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Discussion paper

Globalisation and maritime labour in Norway after World War II

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Globalisation and maritime labour in Norway after World War II*

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Abstract

This paper looks at how "Globalisation" – narrowly defined as the causes and effects of increased international economic integration – has influenced the demand for and supply of maritime products and services, with a particular emphasis on maritime labour. A central argument is that the manner in which maritime labour has been affected varies enormously among the maritime industries, and there is also variation among different occupations. Today, the Norwegian maritime industries have found "a new equilibrium", where old and national traditions have successfully merged with the new and global realities. The discussion paper is structured around six propositions about the relationship between globalisation and Norwegian maritime labour, and these propositions are discussed and linked to empirical data.

JEL-classification: F16, F66, J82, N34, N74

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"How has globalisation affected maritime labour in Norway?" It is likely that the gut response to this question is: "Filipino sailors have replaced Norwegian seamen." While this answer is undoubtedly correct, the aim of this discussion paper is to show that the question – and its answers – is in fact much more complex.

"Globalisation" – narrowly defined in this paper as the causes and effects of increased international economic integration – has had a profound effect on both the demand for and supply of maritime products and services. In Norway – a Traditional Maritime Nation (TMN) with high labour costs and a historically large presence in international shipping – the maritime industries have been transformed after WWII, with particularly large changes during and after the 1970s. There were two reasons for this: the shipping crisis, which led to reduced employment possibilities in the merchant marine, and the growing production of oil and gas on the Norwegian continental shelf.

The manner in which the maritime industries have changed mirrors (but predates) the changes in the international division of labour within manufacturing, where parts of the value chain have been outsourced to lower labour cost countries. Still, a central argument in this discussion paper is that the manner in which maritime labour has been affected varies enormously among the maritime industries. There is also variation among different occupations: while the "blue collar" jobs – sailors and yard workers – have *apparently* more or less disappeared, job opportunities in other parts of the maritime cluster have had a different development. Moreover, as a result of the growing oil and gas production in the North Sea, the negative effects of the transformation of the shipping industry – both for shipping companies and employees – were much more muted and far less disruptive than they would otherwise have been. Indeed, I will claim that the reduction in the number of Norwegian seamen in international waters has been relatively unproblematic in a socio-economic perspective.

Before we proceed to the analysis, it would be useful to define two important concepts, and also use these definitions to narrow down the scope of the paper. Globalisation covers "the causes and effects of increased international economic integration", in line with economists' use of the term. The term "international economic integration" denotes the integration of the markets for goods and services, capital and labour. There are numerous other definitions and uses of the term "globalisation", but the one presented above is sufficiently wide to cover a range of interesting features, while at the same time being narrow enough so as not to be all-encompassing. Although Norwegian maritime workers' access to Bollywood movies and tortillas undoubtedly reflects one side of what people refer to as "globalisation", that is not what we are interested in here.

The second thing that needs to be clarified is the terms "the maritime industries" and "maritime workers". I have taken a pragmatic approach in this respect, by focussing on the traditionally most important maritime activity in Norway – international shipping – and the people employed there, mainly at sea but also on shore. Consequently, in this story, labour in other parts of the maritime industries – fishing and fish farming, offshore oil and gas production, shipbuilding and ship equipment production, domestic sea transport – primarily become bit-part players. However, I will argue that in recent decades the offshore petroleum sector, in particular, turns out to play a crucial role.

The discussion paper is structured around six propositions about the relationship between globalisation and Norwegian maritime labour, and these propositions are discussed and linked to

empirical data. There is no doubt that the Norwegian globalisation experience is an atypical one in a European perspective, and many of the elements presented here would not be relevant for other European countries. Today, the Norwegian maritime industries have found "a new equilibrium", where old and national traditions have successfully merged with the new and global realities. This new equilibrium was far from given. For instance, Sweden, a neighbouring country with similar challenges, never managed the transition from the old to the new maritime regime.¹ Still, the central premise in this discussion paper – that the link from globalisation to maritime labour is far more complex than just the replacement of domestic seamen with low-cost foreigners or the disappearance of shipbuilding – should be valid for all European countries.

Proposition 1: For most of the postwar period, the main effect of globalisation was to increase demand, not to create supply competition

The production function of a shipping company is no different from that of an enterprise in general. The shipping company produces services by the simple combination of two factors: capital and labour. The term "capital" embodies the technology (primarily the ship, but also infrastructure, etc.) and the term "labour" refers both to those who work at sea and to the shore-based staff. The output – or production – is subject to demand from both domestic and foreign customers. This simple framework enables us to show how globalisation has affected maritime industries in general and maritime labour in particular.

The first three decades after World War II were characterised by strong integration in the international market for goods and services, but relatively limited integration in the markets for factors of production. Thus, while international trade increased substantially in the period up until the middle of the 1970s, the growth of migration and international capital movements (primarily Foreign Direct Investment – FDI) was relatively limited.² This is especially true when compared with "the first era of globalisation" in the decades before World War I.³ From the late 1980s, however, the flows and stock of FDI have increased enormously. As for cross-border movements of labour, the picture is more nuanced. Intercontinental migration – which was the backbone of this factor flow during "the first era of globalisation" – has not reached previous levels, in relative or in absolute terms. However, intracontinental migration (in particular among countries within Europe and the Americas) has seen steady growth. More importantly in our context, deep-sea shipping has, perhaps predictably, emerged as the first major industry where the nationality link between labour and capital has become almost completely severed.

Figure 1 provides a schematic overview of the manner in which globalisation has developed, where darker colours imply relatively rapid and far-reaching integration ("strong globalisation") and lighter colours imply that the globalisation is slower and less extensive. The 1950s and 1960s were characterised by the technological catching up of Western Europe and Japan and substantial trade

¹ See Poulsen, René Taudal, Hans Sjøgren & Thomas Taro Lennerfors (2012) "The two declines of Swedish shipping," in Tenold, Stig, Martin Jes Iversen and Even Lange (eds.), *Global Shipping in small nations – Nordic experiences after 1960*, Basingstoke: Palgrave MacMillan, 100-127.

² For an analysis of the link between shipping and trade growth in this period, see Kaukiainen, Yrjö (2014) "The role of shipping in the 'second stage of globalisation'," *International Journal of Maritime History* Vol. 26, No. 1, 64-81.

³ Confer Daudin, Guillaume, Matthias Morys & Kevin O'Rourke (2008) "Globalization 1870-1914", University of Oxford, Department of Economics, *Discussion Paper 395*.

liberalisation under the auspices of the General Agreement on Tariffs and Trade. The result was very strong trade growth and a rapidly increasing demand for shipping services. At the same time, there were substantial restrictions on flows of labour and capital across borders.⁴ So, in the period up until 1970 the shipping sector was characterised by strong "demand pull" from globalisation, whereas supply in the factor markets still had a primarily domestic component, closely linked to the country's own investors (capital) and workers (labour).

Figure 1. The "strength" of globalisation in six decades – darker colours imply "stronger" integration

		1950s	1960s	1970s	1980s	1990s	2000s
Demand	Trade	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue
Supply	Labour (general)	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Capital	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Dark Blue
	Maritime labour	Light Blue	Light Blue	Light Blue	Dark Blue	Dark Blue	Dark Blue

In the second half of the 1970s and most of the 1980s the demand effect was not as strong as during the previous decades. The oil price increases and the ensuing recession hampered the world economy in general and trade growth in particular. From the mid- to late 1980s onwards restrictions on capital and labour flows were gradually lifted.

With regard to capital flows, the combination of the breakdown of the Bretton Woods exchange rate system and the Organisation of Economic Cooperation and Development's efforts at liberalisation led to a very strong increase in Foreign Direct Investments. Flows of FDI increased from an average 17.5 billion US dollars annually 1970-74 to an annual average of 1584 billion US dollars 2006-10.⁵ Estimates suggest that in 1980 the stock of FDI amounted to slightly less than 700 billion US dollars. By the year 2000 it was more than ten times larger and by 2010 more than 30 times larger.⁶

The picture looks very much the same for migration. The flows were limited up until the 1980s, but then accelerated. The creation of an integrated European Union labour market and the extension of the membership of the union of course led to an increase in migration within Europe. Similarly, in the United States, immigration increased by more than 140 per cent from the 1970s to the first decade of the new millennium.⁷ In 2006, more than 1.2 million persons obtained legal permanent resident status in the United States. This was in fact the first time that the peak figure from 1914 was exceeded. However, with regard to US immigration, the geographical origin of the

⁴ For a discussion of the data behind these assertions, see for instance O'Rourke, Kevin (2002) "Europe and the Causes of Globalization, 1790-2000," in Kierzkowski, H. (ed.), *Europe and Globalization*, Basingstoke Palgrave Macmillan, 64-86 and Bordo, Michael, Barry Eichengreen & Douglas Irwin (1999) "Is globalization today really different than globalization a hundred years ago?" *NBER Working Paper 7195*.

⁵ Data from unctadstat, series "Inward and outward foreign direct investment flows, annual, 1970-2012". In real terms, flows are more than eighteen times larger in the later period.

⁶ Data from unctadstat, series "Inward and outward foreign direct investment stock, annual, 1980-2012". The figures above have not been adjusted for inflation. If we take that into account, the stock of FDI is around ten times larger in 2010 than in 1980.

⁷ Homeland Security (2012b) *2011 Yearbook of Immigration Statistics*, 6-7 and 10-11. Series: "Persons obtaining legal permanent resident status by region and selected last country of residence: Fiscal years 1820 to 2011."

recent immigrants varied a lot from the composition during "the first era of globalisation".⁸ Despite this increase, "the globalization of labour has been much more limited than that of international trade and finance."⁹

When it comes to migration and labour, international shipping is a special case. As seamen perform their jobs in international waters and in ports all over the world, the link to the "home country" of the ship is primarily defined by law, not by geographical position and boundaries. In the first decades of the postwar period most TMNs had restrictions limiting the use of foreign personnel. For owners registering their vessels in Flag of Convenience-countries (FoCs) there was no need to heed to such rules – they could seek out labour where it was most competitively priced.¹⁰ As a response to the profit squeeze during the shipping crisis an increasing number of shipping companies "flagged out" in search of cheaper labour. Consequently, the FoC-fleet had by the middle of the 1980s reached such a proportion of the world fleet that governments in important in shipping nations were forced to act. The combination of the new "open registers" – TMN-flags without nationality restrictions for seamen – and the continued growth of Flags of Convenience implies that in international shipping today, the labour market is for all practical purposes "borderless" or "global".

As Figure 1 illustrated, the globalising forces have been most prominent and lasted the longest within trade. With regard to factors of production the development started later and was more muted. However, if we separate maritime labour (primarily seamen) from labour in general, the integration started earlier and has progressed much further. In 1967 more than half of all foreigners that "worked in Norway" were employed on Norwegian ships.¹¹ Today we can talk about a shipping world with "full globalisation" – almost universal free trade and very little restriction on the nationality of seamen working in international waters. There are still some restrictions on Foreign Direct Investment and other capital movements, and even more limitations when it comes to domestic shipping and shore-based labour markets. These limitations are, however, far less strict than they were only two or three decades ago.

Proposition 2: For the Norwegian maritime industry per se, globalisation has had a positive net effect

Throughout modern history, the maritime industries have played a vital role in the Norwegian economy. In the 19th century "the holy trinity" of Norwegian exports contained two maritime industries – the sale of fish and shipping services – as dominant complements to the more earthbound timber exports.¹² In the first part of the 20th century this pattern was retained, with gross

⁸ Homeland Security (2012a) *2011 Yearbook of Immigration Statistics*, 5. Series: "Persons obtaining legal permanent resident status: Fiscal years 1820 to 2011". Europeans made up 13 per cent of the immigrants to the US from 2000 to 2009, compared with 92 per cent from 1900 to 1909.

⁹ Ferrie, Joseph P. & Timothy J. Hatton (2013) "Two centuries of international integration", *IZA Discussion Paper 7866*, Bonn: Institute for the Study of Labour, 16.

¹⁰ The practice of registering ships in FoCs was restricted in most TMNs and well into the 1970s the vast majority of FoC-vessels were owned by Americans and Greeks.

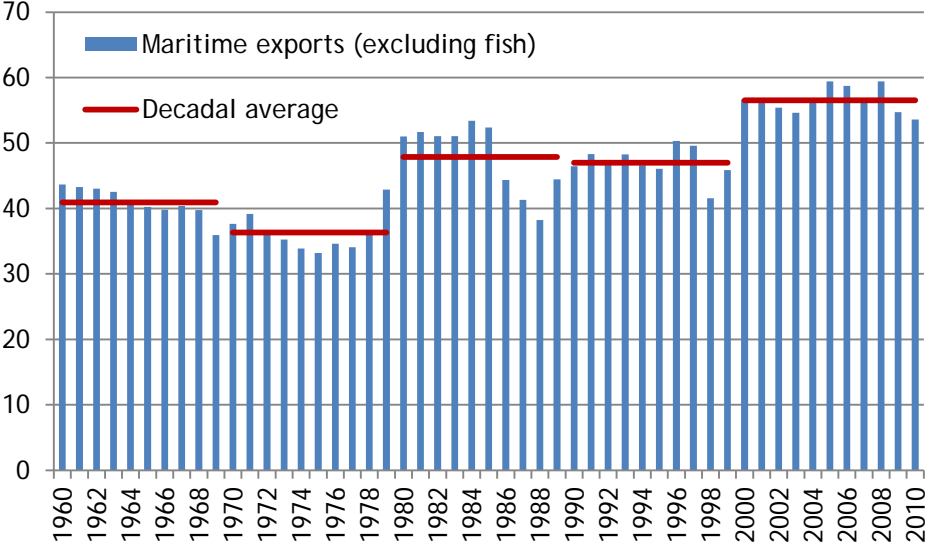
¹¹ Norway, Parliament (1975-76) *Stortingsmelding 23 (1975-76) Om sjøfolkernes forhold og skipsfartens plass i samfunnet*, 27.

¹² Brautaset, Camilla (2002) "Norsk eksport 1830-1865 i perspektiv av historiske nasjonalregnskaper," unpublished PhD-thesis, Bergen: The Norwegian School of Economics and Business Administration.

freight incomes – the revenue from the sale of shipping services – usually making up between one third and half of all Norwegian export revenues in the period 1900-1970.

During the shipping crisis of the 1970s and 1980s the pull effect from growing shipping demand was weaker and the oil tanker sector witnessed an absolute decline in transport demand. As a result of disinvestment and lower freight rates, the industry came to play a less important role in the Norwegian economy. However, for the new maritime "export engine" – the offshore petroleum industry – international demand was also paramount. In 2010 84.4 per cent of the production was exported – beating even "foreign-going shipping", which had an export share of 81.8 per cent.¹³ Figure 2 shows the two most important maritime activities – shipping and petroleum exports – as a percentage of Norwegian exports. In the first decade of the new millennium, more than half of the Norwegian export revenues have had their origin in the maritime sector every single year.¹⁴

Figure 2. Maritime activities – per cent of Norwegian exports, 1960-2010¹⁵



Without the pull from the international economy, Norwegian economic growth in general – and the growth of the maritime industries in particular – would have been substantially lower. If the economy were closed, the actual production structure – which was determined by Norway's comparative advantages in producing shipping services and oil – would neither be efficient nor feasible. Resources would have to be allocated elsewhere, with lower economic growth as the result.

¹³ Eika, Torbjørn, Birger Strøm, & Ådne Cappelen (2013) *Konkurransutsatte næringer i Norge, Rapport 58/2013*, Oslo: Statistisk sentralbyrå. The surprisingly low export share of the latter industry (previous rules-of-thumb suggested the share was 95 per cent) is probably due to an increase in offshore supply services and the high turnover in the Norwegian ferry/ cruise industries that taint the data.

¹⁴ Based on data from Statistics Norway (2013a) Annual national accounts – Table 32 Exports of goods and services 1970-2012.

¹⁵ The figure is made on the basis of data estimated from Statistics Norway (2013a) Table 32 Annual national accounts – Exports of goods and services 1970-2012, Oslo: Statistics Norway, supplemented by data from Statistics Norway (1994a) *Historisk Statistikk 1994* Table 22.8 Balance of Payments and Statistics Norway (1994b) *Historisk Statistikk 1994* Table 22.1 Expenditures on Gross Domestic Product. Due to the manner in which the data are reported, it is not possible to include the figures from the third most important maritime export industry – fish.

In fact, the liberalisation of world trade, and the subsequent increase in the volume of exchange, had a "bonus effect" on the Norwegian economy. First, Norwegians benefited from the utilisation of comparative advantage that follows the liberalisation of the country's own trade, so the growth in Norway's imports and exports had the same welfare effects as in other countries. Second, because Norway was a leading exporter of shipping services, the fact that other countries liberalised had an additional positive effect. Not only did this lead to a growing demand for Norwegian transport services, it also improved the country's terms of trade by pushing up freight rates.¹⁶

Up until the middle of the 1980s, globalisation had a strong positive influence on Norwegian demand, but only a very weak competitive effect on Norwegian supply.¹⁷ As the strongest and most enduring globalisation forces have been related to demand, rather than supply, the overall effect on the Norwegian maritime industry has been positive. Without the international market integration – and ready access to foreign customers – the demand for Norwegian shipping would have fallen by ninety per cent or more. Similarly, demand from other countries has been a necessary condition for the large-scale exploitation of the hydrocarbon resources on the Norwegian continental shelf.

Proposition 3: Within the Norwegian maritime sector, the effects of globalisation have varied enormously

The positive effects of globalisation are particularly large for small open economies such as Norway, with a limited range of natural resources (though an abundance of some of these) and a tiny home market. However, the fact that globalisation has had a positive effect for Norway does not imply that all sectors in the country have been positively affected. For instance, globalisation might provide foreign alternatives to certain products, leading to the demise of local producers. Still, while some industries may be adversely affected by foreign competition in this way, in sum the welfare effects from division of labour and international trade are undoubtedly positive.¹⁸ For the maritime sector *per se*, the effects are positive; international demand enables higher production and productivity. This positive demand effect of globalisation must far outweigh any negative supply effects.

There is a caveat, however. Even though the demand effect is positive, some parts of the maritime sector might be negatively affected by foreign competition. As argued above, international demand was a precondition for the growth of the Norwegian shipping sector. Still, when new low-cost nations entered the market, and the competition in this sector therefore became fiercer, it became difficult for Norwegian shipping companies to maintain their traditionally high market shares. Although demand remained higher than it would have been without international integration, the entrance of new competitors reduced the Norwegian market share and profits, so demand became lower than it would have been without international competition.¹⁹ "The sea gives, and the sea takes" as the old proverb has it.

¹⁶ Tenold, Stig & Helge W. Nordvik (1998) "En historisk skisse av GATT og Norges handelspolitikk 1947-97," in Melchior, Arne & Victor D. Norman (eds.) *Fra GATT til WTO – Handelspolitiske utfordringer ved GATTs 50-Årsjubileum*, Oslo: The Norwegian Institute of International Affairs, 48-87.

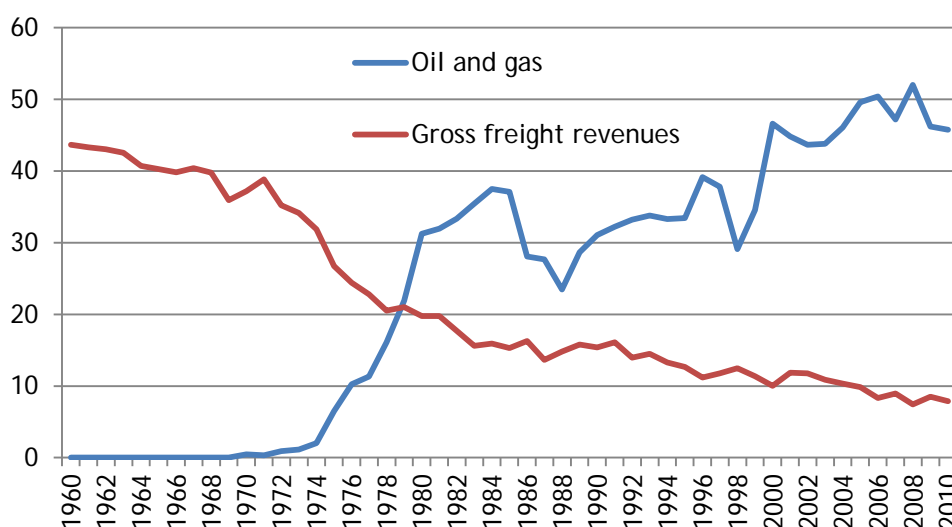
¹⁷ I will not at this point discuss whether the effect on supply was positive or negative.

¹⁸ Confer any basic textbook in international economics. In theory, international trade provides a surplus, parts of which may be transferred from those that win to compensate those that lose.

¹⁹ The answer to the question of whether this had a negative or a positive impact is not self-evident. Rather, it depends on whether or not the resources that "lost out" to foreign competition could be employed more or less efficiently in their alternative usage.

Up until the 1970s international shipping was Norway's by far most important maritime industry. When the shipping crisis led to disinvestment and reduced activity and earnings for Norwegian shipping companies, a new maritime sector was fortuitously there to take over the baton.²⁰ As Figure 3 shows, the transformation was very rapid; the first oil from Norway was exported in 1970, and by 1979 – following the second OPEC oil price increase – the petroleum industry had bypassed shipping as the most important export sector.

Figure 3. Shipping services and petroleum's shares of Norwegian exports, per cent, 1960-2010²¹



When the leading Norwegian maritime industry started to wane in the 1970s, another maritime industry took over. As a proportion of exports, the proceeds from oil and gas today have a hegemonic position that mirrors the situation for shipping in the first postwar decades. Still, the rapid growth of the offshore petroleum sector was partly premised upon Norway's existing maritime heritage, in particular the maritime knowledge among employees and investors. Former sailors "were sought after by [the oil companies] Phillips, Mobil and Statoil" and "experienced engineers and chief engineers gradually constituted the foundation of the operators at [the leading oil field] Ekofisk."²² Similarly, shipowners played a crucial role on the financing side, both in connection with the early Norwegian oil companies and, in particular, in the establishment and expansion of Norwegian fleets of oil rigs and supply vessels. The first new drilling vessel for Norwegian account was ordered by the shipping company Smedvig in late August 1971. Subsequently, "in the course of a few autumn months nine semi-submersible platforms were ordered."²³

²⁰ On the shipping crisis, see Tenold, Stig (2006) "Tankers in trouble – Norwegian shipping and the crisis of the 1970s and 1980s", in the series *Research in Maritime History* No. 32, St. Johns, Newfoundland.

²¹ The figure is based on data estimated from Statistics Norway (2013a) Table 32 Annual national accounts – Exports of goods and services 1970-2012, Oslo: Statistics Norway, supplemented by Statistics Norway (1994a) *Historisk Statistikk 1994* Table 22.8 Balance of Payments and Statistics Norway (1994b) *Historisk Statistikk 1994* Table 22.1 Expenditures on Gross Domestic Product for earlier years.

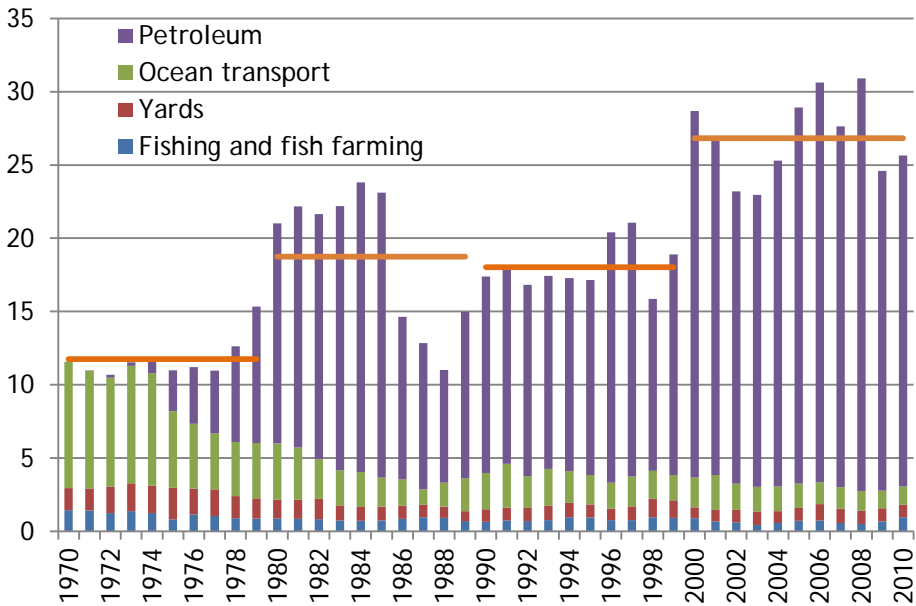
²² Hanisch, Tore Jørgen and Gunnar Nerheim (1992) "Fra vantrø til overmøt," in *Norwegian Oil History, Volume 1*, Oslo: Norsk Petroleumsforening, 365.

²³ R.S. Platou (1972) *The Platou Report 1971*, 23. All of the ten drilling rigs were ordered by shipping companies, who also had ordered some 20 supply vessels at this stage. By the end of 1975, almost 150 supply vessels had been ordered for Norwegian account; Hanisch, Tore Jørgen & Gunnar Nerheim (1992) "Fra vantrø til overmøt," in *Norsk Oljehistorie, Volume 1*, Oslo: Norsk Petroleumsforening, 228.

Norwegian shipping companies followed up their early investments in oil rigs and supply vessels, and came to play a crucial role in the development of the country's petroleum sector. From 1974 to 1984 the shipping companies invested a total of NOK 25 billion – at the time more than US\$ 4 billion – in the offshore oil sector.²⁴ Today, the operations have been increasingly cut off from the activities on the Norwegian continental shelf, and the Norwegian offshore companies supply their services all over the world.

It is evident from Figure 4 that Norway has in fact become more dependent on maritime activities during the "globalisation" period of the last three decades. The figure shows that the value added within the four main maritime areas – petroleum extraction, foreign-going shipping, yard production and fisheries – today makes up more than a quarter of the Norwegian total.

Figure 4. Value added in four maritime sectors as share of total industry value added, 1970-2010²⁵



Figures 3 and 4 illustrate that while the maritime industries are still hegemonic in Norwegian exports and important in the Norwegian economy, the sector ensuring these positions has changed. The empirics presented so far show the importance of maritime sectors in Norwegian exports and production – a position that has primarily been achieved as a result of the pull from the international economy – or "globalisation demand". The remainder of the paper looks more explicitly at the link between globalisation and labour, but it is important to keep in mind that the demand side of globalisation, which has been the topic of the paper so far, has been a necessary condition for the globalisation of supply.

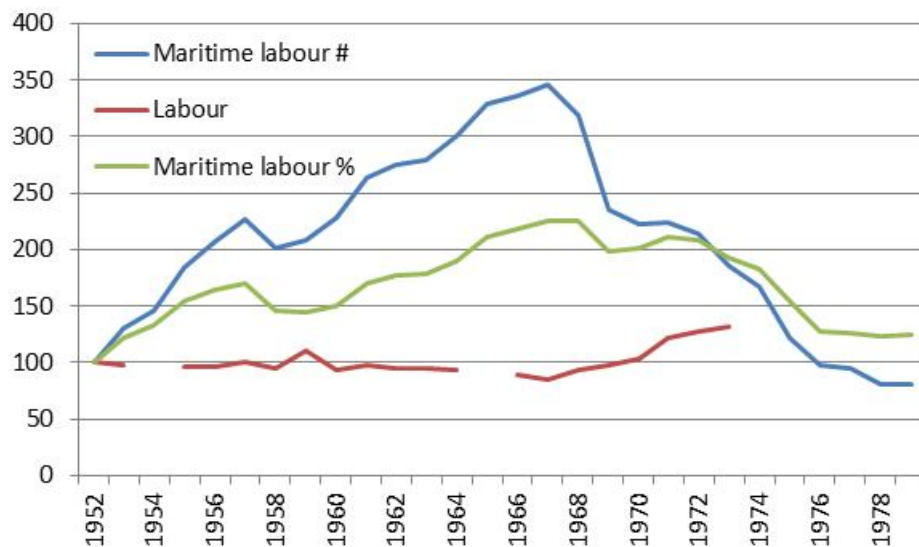
²⁴ Lykke, Knut (1985) "Norsk skipsfart – strategi og politikk," *Sosialøkonomen*, No. 5, 1985, 16.

²⁵ Statistics Norway (2013b) Annual national accounts – Table Production account and income generation, by industry, time and contents: Value added at basic prices, current prices. The lines show the decadal averages. The precise names of the series are "Oil and gas extraction including services", "Ocean transport", "Building of ships, oil platforms and modules" and "Fishing and aquaculture".

Proposition 4: Up until the 1980s, foreign seamen functioned as "swing capacity" for Norwegian shipping

The number of Norwegian seamen aboard Norwegian ships reached a postwar peak in 1961. However, even then the labour market for seamen was much more internationally integrated than labour markets in general. Figure 5 illustrates the massive difference in the growth of foreign labour on shore and at sea. The figure is an index, where 1952 is used as the base. Whereas the number of foreigners working in Norway was more or less constant until the immigration from Asia began in the early 1970s, the maritime labour market had a much more evident international flavour.

Figure 5. Foreigners on ships (number and per cent of seamen) and on shore, 1952-79 (1952=100)²⁶



The labour market within shipping has for a long time had a large "international" component.²⁷ As early as in the 17th century, between 22 and 42 per cent of the seamen in the Dutch East India Company were foreign, including a sizeable Norwegian component.²⁸ It was not a global "free-for-all", however, and in the beginning of the 20th century nationality requirements became stricter in many countries. In the specific case of Norway, the access to use foreign sailors on the country's ships was already regulated by law; the *Lov av 26. August 1854 indeholdende Forandringer i Forordningen om*

²⁶ The maritime labour indices refer to people working on foreign-going ships from the series "Crew on board vessels registered in Norwegian ship registers, by trade of vessel" in Table 20.15 in Statistics Norway (1994c) *Historisk Statistikk 1994* for the period from 1965 and the "ocean transport"-element of Table 56, "Employment in the merchant fleet", in Statistics Norway (1968) *Historisk Statistikk 1968*. The series "Maritime labour #" is an index based on the number of foreign seamen, while the series "Maritime labour %" is an index of the share of foreigners. Data on labour in general refer to the series in Table 45, "Aliens working in Norway, by country of citizenship" in Statistics Norway (1978) *Historisk Statistikk 1978*. The latter series ends in 1973. The data for maritime labour do not include the "Asian-clause" ships.

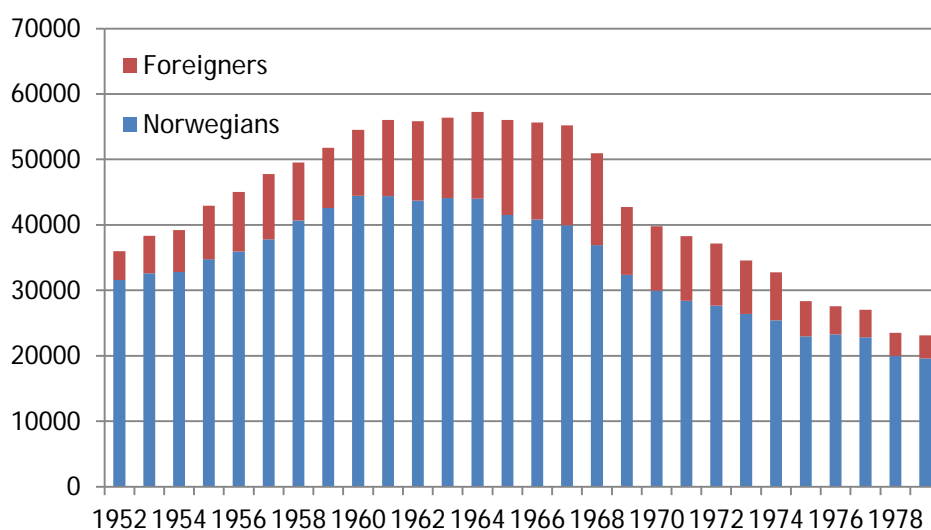
²⁷ See for instance Fischer, Lewis R. (ed.) (1994) "The market for seamen in the age of sail," *Research in Maritime History No. 7*, St. Johns, Newfoundland: International Maritime Economic History Association.

²⁸ Goebel, Erik. "Danes in the Service of the Dutch East India Company in the Seventeenth Century," *International Journal of Maritime History*, Vol. XVI, No. 1, 77-93.

Søindrullingsvæsenet af 3die Juni 1803 stipulated that no more than one third of the crew on Norwegian vessels may be foreign citizens.²⁹

The number of Norwegian seamen peaked at more than 60,000 in the 1870s.³⁰ The reduction since then has primarily been a result of rationalisation, ie that the ships need less labour, and a reduction in the number of vessels, following increasing use of economies of scale. When the proportion of foreign sailors on Norwegian ships increased in the 1950s and 1960s, the basis was the fact that the supply of Norwegian seamen was limited. The influx did thus not displace Norwegian sailors, but was necessary to enable the growth of the Norwegian fleet.

Figure 6. Employment in the merchant fleet (ocean transport), 1952-79³¹



As Figure 6 shows, foreigners functioned as "swing capacity" – providing labour when it was needed, but were the first "out the door" when rationalisation and vessel sales reduced the demand. The proportion of seamen in the Norwegian labour force was high – around five per cent of males, compared with one per cent in for instance Denmark, Sweden and the Netherlands, and even less in the United Kingdom. When the small cohorts from the 1930s entered the labour market in the 1950s, at the same time as the fleet increased and a larger proportion of Norwegians stayed ashore due to better access to education and improved land-based employment opportunities, the foreigners became essential.³² In addition to providing a "standing reserve", which in principle was given

²⁹ Norway, Parliament (1986-87) Ot. prp. 45 (1986-87) *Om lov om norsk internasjonalt skipsregister*, 6. However, according to Norway, Parliament (1982) Norges Offentlige Utredninger 31 (1982) *Utenlandske arbeidstakere i den norske handelsflåte*, this was interpreted as only applying to seamen recruited in Norwegian ports.

³⁰ Statistics Norway (1968) *Historisk Statistikk 1968*, Table 56 Employment in the merchant fleet.

³¹ Based on people working on foreign-going ships from Statistics Norway (1994c) *Historisk Statistikk 1994* Table 20.15 Crew on board vessels registered in Norwegian ship registers, by trade of vessel for the period from 1965 and the "Ocean transport"-element Statistics Norway (1968) *Historisk Statistikk 1968* of Table 56 Employment in the merchant fleet. From 1980 the reporting changes and the data are no longer comparable.

³² Olstad, Finn (2006) "Vår skjebne i vår hånd," *Norsk Sjømannsforbunds Historie*, Volume 1, Oslo: Pax Forlag, 445.

priority behind Norwegian sailors, there was a seasonal component, where foreigners temporarily replaced Norwegians in the holiday period.³³

Parallel with the growing proportion of foreigners in the 1950s and 1960s, there was a shift in the source country; Danes, which had made up almost a quarter of all seamen in 1953, made up less than ten per cent by the middle of the 1960s. By then, around a third of the foreigners were Spanish, with sailors from Asia and Latin America making up another third.³⁴ However, given the fact that all foreigners were employed at "Norwegian tariffs", there were no financial incentives behind the recruitment from countries with lower wage levels. There was, however, one exception to the principle of Norwegian wages on Norwegian ships: Asian crews were allowed on ships that traded solely in East- and Southeast-Asia. Since the interwar period the authorities had provided an exemption from the general rules of a maximum of one third foreigners and Norwegian tariffs for all onboard. The scheme, where all or practically all of the crew were Asian, included as many as 150 vessels in the middle of the 1960s, but the number gradually declined to around 80 in the mid-1970s and only 15 in the early 1980s.³⁵ The foreigners working on Norwegian ships were primarily employed in lower positions, making up only 0.1 per cent of the masters, 1.7 per cent of mates and 2.2 per cent of engineers, but almost 29 per cent of the deck crews in 1974.³⁶

When the expansion was replaced by reduced employment, the foreign workers were disproportionately affected. From 1968 to 1978 – a period characterised first by rationalisation, then by the sale of older ships – the number of Norwegian seamen fell by 45 per cent, while the number of foreign seamen on Norwegian ships was reduced by almost 75 per cent.³⁷ Thus, to the extent that there was labour market integration before 1980, the foreign seamen complemented, rather than replaced, Norwegian seamen, meeting a need for sailors that Norway was unable to fulfil. From the last part of the 1980s, however, foreign workers no longer functioned as "swing capacity", but became a real – and usually cost-effective – alternative to Norwegians.

In the 1980s the total employment continued to decline, though the primary cause was no longer rationalisation, but vessel sales and flagging out.³⁸ When the introduction of the Norwegian International Ship Register (NIS) in 1987 led to a repatriation of vessels and strong employment growth – motivated by the lifting of the restrictions on foreign personnel – Norwegians were no longer the majority. Of the more than 23,000 foreigners employed on Norwegian ships at the end of

³³ Norway, Parliament (1975-76) Stortingsmelding 23 (1975-76) *Om sjøfolkenes forhold og skipsfartens plass i samfunnet*, 29. According to Eriksen, Erik (1998) *Sjømannen om bord og i land – En studie av skipets sosiale organisasjon* (Bergen: Norse Publications), 61, the hiring halls had an A-list and a B-list of foreigners, depending on whether or not they knew the Norwegian language.

³⁴ Halvorsen, Terje (2007) "Vår skjebne i vår hånd," *Norsk Sjømannsforbunds Historie*, Volume 2 (Oslo: Pax Forlag), 68.

³⁵ See Norway, Parliament (1975-76) Stortingsmelding 23 (1975-76) *Om sjøfolkenes forhold og skipsfartens plass i samfunnet*, 29 and Norway, Parliament (1986-87) Ot. prp. 45 (1986-87) *Om lov om norsk internasjonalt skipsregister*, 7. These sailors have not been included in the data that are used as the basis for Figures 4 and 5.

³⁶ Norway, Parliament (1975-76) Stortingsmelding 23 (1975-76) *Om sjøfolkenes forhold og skipsfartens plass i samfunnet*, 29.

³⁷ This refers to "ocean transport", as seen in Figure 5. If we include seamen in ocean trade and in coastal trade, the reduction is less than 35 per cent for Norwegians and still almost 75 per cent for foreigners.

³⁸ In the first half of the 1980s, the data show that the number of foreign seamen employed is relatively constant, while the number of Norwegians declines somewhat. This primarily reflected the fact that around half the foreigners were catering personnel on cruise ships (a category that had not been included in the statistics before 1980). The reduction in the number of such positions was smaller than the reduction in general.

1991, 17 per cent came from other European countries, while almost 80 per cent came from Asia, with the Philippines alone making up almost a third of all foreign seamen. It is telling that the Danish share, which had been around a quarter in the 1950s, was less than one per cent.³⁹

The idea behind the NIS was to allow the employment of foreigners on Norwegian ships on "international terms" – ie at non-Norwegian wages. However, this was only permitted as long as the ships did not trade on the Norwegian coast or go to Norwegian ports at regular intervals. Ships that had scheduled visits to Norwegian ports or were operating between Norwegian ports (including oil platforms on the Norwegian continental shelf), had to register in the NOR-registry, where the traditional limits on the nationality of the seamen were still enforced.

Proposition 5: Over the last three decades, globalisation has led to a drastic reduction in the number of Norwegian seamen employed on ships in international waters

Although the foreign component was reduced as shipping was rationalised in the first part of the 1970s, Norwegian shipping was not impervious to international trends. With the proportion of the world fleet registered in Flags of Convenience – and using low-cost labour – rapidly increasing, the Norwegian authorities reluctantly liberalised the historically strict flag regime. The first stage was accepting some instances of flagging out, while the end result was the 1987 establishment of the NIS, which "legalised" the combination of foreign labour and the Norwegian flag.⁴⁰

Figure 7. Employment by nationality and occupation, NIS and NOR, 31st December, 1991⁴¹

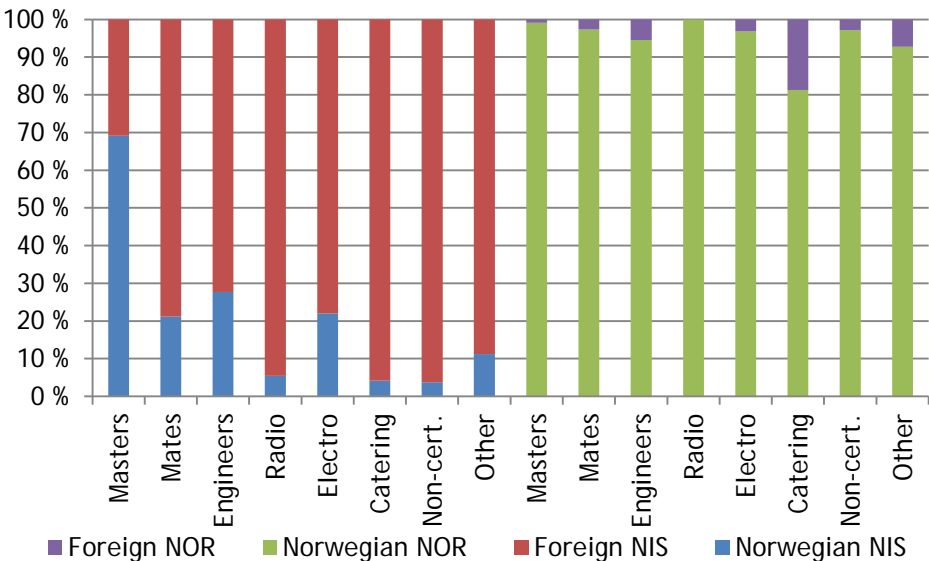


Figure 7 shows that after the introduction of the NIS a two tier labour market for seamen rapidly developed. To the left in the figure, the employment on NIS-vessels (covering almost 27,000 people)

³⁹ Statistics Norway (1992) *Norsk Sjøfart 1991* Table 4.3. Foreign crew on board vessels registered in Norwegian ship registers, by country of domicile, 31. December 1991

⁴⁰ For a presentation of the process leading up to the establishment of the NIS, see Tenold, Stig (2001) *Skipsfartskrisen og utviklingen i norsk skipsfart 1970-91*, Bergen: The Foundation for Research in Economics and Business Administration and for an analysis of the almost parallel development in Denmark, see Sornn-Friese, Henrik and Martin Jes Iversen (2014) "The establishment of the Danish International Ship Register (DIS) and its connections to the maritime cluster," *International Journal of Maritime History*, Vol. 26, No. 1, 82-103.

⁴¹ Based on Tables 4.4 to 4.11 in Statistics Norway (1992) *Norsk Sjøfart 1991* – see sources for details.

shows a clear foreign majority – around 85 per cent for all employment categories. The Norwegian presence increases with the position in the ship's hierarchy, for instance Norwegians made up more than two thirds of the masters, but only three per cent of the deck and engine room personnel, where a certificate is not required. In the NOR registry (with approximately 13,000 employees) the proportion of foreign seamen, at less than six per cent, was very limited. Catering personnel – most likely on scheduled ferry services from Norway – made up almost half of the foreign share. The figure suggests that "blue collar"-workers were more adversely affected by the liberalisation than those that wore rings on their sleeves.

The establishment of the NIS initially led to a sharp reduction in the number of Norwegian seamen – in the beginning of 1987 there were more than 20,000 Norwegians working on Norwegian-owned ships and rigs, by the end of the year this had declined to around 16,000. Although the introduction of the NIS led to a strong inflow of new ships, the employment effect for Norwegian sailors was small, and by 1991 the number had only increased to 17,400; around half on NOR-ships, almost a third on NIS-ships and the rest on foreign-registered vessels.⁴²

Over the last decade there has been a modest increase in the number of Norwegian seafarers, from around 17,000 in 2003 to 19,000 in 2011. The growth is partly a result of the restrictions on foreign personnel in the NOR-registry, partly a reflection of increasing activity in the offshore sector and finally the effect of a strong increase in recruitment positions.⁴³ The latter is the result of a massive campaign to increase the recruitment of Norwegian sailors, motivated by the desire to ensure the maintenance of the country's maritime competence. Despite this positive development, the employment figures are of course dwarfed by the more than 50,000 Norwegian seamen of the mid-1960s.

Proposition 6: The reduction in the number of Norwegian seamen in international waters has until now been relatively unproblematic in a socio-economic perspective

The reduction from more than 50,000 to less than 20,000 Norwegian seamen seems dramatic. However, I would argue that this decline has been relatively unproblematic. There are at least three reasons for this. First, due to the transformation presented above – the oil industry, with a need for manpower, started to develop parallel with the decline of employment at sea – seamen still had employment opportunities. Second, the fact that the labour market for seamen had been tight in the 1950s and 1960s – leading to a greater reliance on foreign personnel – also made the transition to lower employment relatively smooth. Finally, for many of the people working on Norwegian ships, being a seaman was not a career path in itself, but only a temporary stage of the adolescence. As late as by the early 1970s it was estimated that around 30 per cent of the male labour force had been at sea for a shorter or longer period, but the proportion of full time seamen was of course much lower.⁴⁴

⁴² Bakka, Dag (1999) *I hardt vær. Skipsfartskrise og samlingsprosess: Norsk Sjøoffisersforbund 1995*, Bergen: Norsk Sjøoffisersforbund, 72. These figures are clearly not from the same source as those on which Figure 7 is based.

⁴³ Menon (2014) *Maritim Verdskapningsbok 2014*, Oslo: Menon, 16.

⁴⁴ Norway, Parliament (1975-76) Stortingsmelding 23 (1975-76) *Om sjøfolkenes forhold og skipsfartens plass i samfunnet*, 42.

In the mid-1960s, around 20 per cent of the 15-19 year old boys left for the sea as rookie sailors, while by 1974 this had been reduced to 12 per cent.⁴⁵ However, most of these would return home after a few years – and a lot of adventures – to find alternative employment on the shore. It is telling that a 1960s' article by a Norwegian sociologist is called "Life at sea – profession or gap year".⁴⁶ The short careers often reflected the fact that a life as a sailor was seen as "incompatible" with for instance the raising of a family. A study of Norwegian seamen from the early 1970s pointed out that: "In addition to the monotony and isolation on the ship, the erotic problems – and for married seamen family life in general – must be the defining negative factor of life as a seaman."⁴⁷

Still, a short-term career as a seaman was the best way to "see the world" in the period before cheap mass travel. The rookie sailors' motivation had "one common element: The dream of seeing and experiencing the wide world that one otherwise had only read and heard about."⁴⁸ The proportion of sailors under the age of 20 on Norwegian vessels fell from 24.9 per cent in 1963, via 8.8 per cent ten years later, to 4.3 per cent by 1983.⁴⁹ The temporary nature of the adventurers was reflected in an extremely high turnover rate: in the early 1970s more than half of deck- and engine room-personnel had not re-signed on a new ship one year after they signed off.⁵⁰ Nevertheless, life at sea was an important ritual: while "a few months earlier he had been an insecure rookie sailor, now he was a man of the world. Even though he had maybe been gone for only a year, he had become ten years older."⁵¹

The Norwegian economy has gone through an almost unprecedented real wage increase after the number of seamen started to decline in the middle of the 1960s. A relatively high wage level, coupled with beneficial taxation, implied that seamen made a good living, compared with other employees. In 1963 the wage per man-year was 35 per cent higher in ocean shipping than in manufacturing; by 1971 the difference had increased to 73 per cent.⁵² The improvement in living standards (and employment costs) at home is one explanation of the declining employment of Norwegian seamen – they were "replaced" first by rationalising measures and then by less expensive foreigners. At the same time, there has not been any large-scale unemployment of seamen. Quite a lot of those that became superfluous in the Norwegian merchant marine found similar work in the offshore industry – on supply vessels or on rigs – while others found that their skills were in demand in the offices of the shipping companies.

A survey from the middle of the 1980s concluded that unemployment rates among sailors were the same as for comparable occupational categories. Moreover, the current Norwegian labour

⁴⁵ Norway, Parliament (1975-76) Stortingsmelding 23 (1975-76) *Om sjøfolkenes forhold og skipsfartens plass i samfunnet*, 42.

⁴⁶ Arner, Oddvar (1962) "Sjømannslivet – yrke eller vandreår," *Tidsskrift for Samfunnsforskning*, Vol. 3, No. 1, 17-27.

⁴⁷ Devold, Olav, Thor Haaland and Ivar Hansen (1975) *Ta vare på våre sjøfolk*, Oslo: Universitetsforlaget, 20.

⁴⁸ Pettersen, Edvard and Hans Brundtland (2002) *Vi som dro til sjøs*, Bergen: Edvard'en Forlag, 72.

⁴⁹ Norway, Parliament (1975-76) Stortingsmelding 23 (1975-76) *Om sjøfolkenes forhold og skipsfartens plass i samfunnet*, 43 and Norway, Parliament (1984-85) Stortingsmelding 53 (1984-85) *Om skipsfartsnæringen*, 43.

⁵⁰ Norway, Parliament (1975-76) Stortingsmelding 23 (1975-76) *Om sjøfolkenes forhold og skipsfartens plass i samfunnet*, 42.

⁵¹ Pettersen, Edvard and Hans Brundtland (2002) *Vi som dro til sjøs*, Bergen: Edvard'en Forlag, 22.

⁵² Norway, Parliament (1975-76) Stortingsmelding 23 (1975-76) *Om sjøfolkenes forhold og skipsfartens plass i samfunnet*, 48.

market is characterised as "good overall with low unemployment and high participation."⁵³ Thus, the majority of the Norwegian sailors that returned from the sea found worthwhile alternative employment. Moreover, the absence of a labour-hungry shipping sector that could employ adolescents has not affected the Norwegian youth unemployment rate negatively. Instead, the country has consistently had one of the lowest unemployment rates in Europe, both in general terms and with regard to youth employment.⁵⁴

Conclusion – maritime labour in Norway

It is notoriously difficult to estimate employment and value added in the maritime industries, as the international dimension may seem confusing and the linkages to and borders with other sectors are fuzzy. Estimates are therefore subject to a great deal of discretion and are very sensitive to definitions. Nevertheless, we do have information that enables us to give an approximation of the development of the industry across time. The "Maritime value added project" provides the following data for employment, value added and turnover in the Norwegian maritime industry:

Table 1. Key figures – the Norwegian maritime cluster 2011⁵⁵

	Employment	Value added (bill. NOK)	Turnover (bill. NOK)
Shipping companies	38,866	78.0	211.0
Services	31,939	34.1	92.7
Equipment	17,717	22.2	66.5
Yards	11,839	10.4	39.3
Sum total	100,361	145.0	410.0

In 2011 "the Norwegian maritime cluster" allegedly had more than 100,000 employees and a value of NOK 150 billion – which at the time was more than Euro 20 billion. This is a medium-strict definition of the maritime industry and maritime labour that includes those employed in the operation and construction of ships and other floating units, for instance offshore supply vessels and oil rigs.⁵⁶ How does this rank compared with previous years?

Compared with the situation in the mid-1980s, there appears to have been an increase in the employment. A Norwegian white paper estimated that in 1985 there were 76,600 man-years in the maritime sector, with an additional 14,000 man-years in the "remaining maritime milieu". The definitions appear to be relatively similar to those used in the 2011 survey.⁵⁷ Foreign shipping was

⁵³ OECD (2012) *OECD Economic Surveys: Norway 2012*, OECD publishing, 8.
http://dx.doi.org/10.1787/eco_surveys-nor-2012-en

⁵⁴ It might, however, be argued that the fact that "going to sea" is no longer an alternative for "unruly kids" is unfortunate. The discipline, adventures and dangers, of the sea have for many been replaced by drug experimentation and costly welfare programmes.

⁵⁵ Menon (2012) *Maritim Verdiskapningsbok 2012* (Oslo: Menon), 8. The data are based on companies within four main groups: shipping companies (deep sea, short-sea shipping, offshore and rig owners), maritime services (technological services, financial and legal services, port and logistics services and maritime trade services), yards and ship equipment producers.

⁵⁶ The petroleum exploitation *per se* has not been included in these figures, neither have maritime industries such as fishing and fish farming. See Menon (2012) *Maritim Verdiskapningsbok 2012* (Oslo: Menon), 8.

⁵⁷ Norway, Parliament (1986-87) Stortingsmelding 43 (1986-87) *Om skipsfartens situasjon og skipsfartspolitikken*, 12.

directly responsible for 21,500 man-years at sea and 4,400 man-years on shore, in addition to 8,500 man-years from supporting companies, including shipyards and services.⁵⁸ At the same time, a recent analysis points out that "Foreign-going shipping stands out in a number of ways. [...] A lot of the export of such services is related to value-added abroad (imported intermediates). More than half of those employed in the sector are foreigners without any economic link to Norway, and who are not labour immigrants. The taxation of shipping companies and Norwegian sailors is limited."⁵⁹

The aim of this article has been to discuss some of the aspects of the effects of globalisation on maritime labour in Norway. The focus has primarily been on the transition from shipping to offshore, but there are many facets that have been left out of the analysis and questions that remain unanswered. How does the reduction in the population of Norwegian seamen affect the competence, and ultimately the competitiveness, of Norwegian shipping companies? The fact that shipping companies are worried about problems of recruiting people with experience from the sea is evident from the large scale campaigns to make young Norwegians choose a maritime career.⁶⁰ How important have foreign workers – in particular from Eastern Europe – been for the continuing survival of the Norwegian yard industry? Is the Norwegian offshore industry sufficiently advanced and competitive to survive after the oil and gas resources on the Norwegian continental shelf have been depleted?

As the analysis above has shown, globalisation has fundamentally transformed maritime work in Norway. Shipping is seldom a career path, and it is no longer a "temporary adventure" for as much as a third of adolescent males. Today, Norwegians appear to have an ambivalent attitude towards the phenomenon. On the one hand, the Norwegian fortune – in both senses of the word – is closely tied to a new maritime industry, the offshore exploration and exploitation of oil. On the other hand, there is still a hankering for the old times. The former nostalgia for the sailing ship era has been replaced by an interest in the last period where the Norwegian flag was followed by Norwegian sailors all around the world – the 20th century. In December 2013 – the all-important Christmas shopping period – the two bestselling novels in Norway were books in the series *En sjøens helt* (A hero of the sea), parts of a planned trilogy about the life of a Norwegian sailor during and after World War II.⁶¹

⁵⁸ Norway, Parliament (1986-87) Stortingsmelding 43 (1986-87) *Om skipsfartens situasjon og skipsfartspolitikken*, 14.

⁵⁹ Eika, Torbjørn, Birger Strøm, & Ådne Cappelen (2013) *Konkurransetsatte næringer i Norge, Rapport 58/2013*, Oslo: Statistisk sentralbyrå, 29-30. The claim that the foreign sailors are employed but do not have any "economic link to Norway" is clumsy (receiving wages must clearly be an economic link), but refers to the fact that they do not spend their money in the country.

⁶⁰ See for instance www.ikkeforalle.no, which targets jobs at sea and www.maritimkarriere.no which tries to recruit good candidates to land-based positions. The former campaign is financed by *Maritimt Forum*, an umbrella organisation with more than 700 maritime businesses as participants.

⁶¹ http://www.bokhandlerforeningen.no/Statistikk/Manedens_bestseller, December 2013, read 220114.

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Table 4.3 Foreign crew on board vessels registered in Norwegian ship registers, by country of domicile, 31. December 1991

Table 4.4 Norwegian crew on board of vessels registered in Norwegian ship registers by age and occupation. Coastal- and foreign-going trade. NOR and NIS. Total. 31 December 1991

Table 4.5 Norwegian crew on board of vessels registered in Norwegian ship registers by age and occupation. Coastal- and foreign-going trade. NOR. 31 December 1991

Table 4.6 Norwegian crew on board of vessels registered in Norwegian ship registers by age and occupation. Coastal trade. NOR. 31 December 1991

Table 4.7 Norwegian crew on board of vessels registered in Norwegian ship registers by age and occupation. Foreign-going trade. NOR. 31 December 1991

Table 4.8 Norwegian crew on board of vessels registered in Norwegian ship registers by age and occupation. Foreign-going trade. NIS. 31 December 1991

Table 4.9 Foreign crew on board of vessels registered in Norwegian ship registers by age and occupation. Foreign-going trade. NIS and NOR. Total. 31 December 1991

Table 4.10 Foreign crew on board of vessels registered in Norwegian ship registers by age and occupation. Foreign-going trade. NOR. 31 December 1991

Table 4.11 Foreign crew on board of vessels registered in Norwegian ship registers by age and occupation. Foreign-going trade. NIS. 31 December 1991

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- 17/13** December, **Øivind A. Nilsen**, **Lars Sørgard**, and **Simen A. Ulsaker**, “Upstream Merger in a Successive Oligopoly: Who Pays the Price?”
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- 01/14 January, **Kurt R. Brekke**, Tor Helge Holmås, and Odd Rune Straume, "Price Regulation and Parallel Imports of Pharmaceuticals".
- 02/14 January, **Alexander W. Cappelen**, **Bjørn-Atle Reme**, **Erik Ø. Sørensen**, and **Bertil Tungodden**, "Leadership and incentives".
- 03/14 January, **Ingvild Almås**, **Alexander W. Cappelen**, **Kjell G. Salvanes**, **Erik Ø. Sørensen**, and **Bertil Tungodden**, "Willingness to Compete: Family Matters".
- 04/14 February, **Kurt R. Brekke**, Luigi Siciliani, and Odd Runde Straume, "Horizontal Mergers and Product Quality".
- 05/14 March, **Jan Tore Klovland**, "Challenges for the construction of historical price indices: The case of Norway, 1777-1920".
- 06/14 March, Johanna Möllerström, **Bjørn-Atle Reme**, and **Erik Ø. Sørensen**, "Luck, Choice and Responsibility".
- 07/14 March, Andreea Cosnita-Langlais and **Lars Sörgard**, "Enforcement vs Deterrence in Merger Control: Can Remedies Lead to Lower Welfare?".
- 08/14 March, **Alexander W. Cappelen**, **Shachar Kariv**, **Erik Ø. Sørensen**, and **Bertil Tungodden**, «Is There a Development Gap in Rationality?»
- 09/14 April, **Alexander W. Cappelen**, Ulrik H. Nielsen, **Bertil Tungodden**, Jean-Robert Tyran, and Erik Wengström, "Fairness is intuitive".
- 10/14 April, **Agnar Sandmo**, "The early history of environmental economics".
- 11/14 April, **Astrid Kunze**, "Are all of the good men fathers? The effect of having children on earnings".
- 12/14 April, **Agnar Sandmo**, "The Market in Economics: Behavioural Assumptions and Value Judgments".
- 13/14 April, **Agnar Sandmo**, "Adam Smith and modern economics".
- 14/14 April, Hilde Meersman, **Siri Pettersen Strandenes**, and Eddy Van de Voorde, "Port Pricing: Principles, Structure and Models".
- 15/14 May, **Ola Honningdal Grytten**, "Growth in public finances as tool for control: Norwegian development 1850-1950"

16/14 May, **Hans Jarle Kind**, Tore Nilssen, and **Lars Sjørgard**, "Inter-Firm Price Coordination in a Two-Sided Market".

17/14 May, **Stig Tenold**, "Globalisation and maritime labour in Norway after World War II".

