wainer, Andrés, and Martín Schorr, "Trayectorias empresarias diferenciales durante la desindustrialización en la Argentina: los casos de Arcor y Servotron", *Realidad Económica*, 223 (2006), 116-141.
- Walsh, J., "The Vietnamese in Thailand: A History of Work, Struggle and Acceptance", *Æconomica Acta Universitatis Danubius*, 1 (2011).
- Warr, P., "The Thai Economy", in P. Warr (ed.), *The Thai Economy in Transition* (New York, 1993), 1-80.
- Warren, K., *Steel, Ships and Men: Cammell Laird and Company, 1824-1993* (Liverpool, 1998).
- Watson, Nigel, *Lloyd's Register 250 Years of Service* (London, 2010).
- Webb, Rosemary, "You Could Go to the Trades Hall and Meet Organisers: Labour Precincts and Labour Women in Interwar Sydney", in *The Past is Before Us: Papers from the Ninth National Labour History Conference* (Sydney, 2005).
- Wehmhörner, A.D., "Trade Unionism in Thailand: A New Dimension in a Modernising Society", *Journal of Contemporary Asia*, 13, 4 (January 1983).
- Weinstein, Marc, "The Remaking of the Polish Industrial Relations System: The Institutional and Ideational Antecedents of Firm-Level Employment Practices", Unpublished PhD thesis (Massachusetts Institute of Technology, Sloan School of Management, 1996).
- Weir, Gary E., *Forged in War: The Naval-Industrial Complex and American Submarine Construction, 1940-1961* (Washington, DC, 1993).
- Werneck Vianna, Luiz, et al., *A judicialização da política e das relações sociais no Brasil* (Rio de Janeiro, 1999).
- Whitehurst, Clinton Jnr, *The US Shipbuilding Industry, Past, Present and Future* (Annapolis, 1986).
- Wikdahl, Magnus, *Varvets tid: Arbetarliv och kulturell förändring i en skeppsbyggnadsstad* (Stockholm, 1992).
- Wild, R., *Social Stratification in Australia* (Sydney, 1978).
- Wilkinson, E., *The Town That Was Murdered: A History of Jarrow* (London, 1939).
- Williams, David L., and Raymond F. Sprake, *White's of Cowes: "White's-built, well-built!"* (Peterborough, 1993).
- Wilson, D., "Thailand and Marxism", in F. Trager (ed.), *Marxism in South East Asia: A Study of Four Countries* (Stanford, 1959).
- Windmuller, John, *Labor Relations in the Netherlands* (Ithaca, NY, 1969).
- Wojciechowski, Henryk, *Gdańsk Shipyard: Facts and Figures* (Gdańsk, 1970).
- Wollenberg, Charles, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley, CA, 1990).
- Woltjer, J.J., *Recent verleden. De geschiedenis van Nederland in de twintigste eeuw* (Amsterdam, 1992).
- Woolner, Derek, *Procuring Change: How Kockums was Selected for the Collins Class Submarine* (Canberra, 2001).

- World Bank, *The East Asian Miracle: Economic Growth and Public Policy* (New York, 1993).
- Wyatt, David K., *A Short History of Thailand* (New Haven, CT, 1984).
- Wyner, Issy, *My Union Right or Wrong: A History of the Ship Painters and Dockers Union 1900-1932* (2003), <http://www.takver.com/history/myunion/index.htm> (accessed 29 August 2016).
- Yañez, Ramón, "A incidencia da reconversión naval en España. Unha achega en clave galega", in *A construcción naval na Ría de Ferrol* (Ferrol, 2002).
- Yokoyama, Etsuo, and Anders Nilsson, "Company-Based Vocational Education and Training: Case Studies of Shipbuilding Industries in Japan and Sweden", *Essays in Economic & Business History*, 34 (2016).
- Zanden, J.L. van, and R.T. Griffiths, *Economische geschiedenis van Nederland in de 20e eeuw* (Utrecht, 1989).
- Zeitlin, J., "The Internal Politics of Employer Organization: The Engineering Employers Federation, 1896-1939", in S. Tolliday and J. Zeitlin (eds), *The Power to Manage* (London, 1991).
- Zieger, Robert H., *The CIO, 1935-1955* (Chapel Hill, 1995).
- Zielinski, Janusz, *Economic Reforms in Polish Industry: The Reform That Never Was?* (London, 1973).
- Ziemer, Klaus, *Polens Weg in die Krise: eine politische Soziologie der "Ära Gierék"* (Frankfurt am Main, 1987).
- Zoll, Rainer, et al., *Krisenbetroffenheit und Krisenwahrnehmung. Eine empirische Untersuchung in der norddeutschen Küstenregion* (Bremen, 1980).

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