

Norway's Interwar Tanker Expansion – A Reappraisal

Associate professor Stig Tenold

Norwegian School of Economics and Business Administration

Helleveien 30, N-5045 Bergen, Norway

E-mail: stig.tenold@nhh.no

Abstract:

The topic of the article is the Norwegian expansion within oil tanker shipping in the interwar period, which is analysed on the basis of new empirical evidence. By means of a purpose-built database, the basis for the expansion is analysed and traditional accounts of the growth of Norwegian tanker shipping are challenged and modified. Previously, the purchase of second-hand tankers from Anglo-Saxon Petroleum Co. has been seen as the most important basis for the growth of Norwegian tanker shipping. This article claims that the Anglo-Saxon tankers were relatively unimportant. The dynamic relationship between Oslo-based shipowners, primarily companies without previous experience from the tanker industry, and foreign, in particular Swedish, yards is the key to understanding the development.

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Introduction

The development of Norwegian shipping in the interwar period is a textbook example of a country going against the grain, finding profitable niches in a depressed market. The world shipping industry was characterised by crisis in the interwar era. Yet, Norwegian shipowners used this difficult period to modernise their fleets, particularly through investments in tankers, and reclaim their position in international shipping.

The tanker fleet growth has not been neglected in the literature, but holds an important position in general studies of Norwegian shipping by domestic as well as international authors.¹ For instance, the Norwegian owners' eagerness to buy tankers provides the contrast to the reluctance of UK owners in Sturmeys' seminal book on British shipping.² The topic has also been the main subject of a few more detailed studies.³ However, the analyses tend to refer to "impressionistic" explanations. In particular, the purchase of second-hand tonnage from British oil companies and the increased investments in tankers in Oslo in the 1930s have been emphasised. Quantitative analyses have been strangely absent. This article attempts to remedy this problem.

The article consists of three parts. After a brief presentation of the atypical development of Norway's shipping industry, the most dynamic part of the sector – the tanker market – is analysed. I have constructed a database of all Norwegian tankers and tanker owners in the period 1919-39. The database makes it possible to examine various aspects of the Norwegian foray into tankers. When the new results are compared with traditional accounts of the interwar tanker expansion, a number of differences appear. As such, the empirical analysis can be used to modify previous presentations. Finally, the findings from the database are used to (re)evaluate the basis for the growth of the Norwegian tanker fleet in the interwar period. In particular, the apparently important relationship between Norwegian owners and Swedish yards is investigated.

¹ See eg Thowsen, Atle, *Bergen og Sjøfarten IV*. Bergen: Bergens Rederiforening og Bergens Sjøfartsmuseum 1983; Kloster, Knut Utstein, *Perler på en snor: eventyret om norsk tankfart*. Oslo: Gyldendal 1953 and Egeland, John O., *Kongeveien Bind II*. Oslo: H. Aschehoug & Co. 1973.

² Sturmeys, Stanley G., *British Shipping and World Competition*. London: The Athlone Press 1962, 79-97. See also Dunn, Laurence, *The World's Tankers*, London: Adlard Coles Limited 1956, 74 and Middlemiss, Norman L., *World Tankers*. Newcastle: Shield Publications Ltd. 1996, 98-109.

³ See Nørgård, Leif, *Tankfartens etablerings- og introduksjonsperiode i norsk skipsfart 1912-1913 og 1927-1930*. Bergen: Skipsfartsøkonomisk Institutt ved Norges Handelshøyskole 1961; Gunnerud, Jørgen, *Tankskipseventyret i Oslo 1925-1939. Sjøfartshistorisk Årbok 1991*. Bergen: Bergens Sjøfartsmuseum 1992, 170 and Molaug, Gaute Chr., *Det sørlandske Anglo-Saxon eventyr*. Hovedfag-thesis. Bergen: University of Bergen 2001.

The Background – Expansion in a Depressed Market

During the interwar period – and particularly in the years from 1929 to 1939 – the Norwegian share of the world fleet increased in a generally difficult shipping market. By 1939 four related elements set Norwegian shipowners apart from most of their international competitors: the rapid fleet growth over the last decade, the high shares of tankers and motor vessels, as well as the relatively modern fleet.⁴ Table 1 illustrates that there were substantial differences between the structure of the Norwegian fleet and the fleets of other countries by the end of the interwar period.

Table 1 Comparison of structural features, 1939

	Norwegian fleet	Leading fleets	World fleet
Fleet growth 1923-39	106.4%	-4.4%	0.0%
- sub-period 1923-29	37.1%	1.8%	-1.5%
- sub-period 1929-39	50.6%	-6.1%	1.5%
Motorship share	62.2%	21.5%	16.9%
Tanker share	43.9%	17.4%	17.4%
Average age	12.7 years	15.8 years	16.8 years

Note: “Leading fleets” refers to Germany, Japan, The United Kingdom and The United States. Data for the US fleet do not include the reserve fleet. The data for the world fleet include the Norwegian tonnage. Shares calculated from gross registered tons.

Source: Lloyd’s, *Lloyd’s Register of Shipping*. London: Lloyd’s Register, various years.

The growing importance of Norwegian shipping was closely related to heavy investments in tanker shipping. Moreover, Norwegian owners were at the forefront with regard to the use of new technology, in particular motorships. Whereas they had encountered serious difficulties during the transition from sail to steam, by the end of the interwar period Norwegian shipping companies were technological leaders.

The interwar period saw substantial modernisation of the Norwegian fleet. In other countries obsolete tonnage was scrapped and there was limited reinvestment in new transport capacity. For instance, the British fleet declined by more than 75,000 gross registered tons (grt) on average every year from 1923 to 1939, while the US decline in the same period was more than 280.000 grt annually. Norway’s share of the world fleet increased, and particularly

⁴ See Tenold, Stig, Crisis? What Crisis? The Expansion of Norwegian Shipping in the Interwar Period, *Proceedings from the Eighth North Sea History Conference*. Esbjerg: Fiskeri og Søfartsmuseet forthcoming, for an evaluation of the atypical Norwegian experience. In that article the four factors sketched above are analysed in detail.

so from 1929 to 1939. In the latter period the Norwegian tonnage increased by more than 50 per cent, whereas the rest of the world fleet actually declined.⁵ The driving force behind the Norwegian increase was the tanker fleet, which doubled between 1929 and 1939.

The Premise – Oil Company Outsourcing

As the demand for shipping services is a derivative of the volume of international trade, much of the interwar period was characterised by a depressed shipping market. However, some segments showed considerable growth. In his analysis of the shipping market, Sturmeay emphasises that “[t]he most important change in world trading patterns in the interwar years was the decline in the relative importance of the coal trade and the growth in the trade of oil with a consequent need for specialized tankers to transport the oil.”⁶ Moreover, in addition to growing faster than other shipping segments, the tanker market was influenced by the international oil companies’ decision to outsource parts of their transport needs.

The Norwegian entry into tanker transports would not have been possible to the same extent without this fundamental shift in the oil companies’ strategies. Many oil companies chose to offload debts by selling ships to independent owners, at the same time taking the tonnage back on long-term charters. By slicing up the value chain in this manner, and leaving more of the petroleum transport to outsiders, the oil companies managed to free financial resources for their core activities.

Table 2 Ownership structure of the world tanker fleet, 1900, 1923 and 1939

	Oil companies		Independent owners		Governments	
	1000 grt.	Share	1000 grt.	Share	1000 grt.	Share
1900	285	80%	36	10%	36	10%
1923	3,019	59%	1,279	25%	819	16%
1939	5,952	54%	4,299	39%	772	7%

Source: British Petroleum, *BP Statistical Review of World Energy*, quoted in Middlemiss, *World Tankers*, 14.

⁵ Differences in periodisation and definitions imply that sources diverge. Norwegian sources show a growth of approximately 43 per cent.

⁶ Sturmeay, *British Shipping*, 73.

Table 2 illustrates the transformation of the ownership of the world tanker fleet.⁷ It is beyond doubt that Norwegian shipowners took advantage of the new opportunities and invested heavily in tanker transport capacity. The share of tankers in the Norwegian fleet, which had been approximately five per cent in 1920, grew to more than 40 per cent by 1939. The growth was particularly strong in the second half of the 1920s and in the early 1930s. The volume of tanker tonnage increased by almost one million grt, or 371 per cent, from 1926 to 1931.⁸ In 1939 the Norwegian tanker fleet consisted of more than 250 vessels, amounting to around 1.9 million grt of tanker tonnage. The only oil company-owned ships in the Norwegian fleet were five vessels managed by H.C. Mathiesen but owned by Texaco.⁹ As there was practically no oil company-owned tonnage in Norway, Norwegian shipowners controlled almost half of the independent tanker fleet at the end of the interwar period.

Tanker Shipping – An Opportunity Eagerly Embraced

In the interwar period Norwegian shipowners expanded in a number of segments, including liner shipping, transport of refrigerated products and whaling. Yet, tanker shipping is the segment in which the success was most pronounced. Nevertheless, due to the strong decline of other major shipping nations, the Norwegian share of the world fleet increased even if the tanker segment is excluded. In order to create a solid empirical basis for the analysis the emergence of Norwegian tanker shipping I have constructed a database on Norwegian tankers and tanker owning companies in the period 1919-39. The annual entries include information on owner, port of registry, gross registered tonnage, type of propulsion, year and place of build and previous names for all Norwegian tankers above 400 grt. The database is based upon information from the annual registries published by Det Norske Veritas, the leading classification society in Northern Europe.¹⁰ The aim of the analysis is to track the growth of the Norwegian tanker fleet in the interwar period and investigate the pattern of ownership.

⁷ See also Nielsen, Robert O., *Oil tanker economics*, Weltschiffahrts-Archiv No. 7. Bremen: Institute for Shipping Research 1959, 13-16 and Koopmans, Tjalling C., *Tanker Freight Rates and Tankship Building*. Haarlem: De Erven F. Bohn N.V. 1939, 1-10.

⁸ Calculations on the basis of data from Statistisk Sentralbyrå, *Historisk Statistikk 1968*. Oslo: Statistisk Sentralbyrå 1968, 363-364. The data in Lloyd's, *Lloyd's Register*, which are July-figures, show the slightly smaller growth of approximately 320 per cent.

⁹ Middlemiss, *World Tankers*, 65.

¹⁰ Det Norske Veritas, *Register over norske, svenske, danske, finske og islandske skibe*, various years. Where no specific sources are referenced the calculations, figures and tables refer to this database.

The Vanishing Pioneers

The Norwegian presence in the tanker sector was limited before World War I. Around 1910 the DT *Conrad Mohr* was the sole Norwegian tanker operating internationally. Although a limited number of conversions and newbuildings later added to the Norwegian tanker fleet, the first big break came when Wilh. Wilhelmsen ordered a series of four tankers from British yards for delivery in 1913 and 1914. In the period 1916-18 another six tankers were built, but the ships were requisitioned and not returned to the company before 1919 and 1920. One of the ships, the DT *Mirlo*, was torpedoed by a German submarine. Its eponymous sister, delivered 1922, became the eleventh tanker built for Wilhelmsen. The Wilhelmsen tankers made up slightly more than half the Norwegian tanker fleet in the early 1920s.¹¹

Twelve companies are listed as tanker owners in the Veritas register for 1919, but one of the tankers, the DT *Hiskö*, had been requisitioned by the US authorities and was never returned to the registered Norwegian owner. So, eleven Norwegian shipping companies owned tanker tonnage in 1919.¹² Their tanker investments were limited – only Wilhelmsen owned more than one tanker. Moreover, the companies did not pursue their initial advantage with substantial amounts of new tonnage. Their total tanker tonnage amounted to 72,184 grt in 1919. By 1939 seven of the companies still owned tankers, controlling a fleet of 130,150 grt. Despite almost doubling the tonnage, their share of the Norwegian tanker fleet had fallen from 100 per cent to seven per cent.

There seems to be no uniform reason for the pioneers' lack of enthusiasm after the initial investments. Two of the companies increased their fleets in the period 1919-1924. Three companies had already left the tanker sector by 1924. Two companies had exited the shipping sector altogether, while one, Sigval Bergesen of Stavanger, temporarily abandoned the tanker sector to concentrate on other types of tonnage.¹³ The remaining six tanker owners were registered with the same tankers in 1924 as in 1919. Wilhelmsen, the country's premier tanker company, was one of the expanding companies. However, after receiving the DT *Mirlo* in 1922, Wilhelmsen did not order new tanker tonnage until 1948.¹⁴ All energy was directed at the company's position in the liner segment. The real entrepreneurs thus left the stage open

¹¹ Det Norske Veritas, *Register 1921*. Kolltveit, Bård and Crowdy Michael, *Wilh. Wilhelmsen 1861-1994*. Kandal: World Ship Society, 1994, 15 erroneously claim that Wilh. Wilhelmsen's tankers represented "92 per cent of Norway's entire tanker fleet at the end of World War I."

¹² Det Norske Veritas, *Register 1919*.

¹³ Hanisch, Tore Jørgen and Ramskjær, Liv Jorunn, *Firmaet Sigval Bergesen, Stavanger: Under vekslende vilkår 1887-1987*. Stavanger: Dreyer Bok 1987.

¹⁴ Kolltveit and Crowdy, *Wilh. Wilhelmsen*, 52.

for new entrants, and there was no lack of takers. However, it is not obvious where we should look for the sources of fleet growth in this second wave of expansion in Norwegian tanker shipping.

The Overrated Anglo-Saxon “Breakthrough”

Traditional explanations of Norway’s expansion in the tanker sector have emphasised the purchases of second-hand tankers from Anglo-Saxon Petroleum Co. – the transport arm of Royal Dutch/Shell – in the late 1920s.¹⁵ As Anglo-Saxon acquired new motor tankers, they disposed of a number of older ships with steam propulsion. In the period 1927-30 a total of 28 such ships were sold, and 26 of these ended up in Norway.¹⁶ The vessels were sold on favourable terms. The seller chartered the ships for ten years and arranged long-term credit for 75 to 80 per cent of the purchasing price. The beneficial terms meant that the buyers’ financial commitment was limited. The Anglo-Saxon deals were therefore particularly attractive for new shipping companies with limited capital. Most of these companies even managed to get ship and insurance brokers to invest in the ships on the strength of current and future commissions, further reducing the demands on the shipowner’s equity.¹⁷

Haakon With Andersen refers to the purchases from Anglo-Saxon Petroleum Co. as “the breakthrough for Norwegian owners” in the oil transport trade, while Egeland claims that “no other single event has had such a positive effect on the Norwegian shipping industry.”¹⁸ Yet, despite the central role awarded to them in the literature, the purchases did not create the Norwegian tanker hegemony. There are two reasons for this. First, the tanker expansion mainly occurred within other companies. Second, only some of the buyers managed to make the most of their initial advantage with new investments. By 1939 the structure of the Anglo-Saxon buyers’ fleets was inferior to those of other Norwegian tanker owners.

The companies that had bought Anglo-Saxon tonnage controlled slightly less than 20 per cent of the Norwegian tanker fleet in 1939. To which extent had these companies been responsible for the boom in tanker investments in the period 1927-39? A closer analysis reveals that there was nothing special about the growth of the Anglo-Saxon companies and

¹⁵ See eg Sturmey, *British Shipping*, 75-76; Egeland, *Kongeveien*, 64-68 or Nørgård, *Tankfartens*, 18-42.

¹⁶ See Appendix I for a definition of the Anglo-Saxon vessels, on the basis of Nørgård, *Tankfartens*, 61-63.

¹⁷ According to Egeland, *Kongeveien*, 67, ship and insurance brokers “in most instances provided a larger proportion of the share capital than the shipowners.”

¹⁸ Andersen, Håkon With, Laggards as Leaders: Some Reflections on Technological Diffusion in Norwegian Shipping, 1870-1940, *Technology Transfer and Scandinavian Industrialisation*, Ed. Kristine Bruland. Oxford: Berg 1992, 327; Egeland, *Kongeveien*, 79.

the purchase of such second-hand vessels was definitely not the only ticket to the tanker market for budding entrepreneurs. In fact, the most important sources of growth were the new companies that had not bought Anglo-Saxon tonnage. Table 3 is a decomposition of the growth of the tanker fleet in the period 1927-39, with “Established owners” referring to companies that owned tankers in 1927.

Table 3 The basis for the growth of Norway’s tanker fleet, 1927-39

Type of company	Growth (1000 grt)	% of total growth	% of “new” growth
Established tanker owners (1927)	313.2	18.6%	
Anglo-Saxon buyers	363.3	21.6%	26.5%
Other new tanker owners	1007.2	59.8%	73.5%

Note: Four companies whose tanker fleets were reduced, as well as five companies that left the tanker sector between 1927 and 1939 have been omitted from the dataset.

Source: Author’s calculations on the basis of Det Norske Veritas, *Register*, various years.

Table 3 shows that the Anglo-Saxon companies’ share of the tanker fleet growth in the period 1927-39 was a mere 21.6 per cent. This indicates that approximately four fifths of the Norwegian expansion came through other companies. The remarkable aspect in this respect is that the main impetus did not come from the established tanker owners, but rather from new companies. The tanker fleets of the newcomers grew by more than 1.3 million grt over the period, and the Anglo-Saxon owners only accounted for slightly more than a quarter of this growth. The analysis thus reveals that the purchases of previously oil company-owned second-hand tankers were but a small part of the Norwegian tanker tale. A detailed analysis of Norwegian shipping investments by Johan Einarsen confirms the limited importance of second-hand tanker tonnage. Only 48 of the 296 tankers included in his study of the period 1910-39 were bought second-hand from abroad. More than 86 per cent of the tonnage consisted of newbuildings.¹⁹

The limited long-term importance of the Anglo-Saxon purchases is further illustrated by an analysis of the fleet structure of the companies that bought such tonnage. The analysis reveals that by 1939 their fates varied. Three were no longer registered as tanker owners by 1939. Some companies, eg Oslo’s Olsen & Ugelstad, had managed to build up large and

¹⁹ Einarsen, Johan, Replacement in the Shipping Industry, *The Review of Economic Statistics*, Vol. XXVIII, 1946:4, 227. A number of newbuildings were undoubtedly ordered on the strength of profits from previous second-hand purchases, but analyses of the database indicate that the importance of this element is limited.

modern tanker fleets. Other owners, like Arendal's Carl Olsen, had been unable to invest in new tonnage, and owned only the old ex-Anglo-Saxon vessels.

As a group, the surviving Anglo-Saxon owners were characterised by relative backwardness. Many of their vessels were old and technologically outdated. The average age of their tankers was 12.4 years, compared with 9.1 years for other Norwegian tanker owners. Only five of the 17 Anglo-Saxon owners registered in 1939 had fleets with an average age lower than the Norwegian average. Six of the owners had fleets with an average age of 17 years or more. This reflects the fact that many of them had been unable to modernise their tanker fleets by investing in new competitive tonnage.

Related to the lack of modernisation, a disproportionately large share of the Anglo-Saxon owners' vessels had steam propulsion. Around one third of their tanker fleets were steamships, as opposed to less than seven per cent for the rest of the Norwegian tanker fleet. In fact, they owned more than half of the relatively outdated steam tankers in 1939, despite owning less than one fifth of the fleet. In the second half of the 1930s, the gross operating results for motor tankers were approximately three times higher than for steam tankers.²⁰ Many of the companies that bought second-hand tankers thus had a fate similar to owners of sailing ships half a century earlier. The investments were profitable, but not sufficiently profitable to give dividends and allow the replacement of the capital stock – the ship.

How can we explain this largely unwarranted focus on the Anglo-Saxon purchases in previous analyses of the tanker expansion? One reason may be that the transactions conform to our impression of “lucky breaks” and the success of “The Underdog”. The buyers were mainly new companies, a large number of which were geographically concentrated on the southern coast [*Sørlandet*]. Indeed, Dannevig refers to the Anglo-Saxon tankers as “a last resort” for the southern coast of Norway.²¹ This region – which had struggled during the transition from sail to steam – undoubtedly got its renaissance in the 1930s. The purchases of second-hand steam tankers were of some importance in this respect. Yet, this regional phenomenon never attained national proportions.²² Attempts at explaining the massive tanker investments should thus primarily look beyond *Sørlandet* and the companies that bought tankers from the foreign oil companies.

²⁰ Paulson, E.W., *Studier i skipsfartens økonomi II – Regnskapsanalyse for norske skip og skipsselskaper 1935-39 og 1947*. Bergen: J.D. Beyer AS 1949, 310.

²¹ Dannevig, Birger, *Grimstads sjøfarts historie*. Grimstad 1971, 441.

²² In fact, recent research indicates that even in the case of *Sørlandet*, the importance of the Anglo-Saxon tankers has been exaggerated; Molaug, Gaute Chr., *Det sørlandske*, 94-95.

By analysing the database, it is evident that the driving force behind the expansion was the Oslo-based tanker owners, and particularly the new companies that entered the tanker sector in the period 1927-39. In fact, the Oslo-companies that entered the tanker sector in this period had acquired more than 700.000 grt by 1939. They were responsible for 87 per cent of the growth of the Oslo tanker fleet and more than 40 per cent of the overall Norwegian tanker fleet increase.²³

The Oslo Newcomers

The number of tanker owners in the Norwegian capital mushroomed in the second half of the 1920s and first half of the 1930s. In 1924 only four companies in Oslo owned tanker tonnage, and the vessels were relatively old. Five years later the number had increased to 20, and by 1934 the number of companies had more than doubled again, to 43 tanker companies.

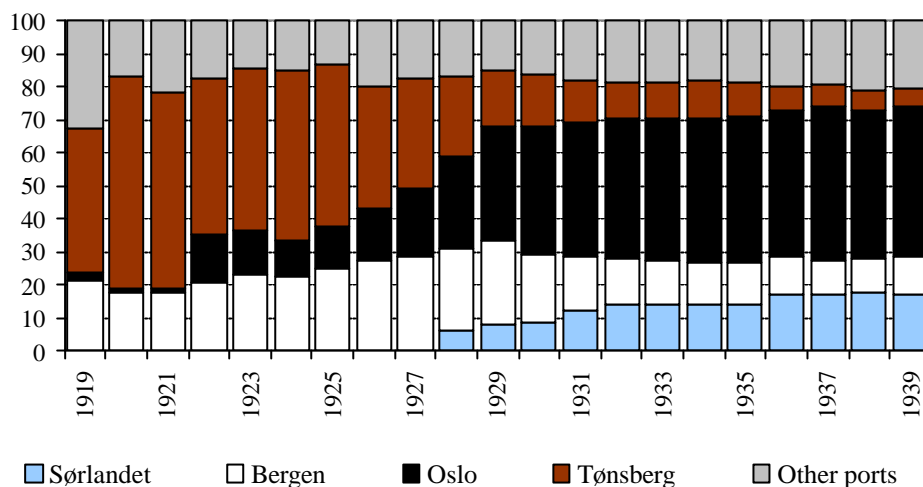
The majority of the companies had originally owned other kinds of ships. More than 30 of the 48 tanker companies registered in Oslo in 1939 had been shipowners – albeit without tanker tonnage – in 1925. The remainder either had family ties to defunct or existing shipping companies or, in some of the most successful cases, had been established by shipping clerks with experience from other companies.

According to a contemporary source, “the initiative of the whole movement towards a greater use of tankers had emanated from Oslo.”²⁴ Figure 1 shows that the share of the Norwegian tanker fleet registered in the capital increased from next to nothing to more than 45 per cent during the interwar period.

²³ The five Oslo-based Anglo-Saxon companies that survived until 1939 are included in these figures. If these are excluded, the shares are reduced to 79 per cent of the Oslo growth and 38 per cent of the total growth.

²⁴ *Fairplay*, April 24, 1930, 250.

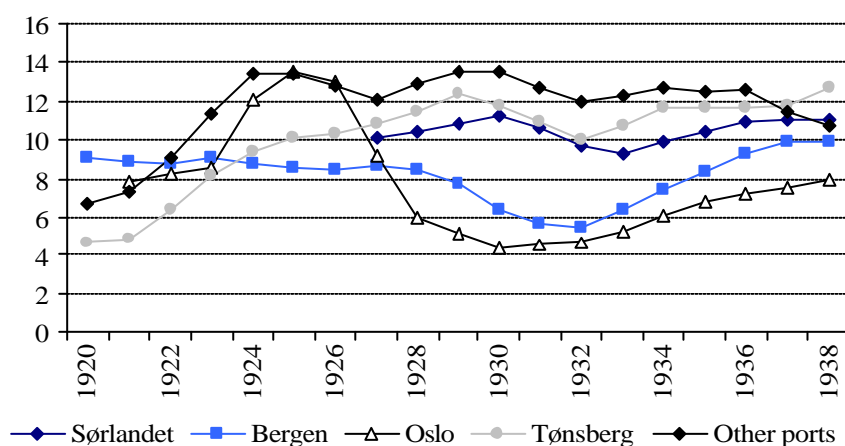
Figure 1 Norway's tanker fleet, regional shares, per cent, 1919-39



Source: Author's calculations on the basis of Det Norske Veritas, *Register*, various years.

In 1928 Oslo became the most important port of registry for Norwegian tankers. For the rest of the interwar period the city was not only in the lead with regard to the amount of tonnage, but the average age of its tanker fleet was also lower than any of the other main regions, as seen in Figure 2. The differences could be substantial. In 1939 the average age of the Oslo fleet was almost five years lower than the average age of the tankers registered in Tønsberg.

Figure 2 Average age of tanker fleets by region, 3-year moving average, 1920-38



Source: Author's calculations on the basis of Det Norske Veritas, *Register*, various years.

At times, smaller ports with limited tanker tonnage had a lower average age than Oslo. For instance, the replacement of Drammen's only tanker in 1938 reduced the average age of the

Drammen “fleet” by 17 years from one year to the next. However, in order to give a good representation of the industry, a certain level of aggregation is necessary. The development of average age is of course related to the degree of expansion in the various regions and, in particular, the inflow of new-built tonnage.

The Swedish Connection

Haakon With Andersen and others have emphasised the relationship between Norwegian shipowners and Swedish yards when explaining the rapid growth of Norway’s motor tonnage.²⁵ Jørgen Gunnerud, who has analysed the Oslo-based tanker expansion in detail, claims that “a most important ‘pull factor’ was Götaverken’s successful marketing of motortankers starting in 1925.”²⁶ Given that the Norwegian tanker expansion evidently did not hinge upon the Anglo-Saxon tankers, the Swedish connection may be a good starting point for an analysis of the increase in the Norwegian tanker tonnage.

The data confirm the strong link between Oslo-based owners and Swedish shipyards. In 1939 almost 38 per cent of the Oslo tanker fleet had been built in Sweden, compared with 24 per cent for the rest of the country. Shipowners in Oslo grasped the Swedish possibilities with more enthusiasm than owners in other parts of Norway. In fact, there is a strong positive relationship between the share of Swedish-built tonnage in the various regions and the increase or decline in the region’s share of the Norwegian tanker fleet.²⁷

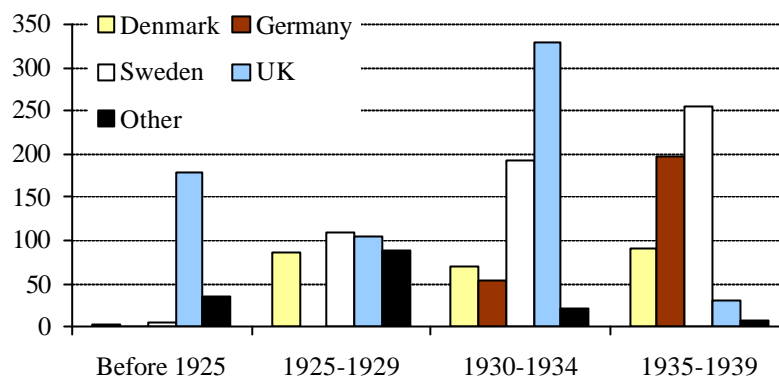
Figure 3 shows where the 1939 Norwegian tanker fleet had been built. The data have been divided into five-year intervals in order to illustrate changes over time. The growing importance of the Swedish yards is evident.

²⁵ Andersen, *Laggards as Leaders*, 327 and Basberg, Bjørn, *Motortankskipenes inntog. En komparasjon av utviklingen i dansk, norsk og svensk skipsbyggingsindustri, ca. 1912-1933. Sjøfartshistorisk Årbok 1986*, Bergen: Bergens Sjøfartsmuseum 1987, 171-189.

²⁶ Gunnerud, Jørgen, *Tankskipseventyret*, 170. See also Hole, Vidar, *The Biggest Gamblers*. Bergen: Stiftelsen for Samfunns- og Næringslivsforskning 1993, 62-70.

²⁷ At the regional level, the correlation between “change in the share of the Norwegian tanker fleet 1927-39” and the proportion of Swedish-built tankers in 1939 is 0.98. The same analysis based on the proportion of British-built vessels gives a correlation of (-0.41).

Figure 3 Norwegian tanker fleet 1939 by year and country of build, 1000 grt



Source: Author's calculations on the basis of Det Norske Veritas, *Register*, 1939.

In 1930 the UK yards still held a prominent position as builders of Norwegian tankers, with a market share of more than 80 per cent. This was, however, the peak of the Anglo-Norwegian relationship – 1930 was “likely to be known in shipping history as *The Norwegian tanker year*”, according to one Norwegian shipowner.²⁸

The subsequent decline to some extent reflected the difficulties of the British shipbuilding industry. Lorenz has calculated that the British share of the world ship export market declined from more than 40 per cent in the period 1927-30 to 21 per cent during 1936-38.²⁹ With regard to exports to Norwegian tanker owners, the decrease was even more pronounced. British yards had a market share of around 50 per cent in the period 1927-30, compared with approximately six per cent for the period 1936-38.³⁰ There is little doubt about where the competition came from. In the second half of the 1930s Swedish yards built more than 40 per cent of the tanker tonnage delivered to Norwegian owners.

The Swedish invasion is evident if we decompose the data in Figure 3 and look at the importance of individual yards.³¹ Three of the six most prominent builders of Norwegian

²⁸ Oppen, Hanna F., *Den norske tankfart i lys av oljehandelens geografi*. Oslo: Norsk Sjøfartsmuseum 1937, 20.

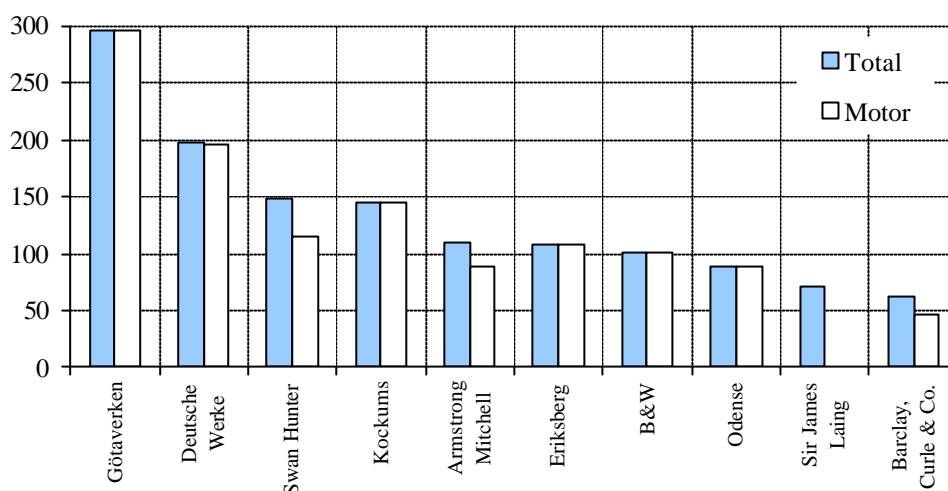
²⁹ Lorenz, Edward H., An Evolutionary Explanation for Competitive Decline: The British Shipbuilding Industry, 1890-1970. *The Journal of Economic History*, Vol. 51, 1991:4, 915-916.

³⁰ For non-tankers, the decline in Britain's Norwegian market share was less dramatic. According to Johnman, Lewis and Murphy, Hugh, The Norwegian Market for British Shipbuilding, 1945-1967. *Scandinavian Economic History Review*, Vol. XIV, 1998:2, 58, “Britain's percentage share of the Norwegian market had fallen throughout the decade from sixty five per cent in 1930 to only ten in 1938.”

³¹ Figure 4 is made on the basis of the existing Norwegian fleet in early 1939, and may thus be influenced by the absence of vessels sold in the period 1930-39. Nevertheless, there is no reason to suspect that this would change the general picture. For an explanation of the absence of Norwegian yards, see Basberg, Bjørn, *Motortankskipenes inntog*.

tanker tonnage were Swedish. Interestingly, the three yards were the very same that Olsson, in his analysis of the Swedish shipbuilding industry, characterised as having “financial capacity – sufficient resources to [...] give credit to shipowners.”³²

Figure 4 Norwegian tanker fleet 1939 by shipbuilder, 1000 grt



Source: Author’s calculations on the basis of Det Norske Veritas, *Register*, 1939.

The ten yards included in Figure 4 had built more than four fifths of all the tanker tonnage registered in Norway in 1939. The basis for the Swedish yards’ prominent position may have changed over time. The willingness to grant credits to Norwegian owners was perhaps the most important factor in the early part of the period. Götaverken’s credits were initially 50 per cent over five years, but increased to 70 per cent, parallel with an increase in the repayment period, in the late 1920s.³³ To some extent, access to credit could outweigh lack of competitiveness. It is symptomatic that one Norwegian shipowner, for whom yard credits was of no importance, refrained from ordering at Götaverken; “The problem [...] was that the company had an extraordinarily good financial position and that this company could not be

³² Olsson, Kent, *Svensk Varvsindustri under 100 år*. Kungälv: Svenska Varv AB 1983, 241.

³³ Bohlin, Jan, *Svensk varvsindustri 1920-1975: Lönsamhet, finansiering och arbetsmarknad, Meddelanden från ekonomisk-historiska institutionen vid Göteborgs Universitet*, No. 59, Gothenburg 1989, 81. See also Johnsen, Thorvald, *Nybyggingsproblemet for den norske handelsflåte*, Oslo: Norges Rederforbund 1937, 21-22, where it is claimed that some tanker owners “who managed interest and instalments well, could later often get ordinary diesel vessels from the same yard without equity at all.” Hårr, Arne, *Nybyggingsproblemet for den norske handelsflåte*, Oslo: Norges Rederforbund 1937, 98 makes the same claim. However, I have not found support for this assertion in the Swedish literature.

enticed by promises of favourable credit terms.”³⁴

Luckily for the Swedish yards, the ability to fully finance ships by means of the company's own coffers was relatively rare among the companies that invested heavily in tankers. Moreover, the Swedish yards' competitiveness apparently improved during the 1930s. Olsson has compared two sets of contracts for similar tankers.³⁵ In 1928 the two Swedish yards had costs which were three and 13 per cent higher than the Dutch yard included in the comparison. In 1935 the Swedish price was 20 per cent lower than the Dutch price.³⁶ This does not mean that the subsidy-element contained in the yard credits became unimportant, but indicates that the growing Swedish market share was to a larger extent related to their ability to deliver the tonnage wanted by Norwegian owners at reasonable prices, as well as the sclerosis that affected their main potential competitors – the UK yards.³⁷

Lorenz and Dunn both emphasise the effects of standardisation when discussing the relationship between Swedish yards and Norwegian owners.³⁸ Studies of the Swedish yard industry do not show that production of long series of ships increased productivity.³⁹ Nevertheless, the strong focus on the up-and-coming technology, ie the motor ship, coupled with general productivity improvements and a beneficial credit regime undoubtedly made Swedish yards attractive.

There was an obvious symbiosis between the Swedish yards and the Norwegian owners. More than fifty per cent of the value of Götaverken's contracts in the period 1925-36 was related to Norwegian shipowners – and more than a third to Norwegian tanker orders. In fact, Norway represented more than 87 per cent of the value of Götaverken's tanker contracts and more than 76 per cent in the case of Eriksberg and Kockums.⁴⁰ Motor ships built for Norwegian owners accounted for almost three quarters of the value of the exports of the Swedish shipbuilding industry between 1920 and 1939.⁴¹ A significant network of agents linked the Swedish yards and the Norwegian owners. Gunnerud claims that overtures towards

³⁴ Olsson, *Svensk Varvsindustri*, 275.

³⁵ Olsson, *Svensk Varvsindustri*, 139-140.

³⁶ Exchange rate developments can explain some of the improvement in Swedish competitiveness relative to a yard in a Gold Bloc-country

³⁷ See Johnman, Lewis and Murphy, Hugh, *British Shipbuilding and the State since 1918*. Exeter: University of Exeter Press 2001, 44 for a good example of the UK yards' negative attitude towards tanker building.

³⁸ Lorenz, An Evolutionary Explanation, 923 and Dunn, *The World's Tankers*, 74.

³⁹ Bohlin, *Svensk varvsindustri*, 113-128.

⁴⁰ Calculations on the basis of data from Olsson, *Svensk Varvsindustri*, 252, 299 and 309.

⁴¹ Calculations on the basis of Bohlin, *Svensk varvsindustri*, 22. It is not possible to calculate the tankers' share of the total Swedish ship export revenues.

Norwegian shipowners by Götaverken's managing director Hugo Hammar created a "supply side pressure" and characterises the Swedish yard credits as "large – almost frightening."⁴²

The generous Swedish credits alleviated the owners' capital constraints, while the Norwegian orders secured the activity at the Swedish yards. The need for equity was limited, but could nevertheless be substantial. In the late 1920s a standard Götaverken tanker required a cash payment in the region of Nkr. 650.000. Gunnerud claims that this problem was overcome through financial sources that were "numerous and often small, and in most instances very personal [...] spanning from Swiss insurance funds to forestry capital from Odalen."⁴³ Again, shipbrokers played important roles, both as mediators and as a source of funds, "often investing the entire commission and more."⁴⁴

Newcomers, Established Owners and the Swedish Connection

In most instances there are no substantial variations between newcomers and established tanker owners with regard to the countries in which they built their ships. For the 1939 fleets, there are only minor variations for Denmark, Germany and the UK.⁴⁵ The Netherlands, on the other hand, had built more than eight per cent of the established owners' tonnage, but only 1.6 per cent of the newcomers' ships.⁴⁶ The major difference, however, is Sweden. By 1939 more than 34 per cent of the newcomers' fleets had been built in Sweden, compared with less than 18 per cent of the established owners' fleets.

It is evident that the Swedish yards were particularly important for the growth of the Norwegian newcomers. The data in Table 4 is an attempt at gauging the relationship between the three most important Swedish yards and the different types of Norwegian owners. The table shows the tonnage that the various yards had built for Norwegian owners, as well as the deliveries as a proportion of the aggregate growth of the two groups.

⁴² Gunnerud, Tankskipseventyret, 59 and 73.

⁴³ Gunnerud, Tankskipseventyret, 154.

⁴⁴ Bakka, Dag jr., *A Century of Shipping. Oslo Shipbrokers Association 1899-1999*. Oslo: Oslo Shipbrokers Association 1999, 65.

⁴⁵ The newcomers' and the established owners' shares of ships built in these countries are practically equal.

⁴⁶ Other exceptions are Danzig (three vessels) and France (two vessels), which had only built for established owners, as well as Italy (one vessel) and Norway (four vessels), which had only delivered to newcomers.

Table 4 Swedish yard customers, acquisition and share of growth 1927-39

	Götaverken		Eriksberg		Kockums	
	1000 grt.	Share	1000 grt.	Share	1000 grt.	Share
Established tanker owners	76.1	24.3%			6.0	1.9%
Newcomers	219.4	16.0%	116.3	8.5%	138.7	10.1%

Source: Own calculations on the basis of Det Norske Veritas, *Register*, various years.

The established shipowners' share differ from the 18 per cent referred to earlier, as Table 4 looks at the Swedish yards' share of the new tonnage added between 1927 and 1939. The share presented earlier refers to the whole fleet in 1939, including ships delivered before 1927. In the case of newcomers there are of course no differences. However, in the case of established owners, Swedish-built ships made up 17.7 per cent of their fleets in 1939, but 26.2 per cent of their fleet additions 1927-39, reflecting the increasing importance of Sweden in tanker building after 1927 relative to before 1927.

Given the focus on the relationship between the newcomers and Götaverken, it is surprising that the yard, at least in relative terms, seems to have been more important for established tanker owners than for the companies that did not own tankers in 1927.⁴⁷ There are three reasons to be cautious about interpreting Table 4 in this manner. First, the category "Established owners" is diverse. For instance, it includes Hagb. Waage, who is probably one of the best examples of a newcomer for whom the relationship with Götaverken was of utmost importance. However, Waage had received his first tanker – from Götaverken – in 1925, and is thus registered as established in 1927. Due to his subsequent investments, all tankers delivered from the same yard, some of the difference in the shares of the two groups' acquisitions is neutralised if Waage is moved to the newcomers. Second, it is also evident that among the established owners the main customers were primarily the smaller agents. Only one of the five largest Norwegian tanker companies in 1927 received tankers from the yard in the period up to 1939. Indeed, while the average tanker fleets of the Norwegian tanker owners in 1927 were around 10.900 grt, the fleets of those established owners who became Götaverken customers were on average less than half of this. Finally, due to the differing rate of expansion, the relationship between the newcomers and Götaverken is clearly much more important in absolute terms.

⁴⁷ For the link between Götaverken and the newcomers, see Gunnerud, *Tankskipseventyret*, 60.

The data show that Götaverken found customers both among new and established owners. The other two important Swedish yards, Eriksberg and Kockums, almost solely targeted the new tanker owners. Only one Kockums-vessel was delivered to an established tanker owner – MT *Stigstad*, delivered to A.F. Klaveness & Co. AS in 1927. However, in 1939 Klaveness controlled a fleet of nine tankers, built at eight different yards. This represents a stark contrast to more ‘loyal’ buyers, such as for instance Hagbart Waage, who built all his tankers at Götaverken. Eriksberg did not deliver a single vessel to any of the companies that owned tankers in 1927, but, like Kockums, sold more than 100.000 grt of tankers to the Norwegian newcomers.

Concluding remarks

The previous analysis has shown that the purchase of Anglo-Saxon tankers has been given undue credit in explanations of the initial expansion of the Norwegian tanker fleet. The article also shows that the main impetus came from other newcomers in the tanker market – in particular Oslo-based companies.

The Norwegian interwar tanker expansion can be explained by three elements. One reason was of course the growth of oil transports and the oil companies’ decision to leave parts of their transport needs to outsiders. The second crucial element was the dynamic nature of Norwegian shipping companies, and in particular the newcomers that emerged as tanker owners in this period. The final element was the generous financial arrangements that were available for the construction of new tankers.

The first element, oil company outsourcing, was a necessary condition for the emergence of an independent tanker fleets. Why did Norwegian shipowners, to a much larger extent than shipping companies in other countries, take advantage of this opportunity? It is evident that this question definitely deserves more detailed research. The analysis in this article nevertheless suggests a starting point – size. Most of the Norwegian shipping companies that entered the tanker sector in the late 1920s and early 1930s were relatively small.⁴⁸ On the one hand, this meant that their organisations were modest and non-bureaucratic. On the other hand, it implied that they had limited resources.

The need for large, land-based organisations was considerably smaller in the tanker

⁴⁸ The extreme example of a small and dynamic organisation is AS Moltzaus Tankrederi, which began its operation in a corner of the shipping company Ivar-An Christensen’s waiting room; see Fasting, Kaare, *AS Moltzaus Tankrederi*. Oslo: AS Moltzaus Tankrederi, 1955, 27.

sector than in other shipping segments. The tanker sector thus represented a new opportunity for small companies; “Scandinavian owners [...] were not inhibited by traditional attitudes and were more flexible and enterprising in seeking new trades and in adapting their shipping enterprises to seize opportunities.”⁴⁹ The organisations were well-suited to take on the limited tasks related to tanker operation and ownership. The question is then how the financial side of the investment could be arranged. Yard credits neutralised this problem; “It would seem that shipbuilders to-day to be successful in obtaining orders for the construction of vessels must be financiers rather than builders, as the cost of construction does not count as much as the arranging of the finance for the owner.”⁵⁰ The fact that the lenders bore a substantial part of the financial risk must have been particularly attractive for Norwegian newcomers with little to lose.

The increasingly important role of the Swedish yards can be explained by the combination of the willingness to extend credits, up-to-date technology and improving competitiveness. The UK shipyards, having failed to keep up with the main developments of the industry, were in decline. Moreover, the low productivity and dispersed nature of the Norwegian shipbuilding industry meant that domestic yards could not really be contenders. The Swedish yards could therefore target Norwegian customers, and in fact saw Norway as their “home market”.⁵¹ Perhaps Norway’s interwar tanker expansion should be seen as a joint Scandinavian effort, where Sweden contributed shipbuilding capacity and financial muscle, while Norway provided maritime knowledge and enterprise.

⁴⁹ Sturmeijer, *British Shipping*, 94.

⁵⁰ *Fairplay*, January 8, 1931, 108.

⁵¹ Olsson, *Svensk Varvsindustri*, 126-130.

Appendix I

A total of 26 of the 28 steam tankers sold in the period 1927 to 1929 and characterised in the literature as “Anglo-Saxon vessels” ended up in Norway. The aim of this appendix is to comment upon the definition of this fleet, as used in this article. In particular, two elements need an explanation.

First, six of the tankers were not sold by Anglo-Saxon *per se*, but are still regarded as “Anglo-Saxon tankers”. Two of these tankers, DT *Athelbeach* and DT *Athelfoam*, made a detour through United Molasses from 1924 to 1929. The ships were then sold to Norway and chartered to United Molasses, but are included here as they were originally Anglo-Saxon vessels and were bought and chartered on “Anglo-Saxon terms”. Another pair of tankers, DT *Gold Shell* and DT *Silver Shell*, was sold by Anglo-Saxon’s Mexico-linked daughter company ‘La Corona’ Petroleum Maats. Similarly, the DT *Emile Deutsch de la Meurthe* and DT *Henry Deutsch de la Meurthe* were originally managed by Davies & Newman, but sold to Norway with the same type of long-term charters and financing arrangements as the other ships included here.

Second, three of the ships were sold within Norway less than two years after being bought from abroad. DT *Athelbeach* was bought by Odd Berg, Oslo in 1929, renamed *Realf*, and sold on to Rønneberg & Galtung of Moss in 1930. DT *Chiton* and DT *Conus* were sold to Sig. Herlofson & Co. AS, Moss in 1927. Herlofson renamed the ships *Heron* and *Herborg* and sold them in 1928 to S.H. Smith-Sørensen in Arendal and Th. O & Olaf Tønnevold in Grimstad respectively. In the analysis the companies that bought the vessels second-hand in Norway have been included in the analysis and the initial buyers have been left out.