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Regional, yet Global: The Life Cycle of Overnight Ferry Shipping

René Taudal Poulsen

Introduction

In the last couple of decades, major geographical shifts have occurred in industries with global competition, and shipping was among the first to experience this. Production has relocated several times to exploit the geographical differentials in labour and capital costs.¹ In 1960 Europe dominated the registration, ownership, management and manning of the world fleet.² In subsequent decades, European flags experienced an exodus of tonnage to the open ship registers, while expanding shipowners

¹See Dicken (2015).

²Until the middle of the twentieth century, Europe also dominated the global shipbuilding industry, but Asia overtook this position in the second half of the century. On the European decline, see Tenold's chapter in this volume, and Stråth (1987), Lorenz (1991), Johnman and Murphy (2002), and Poulsen et al. (2017).

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and managers from Emerging Maritime Nations such as Singapore, Hong Kong, South Korea and China posed new challenges to European shipping companies, reflecting the acceleration of Asian economic growth. Based on low wages, the Philippines, other South East Asian and Eastern European countries took over the role from Europe as centres for the global supply of seafarers.³ In short, an eastwards shift transformed the economic geography of shipping.

The causes of Europe's relative decline in the world of shipping have attracted considerable attention.⁴ Sturme's seminal book on British shipping largely attributed the British decline to decisions made by the British shipowners. More recently, Ojala and Tenold attributed Europe's loss of maritime hegemony to the continent's waning position in world politics, the rise of Asia in the global economy and the regulatory innovations associated with the open ship registers.⁵ However, they have also reminded us that adaptations by some Greeks, Norwegians and Danes have allowed these nations to continue to play important roles in the global cross trades.

In order to explain geographical shifts in shipping, several analyses of have relied upon the industry life cycle theory, which economist Raymond Vernon publicized in 1966.⁶ Originally developed for studies of manufacturing, the theory predicted that companies would compete in different ways and locate in different countries at different stages of a product's life cycle—from early development, over growth and maturity to obsolescence. In the early development or innovation phase, pioneers would locate in high labour cost countries (for Vernon this meant the US) and supply a unique product for demanding customers at home. As demand for the product increased both in the home market and abroad, the technology would gradually diffuse. Late movers would be able to emulate the pioneers' product. As the product matured and finally became standardized, price competition intensified. For this reason, manufacturing would relocate to countries with low labour costs, from where exports to the rest

³Tenold and Ojala (2017).

⁴Sturme (1962/2010), Jamieson (2003), and Miller (2012).

⁵Tenold and Ojala (2017) and Ojala and Tenold (2017).

⁶Vernon (1960). See also Dicken (2015, 95–97, 114–15).

of the world would occur. Ultimately, demand would fall, as the product entered obsolescence.

The shipping economist Helen Thanopoulou attributed the shifts in the world fleet from Traditional Maritime Nations to open registries and Emerging Maritime Nations in Asia to the product life cycle.⁷ The product life cycle has also been used in analyses of the evolution of chemical tanker shipping. During the innovative phase of the life cycle, in the 1950s and 1960s, a combination of cooperation, innovation and vertical integration allowed Norwegian shipowners to build up a global stronghold in the new segment. When chemical tanker shipping matured and services became more standardized, low labour cost newcomers were able to enter the business. The Norwegian pioneers lost some of their competitive advantages, as the segment moved into the standardized phase of the life cycle.⁸

In an industry as global as shipping, the market for ferry services represents a remarkable exception. In fact, there is no global market for ferry services: both in their operations and market structures, ferry services are regional in nature. Year after year, the same ferries transport passengers, cars, lorries and trailers between the same pair of ports. The companies that operate them face only a handful of competitors, if any, and their earnings are much more stable than in the highly volatile global shipping segments.⁹ The cargo, of course, differs, as passenger shipping is the only segment where consumers directly face the shipping companies that own the ships—usually, shipping serves business-to-business markets.

In the twentieth century, passenger shipping included three different segments. The first was ferry services for passengers, cars, lorries, trailers and in some cases railway wagons, on short and medium hauls, with voyages lasting between a few minutes and app. 24 hours. The second main segment was the transoceanic liner services for long-haul passenger transportation, such as Southampton–New York, and Genoa–Sydney. The third and final passenger shipping segment was served by cruise lines, where the purpose of travel was holiday onboard, and itineraries of variable

⁷Thanopoulou (1995). See also Sletmo (1989).

⁸Murphy and Tenold (2008) and Tenold (2009).

⁹Wergeland (2012).

duration included several port calls and typically followed a circuit.¹⁰ This chapter primarily deals with the first of these three segments.

Although ferries recently represented a mere 0.3% of the world merchant fleet in terms of deadweight, they have fulfilled important infrastructure functions in Northern Europe, the Mediterranean region, the Middle East, Japan, South East Asia, Canada and the Caribbean throughout the twentieth century, and continue to do so in the twenty-first century.¹¹ However, these markets are regional and appear geographically separate.¹² The question is whether these regional market structures shielded ferry shipping companies against the forces of global competition, which have been so pronounced in the rest of the shipping industry and in many other industries.

In the 1960s, Nordic shipping companies held a prominent position in passenger shipping, as pioneers of overnight car ferry services. Not only did they introduce the most advanced ferries, they also offered innovative onboard services to their passengers. Four decades later, they had arguably lost the edge in service innovation in passenger shipping.

This chapter explores the causes for the Nordic stronghold in ferry shipping and its subsequent decline. Can the decline be attributed to the same processes of global competition as those faced by the rest of European shipping? By studying the evolution of Nordic overnight ferry shipping since 1960, the chapter sheds new light on a previously neglected shipping

¹⁰In the 1950s intercontinental flights started to attract large passenger volumes from the transoceanic liner services, most of which were discontinued in the 1960s or 1970s. Some of the traditional ocean liners regularly found employment in cruise trade, and when the transoceanic lines started to decline, some permanently shifted to the cruise trades. Gradually purpose-built cruise ships became the mainstays of the cruise business. On the evolution of ocean liner and cruise ship designs, see Quartermaine and Peter (2006).

¹¹UNCTAD (2016). *UNCTAD Review of Maritime Transport 2016*, p. 31. Capacities for overnight ferries are more commonly measured in terms of gross tons (GT), number of cabins and berths and car deck lane-metres. In 2015, the world fleet of car ferries counted 1222 vessels, ranging from small commuter and shuttle ferries, over large roll-on/roll-off ships with limited passenger capacity to large cruise ferries with relatively small car decks and up to 1200 passenger cabins. On the main regions where ferries are employed, see Louagie (2017).

¹²To the extent that there is competition in addition to other ferry companies, for instance, from other modes of transport, it is also regionally based. Someone wanting to cross the Adriatic from Ancona in Italy to Split in Croatia by ferry are unlikely to consider the North Sea link from IJmuiden in the Netherlands to Newcastle in the United Kingdom or the Alaskan ferry from Juneau to Sitka as alternatives.

niche as well as the manner in which the forces of global competition affect regional markets.

Historiography

Despite their special characteristics and consumer-facing nature, ferry services have received little attention from maritime scholars. One notable exception is a recent textbook chapter by the maritime economist, Tor Wergeland. He observed large variation between routes in terms of customer preferences and vessels deployment, and noted that the fragmented business showed no signs of consolidation. He concluded that ‘...critical, strategic decisions must be made on a route level, so in a sense each route is a market in itself’.¹³ Applying the analytical framework of Porter’s Five Forces, Wergeland found a combination of high entry barriers, low competition, high demand growth and low exit barriers, which created a favourable business environment for incumbent firms. Entry barriers existed because companies required access to ferry terminals in central city locations, and often political contacts and local knowledge were required to obtain such access. On most routes, Wergeland saw ‘a tendency towards monopoly, or at best oligopoly’, although some parallel ferry routes were in more direct competition.¹⁴ Exit barriers were low due to the existence of liquid second-hand and charter markets, where ships were traded and leased, respectively. An important part of this mechanism was that ‘less sophisticated markets are happy to take over older tonnage that more sophisticated markets find outdated’.¹⁵ Nordic ferry companies were leaders in terms of advanced tonnage, and Wergeland observed the following ‘cascading’ pattern:

Historically, a typical life for a Baltic newbuilding would have been: 1st second-hand sale to Skagerrak or the English Channel; 2nd second-hand

¹³Wergeland (2012, 170).

¹⁴Wergeland (2012, 167).

¹⁵Wergeland (2012, 176).

sale to the Mediterranean; 3rd second-hand sale to Africa; 4th second-hand sale to Asia, then for demolition.¹⁶

While Wergeland portrayed many important characteristics of ferry shipping, he did not explain its development, and this topic has attracted only little attention within the maritime economics and transport geography literatures.¹⁷ A few studies have focused on the design of government tenders for subsidized ferry routes (such as island services) or the competitiveness of roll-on/roll-off short sea shipping vis-à-vis road transportation.¹⁸ Within design history, several studies have explored the evolution of ferry designs (i.e., naval architecture and interior designs), and a number of ethnographic studies have been carried out onboard Nordic ferries.¹⁹ However, maritime and business historians have generally not shown great interest in ferry shipping, focusing instead on the naval aspects—war at sea—and cargo shipping.²⁰

The most comprehensive study of ferry shipping was published in 2006 by Anders Bergenek and Klas Brogren from ShipPax Information, a maritime publishing and consulting house.²¹ Over 441 pages, Bergenek and Brogren presented a systematic and comprehensive overview of the historical development of the extensive network of ferry routes from Sweden. Brogren, a former ferry shipping consultant and journalist, knew the industry very well, but the book lacks references.

Over the last couple of decades, several commissioned histories of ferry shipping companies have been published, and Nordic companies have been particularly prolific in this field.²² The books were mainly authored

¹⁶Wergeland (2012, 176).

¹⁷See Luis (2002), Rutz and Coull (1996), Baird (2000), Pantouvakis (2007), Heijveld and Gray (1996), and Baird (1999).

¹⁸Baird et al. (2011), Baird (2012), Brooks and Frost (2004), and Casaca and Marlow (2005).

¹⁹On design, see Peter (2004), Peter and Dawson (2010), Peter (2017), and Peter and Id (2017). For ethnographic studies, Hahn-Pedersen et al. (2003, 2004) and Westerlund (2012).

²⁰For the mixed fortunes of Nordic cargo shipping companies after 1960, see Tenold, Iversen and Lange (2012). Only the Finnish chapter of the book mentions ferry shipping. On Norwegian shipping, see also Tenold (2019).

²¹Bergenek and Brogren (2006).

²²Graac (1966), Malmberg and Sjöström (1997), Rinman (1989), Malmberg and Stempohl (2007), Brogren et al. (2012), Tor Line (1985), and Sjöström and Brzoza (2009).

by shipping company employees and maritime journalists, and often published to commemorate corporate anniversaries. Their audiences were the general public, and ferry passengers in particular. A part of the companies' marketing and branding efforts, they were often distributed via onboard shops. A few commissioned histories have focused specifically on individual shipowners and have mainly been directed towards the shipping companies' employees.²³ Unfortunately, the commissioned histories rarely contain references to their sources, which detract from their academic merit. Finally, shipping enthusiast literature has tended to focus on the fates of individual ships.²⁴

Methods and Sources

To study the mixed fortunes of Nordic ferry shipping a multiple case study method is employed. The case studies are four overnight car ferry routes: Copenhagen–Oslo, Gothenburg–Kiel/Travemünde, Gothenburg–Great Britain and Stockholm–Helsinki, which served the five largest cities in the Nordic countries, and continuously employed the most advanced and largest ferries, not only in a northern European context, but globally.²⁵ With the ship as unit of analysis, the chapter reconstructs the life cycles of all the 45 ferries, which were employed on these routes after 1960.²⁶ Almost all of the 20 largest ferries in terms of gross tonnage and cabin capacity vessels were Nordic ferries throughout the period.

²³Svensson (1986, 1990).

²⁴For instance, Widdows (2010, 2011). See also the private webpage www.faktaomfartyg.se for very comprehensive information about the employment of virtually all European ferries since the 1960s (Accessed on 22 July 2018).

²⁵Great Britain refers to several ports; Tilbury, Harwich, Immigham, Hull and Newcastle (North Shields).

²⁶The analysis focuses on the employment of the ferries during the high season (i.e. the Northern Hemisphere summer). On most routes ferry traffic was highly seasonal. Some ferries were employed on the same routes year round, while others were laid-up or chartered for use as floating accommodation for hotel guests, refugees or oil construction workers during the off-season. On some routes, February was also a busy month due to the winter holidays. Stand-in vessels, which were briefly employed on any of the four case routes, for example, during the dry-dockings of the route mainstays, are excluded from the data set.

The data set is derived from multiple published sources, of which the ShipPax Information represents the key one. Founded by Brogren, ShipPax's first publication appeared in 1974. Gradually expanding, it now provides ferry and cruise market intelligence services and organizes an annual shipping industry practitioner conference, *The Ferry Shipping Conference*. It publishes three annual publications (*Guide*, *Designs* and *Market*) and a monthly newspaper (*Info*) on ferry shipping, for which the audience is ferry and cruise shipping industry professionals.²⁷ Information on the employment of the individual ferries is also available in several very extensive fleet histories, which have been published by all of the major ferry shipping companies.²⁸

To explain the mixed fortunes of Nordic ferry shipping and the changing employments of the 45 ferries, traffic figures provide revealing insights. *Market* and *Statistics* contain detailed traffic statistics on a route basis for 1990 and annually since 1995. It is possible to quality check this with data sets in shipping company fleet histories, ferry shipping company annual reports and national statistical bureaus, which extend back to the early 1960s.²⁹ Such comparisons show a high degree of accordance between the sources.

Further information is available in annual reports from the publicly listed Nordic ferry shipping companies.³⁰ They contain detailed corporate information for shareholders, regarding the company's performance (e.g., key financial figures and traffic figures), market situation and strategic considerations. In some annual reports, data for onboard spending per

²⁷ *Guide* contains a full list of ferries world-wide, including technical data (e.g., passenger and car capacity, service speed, gross tonnage) and information on employment, whereas *Designs* provides even more detailed technical data on all new ferries and major conversions as well as interior design reports. In 2000, 64 out of the global fleet of 449 ferries (with more than 99 berths) were employed on ferry routes to the Nordic countries. This represented 14.3% of the global fleet. This estimate is based on the global fleet list published in the supplementary publication to *Guide 00*, which has the title *Pocket Guide* (2000) (Halmstad: ShipPax Information). *Market* contains comprehensive lists of almost all routes and their ferries as well as market reports for the year 1990 and annually since 1995.

²⁸ Sahlsten et al. (1992), Thorsøe et al. (1991, 2006), and Simonsen and Krogh-Andersen (2016).

²⁹ For Denmark, see Statistics Denmark (1977–1988). *Danmarks Skibe og Skibsfart 1976–87* (Copenhagen: Danmarks Statistik). For Sweden see Statistiska Central Byrån (various years) *Sveriges Officiella Statistik: Sjöfart* (Stockholm: Statistiska Centralbyrån).

³⁰ DFDS, Silja Line/Tallink, Viking Line and Stena Line.

passenger and price per ticket, which provides insights on the earning power of the vessels, are also available. These figures are important pieces of evidence for the study of the mixed fortunes of Nordic ferry shipping.

Innovation and Growth, 1960–1990

The Nordic geography is well suited for ferry services, in much the same way as the Mediterranean, South East Asian, Japanese, Caribbean and Canadian coastlines are. In a sense, Sweden, Norway and Finland are island economies, depending on ferry services for international communication, and indeed, passenger ships have plied the Baltic and North Seas for much longer than car ferries. In the nineteenth century, business travellers, politicians and large numbers of migrants sailed on passenger routes over the Baltic and North Seas, and train ferries provided frequent services on many short routes.³¹ In the 1930s—in response to the growth of the car economy—the first small drive-through car ferries entered service, offering short day time crossings over the Great Belt, the Øresund, the Kattegat and the Skagerrak.

Car ferries with overnight cabin accommodation were introduced in significant numbers to the Nordic market in the 1960s, coinciding with a period of sustained growth for the Nordic welfare states. The labour market expanded quickly and household incomes in the Nordic countries—and in neighbouring Western Germany—soared. The ownership of private cars also took off.³² At the same time, new laws provided longer paid holidays for the workforce.³³ Favourable policies, which allowed for duty free sales of alcohol, tobacco, cosmetics and candy onboard ferries on international routes, attenuated the socio-economic growth factors.

Growing welfare and duty free sales provided an ideal cocktail for entrepreneurial shipowners to build up businesses in overnight car ferry

³¹For a study on the evolution of the DFDS North and Baltic Seas passenger liner network in the nineteenth and twentieth centuries, see Hahn-Pedersen and Poulsen (2006).

³²Fellman et al. (2008).

³³In Sweden, for instance, Parliament enacted a law, which guaranteed all workers three weeks of holidays per year from 1953. In 1963 and 1978, the guaranteed holiday period was extended to four and five weeks, respectively.

shipping. Both existing shipping companies and newcomers were able to grab and form new business opportunities. Companies such as Stockholms Rederi AB Svea, Svenska Lloyd AB, Ångfartygs AB Bore, Finska Ångfartyg, DFDS and Det Bergenske Dampskibsselskab, with origins in nineteenth-century steam-shiping, operated comprehensive networks of passenger routes. To the extent that conventional passenger ships carried cars, these were hoisted onboard in small numbers and stowed in cargo holds. During the 1960s, overnight car ferries, where cars and lorries could roll-on and roll-off easily and quickly, replaced the relatively inefficient, conventional passenger vessels.

The impetus for service innovation, however, came mainly from new players in passenger shipping. The Swedish entrepreneur, Sten A. Olsson entered the Nordic ferry scene in 1962. In a short period of time, his company, Stena Line, attracted substantial numbers of shopping travellers on short day routes between Sweden, Denmark and Germany. Stena Line offered cheap or sometimes free tickets, since earnings were generated mainly from onboard duty free sales.³⁴ In 1967 Stena Line introduced an overnight car ferry service on the much longer route between Gothenburg and Kiel, and from 1973 two new and larger car ferries offered daily departures in both directions. In the same year a competitor, Sessan Line, introduced an overnight car ferry on a parallel route, Gothenburg–Travemünde. The two companies were also in competition with ferry routes from Scania in Southern Sweden to Germany and the shorter routes from Sweden to Denmark. When Stena Line acquired Sessan Line in 1981, it created a local monopoly on the ferry routes from Gothenburg to Germany and Denmark. It terminated the ferry service to Travemünde to concentrate on Gothenburg–Kiel.

On the Åland Sea, Stena Line also had a brief spell in the 1960s, but other entrepreneurs with similar business models played the key roles here. Carl Bertil Mysten from Swedish Rederi AB Slite, Gunnar Eklund from Vikinglinjen and Ålandsfärjan started short-day car ferry routes with second-hand tonnage on the Åland Sea in the late 1950s, and soon joined forces under the marketing name Viking Line.³⁵ They had no

³⁴Bergenek and Brogren (2006).

³⁵Svensson (1986, 1990), Harberg (1995), and Karlsson (2007).

prior experience in ferry shipping, but the Åland shipowner community backed them, and introduced novel services to their passengers. Like in the case of Stena Line, tickets were often free to stimulate shopping-based travel, and quickly several new-buildings were introduced. Initially focused on the short Åland Sea routes, Viking Line entered the longer Stockholm–Helsinki route in 1975. Svea, Bore and Finska Ångfartyg, which had operated passenger routes between Finland and Sweden since the nineteenth century, formed Silja Line in 1957. It introduced several car ferries in the course of a few years, and was the first company to provide year-round car ferry services between Stockholm and Helsinki even during the winter season with severe ice conditions.³⁶

On the North Sea, a newcomer, Tor Line challenged the three incumbents, Ellerman's Wilson Line, Svenska Lloyd and Svea. Backed by a group of Swedish shipping companies, Tor Line introduced two new and fast overnight car ferries between Gothenburg, Immigham and Amsterdam in 1966. The three established shipping companies replaced their conventional passenger ships with three new overnight car ferries on a joint Gothenburg–Hull service in 1966, but the new vessels were costly and suffered from car deck design flaws.³⁷ According to the commissioned Tor Line history, a 'battle of the North Sea' ensued.³⁸ Following Tor Line's introduction of two very large and fast overnight car ferries, the *Tor Britannia* and *Tor Scandinavia*, on a service to Felixstowe, in close proximity to London in 1975 and 1976, the competitors withdrew. The two new ferries remained the mainstays on the Swedish North Sea routes for the following three decades.

On the trade between the Danish and Norwegian capitals, DFDS, another shipping line with origins in the mid-nineteenth century, operated a daily passenger service.³⁹ Here no real contender emerged.⁴⁰ In 1957,

³⁶Malmberg and Stempehl (2007). Silja Line started operating on the Stockholm–Helsinki route in 1972. In 1973 and 1974, Birka Line, an Åland based shipping company, also operated a Stockholm–Helsinki service.

³⁷Rinman (1968).

³⁸Tor Line (1985).

³⁹Graae (1966), Møller (1983), Thorsøe et al. (1991, 2006), and Simonsen and Krogh-Andersen (2016).

⁴⁰Two competing lines briefly operated between Copenhagen and different ports in the Oslofjord area (1966–1968) and between Sandefjord and Hundested (1982).

DFDS introduced the first car ferries, with small car decks with access through side ramps. In the late 1960s, two larger vessels entered service, but the first overnight car ferries with more convenient loading through bow and stern doors entered service on the route as late as 1984.

In the 1960s, traffic volumes climbed quickly on all the routes, often at the rate of 30% annually. Unsurprisingly such growth rates were impossible to sustain (Confer Table 9.1). In the 1970s, annual growth rates were in the range 5–15% despite the slowdown in the Nordic economies after 1973. Ferry shipping was also relatively unaffected by the shipping crisis, which started for crude oil tankers in 1973, and quickly spread to all the other global shipping segments.⁴¹ When tanker, dry bulk and liner shipping companies were struggling for survival, and many Nordic players went out of business, the Nordic ferry companies continued to prosper. Their regional trade shielded them from the volatility of the global freight rates. In the 1980s, growth rates in the passenger volumes were generally below 5%, but the Sweden–Finland routes saw passenger volumes jump by 22–24% annually between 1988 and 1990 in response to the introduction of new ferries.⁴²

Even though the Swedish and Finnish capitals were roughly equal in the size to the Danish and Norwegian capitals, the Stockholm–Helsinki routes attracted the highest number of passengers. Annual passenger traffic peaked in 2006 at more than 2.5 million, and bus services extended their catchment area into the interior of Sweden and Finland. On Gothenburg–Great Britain, Gothenburg–Kiel and Copenhagen–Oslo annual passenger traffic peaked at 335,000, 934,000 and 817,000 in 1981, 1997 and 2002, respectively.⁴³

Nordic shipowners responded to growth with frequent investments in new and larger vessels. Many of the first-generation car ferries soon proved unsuitable for the traffic for which they were designed. Either car decks had insufficient height, or cabin capacity turned out to be too small. Moreover, they often lacked sufficient numbers of cabins with en suite bathrooms.

⁴¹Tenold (2006).

⁴²Tenold et al. (2012).

⁴³Statistics Denmark (various years) *Danmarks Skibe og Skibsfart* (Copenhagen: Danmarks Statistik); SCB (various years) *Sveriges officiella statistik: Sjöfart* (Stockholm: Statistiska Centralbyrån/SCB); ShipPax Information (various years) *Markets and Statistics* (Halmstad: ShipPax Information).

Table 9.1 Decadal changes in the annual number of passengers carried, in percent, by route

	1960s	1970s	1980s	1990s	2000s	2010s ^d
Copenhagen–Oslo ^a	207%	33%	29%	49%	–5%	5%
Gothenburg–Great Britain ^b	207%	113%	5%	–48%	–30%	No service
Gothenburg–Germany	81%	187%	41%	–35%	0%	3%
Stockholm–Helsinki	N/A	N/A	N/A	11%	–10%	–4%
Stockholm–Finland ^c	–19%	250%	59%	20%	3%	–11%
Sweden–Finland ^e	272%	106%	46%	16%	5%	–5%

^aThe 1960s cover 1961–1969 only. The 1970s cover 1972–1979 only. The 1980s includes 1990

^bThe 1960s cover 1961–1969 only. The 1980s cover 1980–1988 only. The service was discontinued in 2006

^cThe 1960s cover 1965–1969 only. The 1980s cover 1980–1988 only

^dThe 2010s cover 2010–2017 only. For Gothenburg–Germany, 2010–2016 only

^eFigures for Finnlink's Kapellskär–Naantali service are missing for 1999 and 2000

Source Statistics Denmark (various years) *Danmarks Skibe og Skibs fart* (Copenhagen: Danmarks Statistik) for Copenhagen–Oslo for the 1960s, 1970s and 1980s. SCB (various years) *Sveriges officiella statistik: Sjöfart* (Stockholm: Statistiska Centralbyrån/SCB) for all routes calling at Swedish ports for the 1960s, 1970s and 1980s. ShipPax Information (various years) *Markets and Statistics* (Halmstad: ShipPax Information) for all routes for the 1990s, 2000s and 2010s

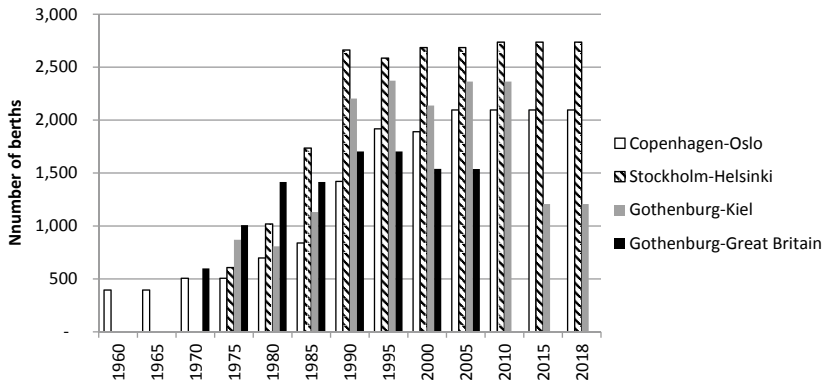


Fig. 9.1 Average number of cabin berths per vessel, by route, 1960–2018 (Source Compiled on the basis of ShipPax Information [various years] *Guide, Designs and Market*, and corporate fleet histories)

Average vessel sizes on the four premier Nordic routes climbed quickly (Fig. 9.1). The ferry shipping companies were able to order new ferries at relatively low prices in shipyards, which were struggling to find new orders due to the crisis.

At the same time, onboard services improved. The ferry generation of the 1980s provided a greater diversity of buffet and à la carte restaurants, bars, casinos and show lounges, swimming pools, and saunas. Tellingly, ShipPax's publications *Guide* and *Designs* on innovative passenger ships focused almost entirely on the Nordic ferries during this period.

Although ferries were designed for specific routes, the owners could still reposition them to secondary routes within their networks. DFDS redeployed vessels from their main routes to secondary routes such as Esbjerg–Torshavn, and Silja Line redeployed old vessels to secondary routes in the Gulf of Bothnia. From the 1960s to the 1990s, several Nordic overnight car ferries were also employed by their owners as cruise ships in the Norwegian Fjords, the Canary Islands, or the Mediterranean during the low season.⁴⁴ The Nordic ferries had accommodation of such high quality, that they could offer cruise services to passengers on voyages of several days' duration. This illustrates the high level of service and designs

⁴⁴Thorsøe et al. (1991), Malmberg and Stamppehl (2007), and Sjöström and Brzoza (2009).

of such vessels, which often equalled or exceeded those found on some cruise ships of the period.⁴⁵ Former Nordic ferries also found new employment in the North American cruise trades, which emerged in the 1960s and 1970s, a testament to the service innovations in the Nordic business.⁴⁶

When the Nordic lines no longer needed the oldest and smallest ships in their fleets, a liquid second-hand market allowed them to dispose of the vessels for further trading elsewhere. As observed by Wergeland, ferries tended to migrate southwards and then eastwards as they aged (See examples in Table 9.2). Nordic ferries transferred to routes to the British Isles and in the Mediterranean in particular. On the long routes across the Adriatic, from Greece to Italy, and from the European mainland to Corsica and Sardinia, the superfluous Nordic ferries from the 1960s and 1970s proved ideal. Their car and passenger configuration worked well in this context, and in terms of distance and duration the Mediterranean routes resembled the Nordic ones. Most notably, Moby Line of Italy was a frequent buyer of Nordic tonnage. In 2018, six out of Moby Line's nine overnight car ferries originated from Northern Europe.⁴⁷ Meanwhile, some of the former Nordic ferries from the 1960s and 1970s had left the Mediterranean, in accordance with the patterns observed by Wergeland. Towards the end of their careers, they found employment in the Red Sea pilgrim trades or in the casino cruise business in the Pearl River Delta, and elsewhere in South East Asia. Even though ferry service markets were regional, the

⁴⁵Peter (2004, 2017), Peter and Dawson (2010), and Peter and Id (2017). Several Nordic ferry shipping companies, including Bergenske, DFDS, Lion Ferry, Bore, Rederi AB Sally and Silja Line parent EffJohn International ventured into the dedicated cruise shipping markets at different points in time. None of them, however, was able to leverage the passenger shipping experiences in such a way that they could keep a long-term, profitable presence in cruise shipping. None of the current top four cruise lines, which dominate the global cruise shipping market, ever engaged in ferry shipping.

⁴⁶Due to a location at high northern latitudes, the Nordic countries are widely known for long and dark winters. This has not prevented two cruise lines (Scandinavian World Cruises and Norwegian Cruise Lines) from emphasizing their Nordic origins in marketing and vessel names. In 1982, for instance, Scandinavian World Cruises introduced a former Baltic Sea ferry in the Florida cruise trade for sun-seeking Americans and renamed it the *Scandinavian Sun*.

⁴⁷Louagie (2017).

Original name of vessel	Prinsesse Mar-grethe	Tor Anglia	Saga	Kong Olav V	Svea Regina	Stena Scandi-navica	PrinsessanTor Birgitta	Svea Corona	Mariella	Silja Sere-nade	Crown of Scan-dinavia
1977	1.1.	3.1.	2.	1.3.	3.1.	1.3.	1.3.	1.2.			
1978	1.1.	3.2	2.	1.3.	1.1.	2.	1.3.	1.2.			
1979	8.	8.	2.	1.3.	1.1.	2.	1.3.	1.2.			
1980	6.	1.4.	2.	1.3.	3.2.	2.	1.3.	1.2.			
1981	6.	2.	2.	1.3.	8.	2.	1.3.	1.2.			
1982	6.	3.1.	1.1.	1.3.	3.2.	2.	1.3.	1.2.			
1983	6.	3.1.	1.1.	1.3.	3.2.	2.	1.3.	1.2.			
1984	6.	3.1.	1.1.	5.1.	5.2.	2.	1.3.	1.2.			
1985	6.	3.1.	3.2.	5.1.	5.2.	2.	1.3.	1.2.	1.1.		
1986	6.	3.1.	3.2.	5.1.	5.2.	2.	1.3.	1.2.	1.1.		
1987		3.1.	3.2.	5.1.	5.2.	2.	1.3.	1.2.	1.1.		
1988		3.1.	3.2.	5.1.	5.2.	2.	2.	1.2.	1.1.		
1989		3.1.	3.2.	5.1.	5.2.	2.	3.1.	1.2.	1.1.		
1990		3.1.	3.2.	5.1.	1.1.	2.	1.2.	1.2.	1.1.	1.1.	
1991		3.1.	3.2.	5.1.	1.1.	2.	1.2.	1.2.	1.1.	1.1.	
1992		3.1.	3.2.	5.1.	1.1.	2.	1.2.	1.2.	1.1.	1.1.	
1993		3.1.	3.2.	5.1.	1.1.	2.	1.2.	1.2.	1.1.	1.1.	
1994		3.1.	3.2.	5.1.	1.1.	2.	1.2.	1.2.	1.1.	1.1.	1.3.

(continued)

Table 9.2 (continued)

Original name of vessel	Prinsesse Mar-grethe	Tor Anglia	Saga	Kong Olav V	Svea Regina	Stena Scandi-navica	PrinsessanTor Birgitta	Svea Corona	Mariella	Silja Sere-nade	Crown of Scan-dinavia
1995		3.1.	3.2.		1.1.	2.	1.2.	1.2.	1.1.	1.1.	1.3.
1996		3.1.	3.2.		1.1.	2.	1.2.	3.1.	1.1.	1.1.	1.3.
1997		3.1.	3.2.		8.	2.	1.2.	1.2.	1.1.	1.1.	1.3.
1998		3.1.	3.2.		8.	2.	1.2.	1.2.	1.1.	1.1.	1.3.
1999		3.1.	3.2.		6.	8.	1.2.	1.2.	1.1.	1.1.	1.3.
2000		3.1.	3.1.		6.	8.	1.2.	1.2.	1.1.	1.1.	1.3.
2001		3.1.	3.2.		6.	8.	1.2.	1.2.	1.1.	1.1.	1.3.
2002		3.1.	3.2.		6.	8.	3.2.	1.2.	1.1.	1.1.	1.3.
2003		3.1.			6.	3.2.	3.2.	1.2.	1.1.	1.1.	1.3.
2004		3.1.			6.	3.1.	3.2.	3.2.	1.1.	1.1.	1.3.
2005		3.1.				8.	3.2.	3.2.	1.1.	1.1.	1.3.
2006		3.1.				8.	3.2.	3.2.	1.1.	1.1.	1.3.
2007		3.1.					3.2.	3.2.	1.1.	1.1.	1.3.
2008		3.1.					3.2.	3.2.	1.1.	1.1.	1.3.
2009		3.1.					3.2.	3.2.	1.1.	1.1.	1.3.
2010		3.1.					7.	3.2.	1.1.	1.1.	1.3.
2011		7.					7.	3.2.	1.1.	1.1.	1.3.
2012		7.					7.	3.2.	1.1.	1.1.	1.3.
2013		7.					7.	3.2.	1.1.	1.1.	1.3.
2014		7.					7.	3.2.	1.1.	1.1.	1.3.
2015							7.	3.2.	1.1.	1.1.	1.3.
2016							7.	3.2.	1.1.	1.1.	1.3.
2017							7.	3.2.	1.1.	1.1.	1.3.
2018							3.2.	3.2.	1.1.	1.1.	1.3.

Legend	Code	Trade
	1.1.	Northern Baltic
	1.2.	North Sea
	1.3.	Skagerrak
	1.4.	Southern Baltic
	2.	UK (excl. North Sea)
	3.1.	Western Mediterranean
	3.2.	Eastern Mediterranean
	4.1.	Mediterranean or West Africa (cruises)
	4.2.	Americas (cruises)
	4.3.	Americas (ferry services)
	5.1	China (incl. Hong Kong)
	5.2.	South East Asia (cruises)
	5.3.	India
	6.	Red Sea
	7.	Floating accommodation
	8.	Laid up/undergoing repair/unknown trade

second-hand market was clearly global. A northwards move of second-hand ferries never occurred. In this way, the migration patterns of ferries reflected general patterns in the global economy.⁴⁸

Maturity, 1990–1999

Around 1990, Nordic ferry shipping was at its peak—both in terms of service innovation and passenger volumes. In particular, the Sweden–Finland trades boomed. Numerous new ships entered service on the Åland Sea, and for every new ship, new service features appeared.⁴⁹ Onboard business conferences facilities had first been introduced in the 1960s to attract a new clientele, but with the ferries of the early 1990s they reached a new scale and standard. Moreover, the ferries featured a much wider variety of restaurants, bars and casinos, as well as larger swimming pools and recreational facilities. In 1990, the *Silja Serenade* entered service on the Stockholm–Helsinki route and introduced the most innovative feature of them all—a 140-metre-long internal promenade split almost the entire superstructure in two. This allowed for a large variety of shops and restaurants along the promenade and from cabins on four decks above, passengers had unrestricted views over the promenade. Internal cabins, which had always sold at lower prices than outside cabins, suddenly became very popular among the passengers. In some cases, they sold out before the outside ones.⁵⁰ In terms of service offerings, the *Silja Serenade* and its sistership, the *Silja Symphony*, were ahead of even the most advanced cruise ships at

⁴⁸Out of the more than 40 overnight ferries currently employed in the Nordics, only the *Stena Germanica* and *Stena Scandinavia* entered service outside the Nordic region (on Stena Line's Harwich–Hoek van Holland route). In 2010–2011, Stena Line redeployed the two on the Gothenburg–Kiel route. In same fleet, the *Pearl Seaways* and *Silja Europa* have returned to Nordic ferry routes after spells as cruise ship and floating accommodation in Asia and Australia, respectively.

⁴⁹The new Stockholm–Helsinki ferry *Silja Europa* was the first to introduce an onboard McDonald's. The onboard report from the vessel, published by Plus 2 Ferry consultation in *Designs 93* made the following observation: 'It has been asked if a McDonald's really suits a ship on which people travel for no other reason than to wine and dine, but when the doors open at 2 pm (four hours before departure) the place becomes something of a magnet drawing not only passengers, but also staff from shore' (p. 21).

⁵⁰Brogren (1991).

the time. In an interview, Hans Christner, CEO of EffJohn International, the owner of Silja Line, said:

We have cruising companies onboard the new Silja-ferries, who spontaneously said that they would be ‘money-machines’ on 3- and 4-day cruises. And it is with this ‘parachute’ function we designed the ferries in case everything would go wrong.⁵¹

The two ferries have remained on the Stockholm–Helsinki route ever since, and Christner was right in his observation on the potential for new features in the cruise business. Subsequently, several cruise ships introduced the promenade feature, closely emulating the *Silja Serenade*.⁵²

In the early 1990s, a slowdown occurred in the Swedish and Finnish economies. The breakup of the Soviet Union negatively affected Finnish exports and a Swedish banking crisis contributed to the slowdown.⁵³ On the Sweden–Finland routes, a large oversupply of passenger capacity was a consequence. In 1990, Viking Line’s ferries completed 994 voyages between the two capitals in just one year.⁵⁴ Every second evening, two Viking Line and one Silja Line ferry, with overnight capacity for almost 8000 people, departed almost simultaneously from Stockholm to Helsinki.⁵⁵ This was too much. And the new ships had been acquired at high prices. Due to the bankruptcy of the Finnish shipbuilder, Wärtsilä Marine, which supplied most of the new vessels, the prices increased significantly after most of the contracts had been signed.⁵⁶ Not only did Silja Line and Viking Line compete against each other. Even within Viking Line an element of competition existed, as the ownership of the ferries and investment decisions were entirely in the hands of the two owners,

⁵¹Quote by Brogren (1991, 121).

⁵²Royal Caribbean Cruise Line’s *Voyager of the Seas* from 1999 was the first cruise ship to adopt the mall, and many subsequent ships have taken up the feature. See Brogren (2000, 205–207; 2010).

⁵³Fellman et al. (2008).

⁵⁴Brogren (1998, 105).

⁵⁵In the same evening, another five large ferries and passenger vessels would depart from Stockholm for Mariehamn and Turku in Finland.

⁵⁶Peter and Id (2017, 172–178), Sjöström and Brzoza (2009, 165–170), and Brogren (1991, 120).

Rederi AB Slite and SF Line.⁵⁷ In 1993 Slite filed for bankruptcy, and left Åland-based SF Line as the sole owner of Viking Line. The Slite fleet was redeployed to the Southern Baltic and UK routes, and in cruising from Hong Kong and Singapore. In the latter case, the new owners converted the car decks into large casinos and subsequently had purpose-built cruise ships derive from the ferry designs.⁵⁸

Further setbacks to the entire ferry business occurred, when two ferries were lost at sea. In April 1990, the *Scandinavian Star* caught fire while *en route* from Oslo to Frederikshavn in Denmark, and 159 people perished onboard. The police suspected arson, and the case has remained controversial ever since. In September 1994, the *Estonia*, the flagship of the Tallinn–Stockholm route, capsized in the matter of a few minutes, causing the death of 852 passengers and crew members. With good reason, the losses brought the question of ferry safety to the front pages of newspapers and high in the general public's attention. The United Nations' International Maritime Organization subsequently tightened safety regulation for ferries.

Throughout the 1990s, traffic volumes stagnated (Table 9.1), and fleet renewal came to a halt. The shipping companies fine-tuned onboard service offerings, and regularly upgraded cabins, restaurants and other public spaces. In the Baltic Sea, the fall of the Iron Curtain, which opened the Baltic States to ferry shipping, partly offset stagnation on the established routes. New routes to Tallinn from Helsinki and Stockholm boomed and provided new revenue streams for Silja and Viking Line, as well as a newcomer, Tallink.⁵⁹

In the 1980s and 1990s, passenger traffic continued to build up on the Copenhagen–Oslo route. In 1983, DFDS had introduced the *Scandinavia* on the route in a defensive move. Built for a new DFDS cruise venture in the US, the vessel threatened the very existence of the company. The US cruise venture went badly wrong, and DFDS repositioned the ship to the

⁵⁷Eliasson (2005, 135–147) provides a reprint of the Viking Line strategy dating from 1987. It reveals the competitive dynamic between the two owners.

⁵⁸Brogren (1993, 57–60; 1999).

⁵⁹For a personal account of the introduction of ferry shipping services to the new Baltic States after 1990, see Tolstrup (2012).

Copenhagen–Oslo route to cut losses.⁶⁰ The vessel was too costly to run on this route and DFDS soon sold it to a US cruise company. However, the *Scandinavia* demonstrated the expansion potential of the route. With the right tonnage, DFDS could attract significant numbers of mini-cruise passengers.⁶¹

On Gothenburg–Kiel annual passenger volumes stabilized around 850,000 passengers in the 1990s, but Stena Line achieved further volume growth through acquisitions. In 1989 and 1990, respectively, it acquired the Dutch Crown Line and Sealink British Ferries, thus extending its network to the English Channel and the Irish Sea.⁶² The growing route network gave Stena Line economies of scale in its administration and procurement, and gave it more opportunities for redeployment of its vessels.

Decline After 1999

In the 1990s, the market reports focused strongly on new challenges caused by the imminent opening of new tunnels or bridges across the English Channel (in 1994), the Great Belt (in 1998) and the Øresund (in 2000), as well as and the European Union's planned abolition of duty free sales. The fixed connections, which were in direct competition with the daytime ferries on short routes, were not a major concern for the overnight ferry lines. The EU's planned abolition of duty free sales, however, posed a major strategic challenge to them. For almost a decade, European ferry shipowners lobbied against the EU decision, arguing that many jobs were at stake and road congestion would ensue.⁶³ However, the lobbying efforts were unsuccessful and in 1995 the market report in *Guide 95* indicated that the 'shipping industry has already given up and believe that the battle will be lost in 1999'.⁶⁴ Indeed, this prediction proved correct, and the

⁶⁰Lange (1995, 296–316).

⁶¹In 1989, 1990, 1994 and 2002, and it therefore introduced new ferries, three of which originated from the Stockholm–Finland trade.

⁶²Stena Line AB annual reports (1988–1990), Brogren et al. (2012, 217–247).

⁶³Brogren (various years, 1990–1999); Brogren et al. (2012, 249–253, 295–301); Bergenek and Brogren (2006, 294–299).

⁶⁴Brogren (1995, 118).

termination of duty free sales between EU ports occurred on 30 June 1999.

Immediately, the termination strongly affected Stena Line's earnings. Overnight passenger volumes decreased by more than 25% on most routes and onboard spending on the Scandinavian routes dropped from 278 SEK to 156 SEK per passenger between 1998 and 2000.⁶⁵ On the Gothenburg–Kiel route, half of the passengers disappeared between 1998 and 2000. Stena Line's annual revenues contracted by 1 billion SEK, and the company made a loss of more than 600 million SEK in 2000.⁶⁶ According to Dan Sten Olsson, CEO, 'Stena Line could not survive as a publicly listed shipping company'.⁶⁷ In 2001, the Olsson family's Stena Group took over Stena Line.⁶⁸ The Stena Group had diversified in offshore drilling, tanker and ro/ro shipping, real estate and recycling. While the ferry operations were loss making, the other businesses generally remained profitable.⁶⁹

Stena Line immediately responded to the abolition of duty free sales with ticket price increases. Customers with lorries or trailers and travellers with cars usually accepted this, but the price-sensitive shopping passengers did not.⁷⁰ In the longer term, Stena Line focused increasingly on trailer traffic, which continued to grow. It maintained passenger services, albeit at a reduced level, and through cost reduction programmes, it gradually returned to profitability.⁷¹ On some routes, Stena Line introduced new, so-called ro-pax vessels, with high trailer intake and reduced passenger accommodation. On the Gothenburg–Kiel route, this happened in 2010–2011. The two replacement ferries reduced passenger capacity by approximately 50%, but trailer capacity grew by more than 150% (Fig. 9.2). Of the four case routes in this study, the Gothenburg–Kiel route is the only one where a major fleet renewal has taken place in the

⁶⁵Brogren et al. (2012, 328).

⁶⁶Stena AB annual report 2000, 4–5.

⁶⁷Stena AB annual report 2000, 4–5.

⁶⁸Stena AB annual reports 1999, 2000. The Stena Group had also owned Stena Line until the stock-listing in 1988.

⁶⁹Stena AB annual reports 2000–2008.

⁷⁰Stena AB annual report 2000, 4–5.

⁷¹Stena AB annual reports 2008–2016.

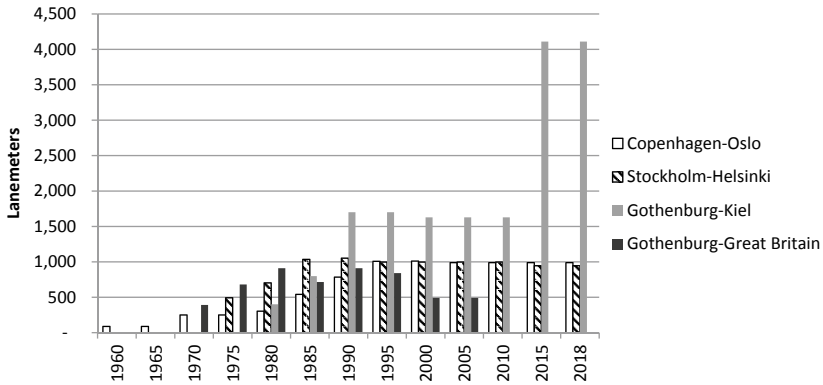


Fig. 9.2 Average number of lane metres per vessel, by route, 1960–2018 (Source ShipPax Information [various years] *Guide, Designs and Market* and corporate fleet histories)

twenty-first century, and the only one, which succeeded in attracting large trailer volumes to the ferries.

The second—and more fundamental—challenge that all ferry routes faced, came from above. It resembled the situation that transoceanic passenger lines had experienced five decades earlier: competition from airlines. From the late 1990s, several low-cost airlines conquered market shares for passengers' travel.⁷² Ryanair and EasyJet, the latter with a Greek shipowner as investor, were the most famous, and benefitted from liberalization in European airline markets.⁷³ Air travellers saved time and money, and avoided the sometimes rough waves on the North and Baltic Seas. The effects were the strongest on the North Sea, where almost all overnight ferry services disappeared within about a decade.⁷⁴ In response to the abolition of the duty free sales and airline competition, DFDS discontinued the Gothenburg–Harwich route, and added a call in the non-EU port of Kristiansand in Norway on the Gothenburg–Newcastle route. Despite continuation of duty free sales, DFDS was disappointed

⁷²Francis et al. (2006) and Dobruszkes (2013).

⁷³The effects of discount airlines on demand for ferry services are discussed in market reports by Brogren (1998–2006). On the liberalization of airlines in Scandinavia, see Sjögren (2015).

⁷⁴Only the routes IJmuiden–Newcastle, Hull–Rotterdam, Hull–Zeebrugge and Harwich–Hoek van Holland remained.

with the results.⁷⁵ In 2006, DFDS closed the last passenger service from Gothenburg and sold the last vessel to further trading in the Mediterranean. Instead, it focused on expanding the much more profitable pure roll-on/roll-off freight routes in the North and Baltic Seas.⁷⁶

Duty free sales continued on the Copenhagen–Oslo route, but even here, stagnation set in. Since the late 1990s, the annual passenger traffic on Copenhagen–Oslo has hovered around 770,000, with only small fluctuations and a flat trend line (Table 9.1). The service remains highly profitable, however.⁷⁷ In the Stockholm–Helsinki route, passenger trends were in decline after the turn of the millennium. Sweden and Finland had joined the EU in 1996, but the economy of the Åland islands was highly dependent on the ferry business and gained an EU-exemption to continue the duty free sales. Stockholm–Helsinki vessels deviated, to include a call at Åland in the middle of the night. While hardly any passengers disembarked or even noted the night-time call, the manoeuvre enabled Viking and Silja Line to continue duty free sales. Without the Åland exemption, it is clear that the Stockholm–Finland trade would not have continued to sustain the current passenger volumes.

On the Stockholm–Helsinki and Copenhagen–Oslo routes, the current fleets were designed in the early and mid-1980s. Public spaces and cabins on these ferries have been upgraded regularly, but effectively no service innovations have been introduced.⁷⁸ In 2018, the average age of the remaining Nordic ferries was historically high (Fig. 9.3). On the Copenhagen–Oslo and Stockholm–Helsinki routes, it approached 27 and 29 years, respectively. In comparison the global average age for bulk carriers, container ships and tankers was 8.8, 11.6 and 18.8 years, respectively.⁷⁹ Currently the age of the Nordic ferry fleet is on the same level as the fleet of cargo ships flagged in developing countries (29 years). This appears as a remarkable turn of events. In general, merchant ships flagged in developing economies are on average 10 years older than those flagged

⁷⁵DFDS annual reports (2002–2006).

⁷⁶DFDS annual reports (2005–2017).

⁷⁷DFDS annual report (2017, 29).

⁷⁸ShipPax Information (2014, 120–121) contains information on the upgrading of the *Silja Serenade* and *Silja Symphony* after almost two and half decades of service on the Stockholm–Helsinki route.

⁷⁹UNCTAD (2017, 27). Calculations are based on number of ships, not deadweight.

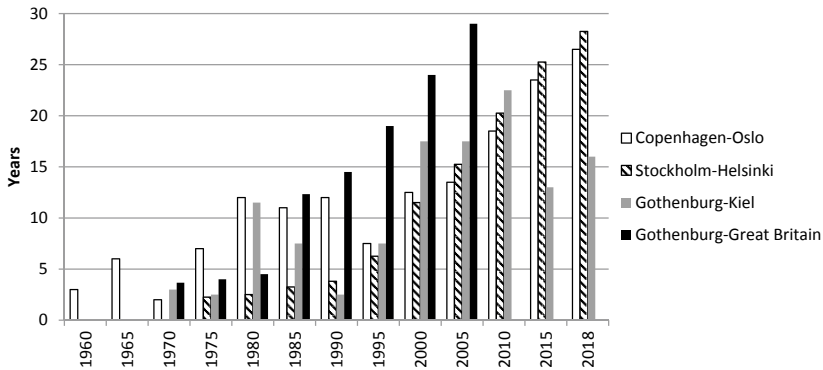


Fig. 9.3 Average age of vessels (in years), by route, 1960–2018 (Source ShipPax Information [various years] *Guide, Designs and Market* and corporate fleet histories)

in developed economies.⁸⁰ On average the 45 ferries in the studied sample were withdrawn and recycled after approximately 35 years of service. For the shipping companies vessel age means lower capital costs, but also higher maintenance costs. It seems not unlikely the current, Nordic ferry fleet is approaching the later stage of its life cycle.⁸¹

The decline in Nordic ferry shipping coincided with a historical boom in the global shipping markets. In the early 2000s, freight rates for tankers, dry bulk carriers and container vessels skyrocketed in particular due to the rapid growth of the Chinese economy. Shipowners responded with large-scale contracting of new-buildings, many of which only entered service after the Financial Crisis of 2008 caused the global freight markets to collapse. Many shipyards started to search for new orders in niche markets, such as passenger shipping, but the Nordic ferry companies did not respond to the drop in new-building prices by new contracting of vessels. The problems that Nordic ferry shipping had encountered were more

⁸⁰UNCTAD (2017, 27). Calculations are based on number of ships, not deadweight.

⁸¹Calculations are based on the data provided in Table 9.1. On the Stockholm–Mariehamn–Turku route, Viking Line introduced a new-building in 2013 and, at the time of writing, it has another ferry on order at a Chinese shipyard for the same route. These two vessels represent the only significant renewal in the fleet for almost two decades.

fundamental than those caused by the traditional shipping cycle. Ferry shipping had entered the declining phase of its life cycle.

After 2000, low cost airlines rapidly gained ground, not only in Europe, but all over the world. As a result, the alternative employment opportunities for second-hand ferries declined and the ‘cascading’ pattern from previous decades was broken. The Nordic ferries from the 1980s and 1990s, designed for duty-free sales, had high cabin capacity, large public spaces and relatively small car decks. They were not ideal for the Mediterranean routes, where trailer traffic had also become more important.⁸² Around 2000, the Adriatic ferry fleet saw renewal with new-buildings and former Japanese ro/ro ships with significantly higher trailer intake and higher service speeds.⁸³ With rapidly rising household incomes in South East Asia, the interest in the aging tonnage from Northern Europe evaporated. Indeed Chinese ferry trades, in particular in the Bohai Rim in the North of the country, expanded, but new vessels with significantly larger car decks than the Nordic ferries entered service.

One new employment opportunity for a few old ferries did emerge in the 2010s. For a period, four of the 45 vessels in the sample entered service as floating accommodation for offshore wind farm construction workers. Anchored close to the wind farm construction sites, the old ferries provided hotel functions for workers, who therefore avoided the time-consuming transfer between land and the site. While this represented a novel use of the old vessels, the innovation did not come from the ferry companies, but from entrepreneurs within offshore wind shipping. Recently, tailor-made offshore accommodation vessels, however, have taken over the market from the old ferries.⁸⁴

In the global cruise business, where second-hand ferries’ large cabin accommodations had been a valuable asset, employment opportunities also vanished. After 2000, cruise shipping grew quickly, but the Nordic ferries were generally too small and had car decks, for which the cruise lines found no use. Instead the global cruise lines built long series of significantly larger vessels, which also featured numerous new service offerings. These

⁸²Second hand market reports by Louagie (2013–16).

⁸³See for example, Brogren (2000) on the new *Superfast* ferries for the Adriatic Sea services.

⁸⁴C-Bed’s web-page, <https://c-bed.nl/>, accessed 27 July 2017.

included ice skating rinks, stages for Broadway shows, numerous specialty restaurants, water sport arenas, climbing walls and other sport facilities. Moreover cruise cabins were larger and of a higher standard, and most featured private balconies. In the booming Chinese cruise trade, which had previously employed former Nordic ferries, tailor-made new cruise ships also entered service in the 2010s.⁸⁵ Service innovation in passenger shipping had become the realm of the global cruise lines.

Conclusion

With its regional operations and market structures, ferry shipping represents a small and somewhat unusual niche in the global shipping industry. It differs from most other shipping segments, in which shipping companies take global competition for granted and face very pronounced freight cycles. Yet in the end, the regional markets could not shield ferry companies against the forces of global competition. Ferry shipping evolved over the innovation phase to the mature phase, before it ultimately started to decline.

From the 1960s to the early 1990s, Nordic ferry shipping companies were global leaders in terms of service innovation, pushing the boundaries for onboard amenities and ship designs. They even set the standards for cruise services. As they broadened their service offerings, the Nordic lines frequently introduced state-of-the-art vessels. This resonated well with other shipping niches, such as chemical tanker, car carrier and open hatch bulk shipping, where Nordic shipowners were also at the forefront of innovation in the 1960s and early 1970s. This reflected the innovation phase of the industry life cycle.

The Nordic geography favoured ferry services, but socio-economic factors fuelled growth. Longer holidays for workers and growing household incomes provided shipping lines with a rising market of demanding travellers. Moreover, supporting government policies paved the way for very profitable onboard duty free sales and enabled ferry shipping companies to attract many passengers, who would not otherwise have travelled. The

⁸⁵Cruise market reports by Louagie (2013–16).

growth of Nordic ferry shipping mirrored the strong growth of the Nordic economies in the 1960s. Even though ferry shipping was local in its operations, the second-hand market for ferries was global. Regions with lower average household incomes and lower consumer expectations than the Nordics acquired redundant tonnage. The ‘cascading’ pattern was very pronounced and the south- and eastwards migration of old ferries clearly reflected the interconnectedness of the global economy.

Structural changes caused Nordic companies in global shipping segments to lose momentum in the 1970s and 1980s. In the case of ferry shipping, similar losses occurred. It happened a decade later, due to a combination of adverse socio-economic and policy factors. Policy changes with the abolition of duty free sales within the EU in 1999 reduced revenue streams. Some routes ceased, while others shifted focus towards the more profitable trailer traffic. However, the policy changes were not the fundamental causes for the lost momentum. Stagnation set in even on the routes where duty free sales could continue. In the Baltic Sea and on the Skagerrak, a fleet of large, but ageing overnight ferries continues to operate. Since the late 1990s, most travellers have preferred the much faster and cheaper services of airlines, and the superior service offerings of cruise lines and other holiday alternatives. In the face of intensified competition, the Nordic ferry companies could not find resources to upgrade and improve their service offerings with innovations. Instead, the global cruise industry took over role of service innovation in passenger shipping more broadly.

Even though a new centre for ferry shipping innovation never emerged, the development of Nordic ferry shipping reflected global developments. In the last two decades, the ‘cascading’ pattern was broken (see Table 9.2). The shipping companies in the Mediterranean and Asia largely lost interest in the ageing Nordic car ferries, originally designed for duty-free sales and with an impractical capacity configuration. Rapidly rising income levels in the South East Asia enabled Asian shipowners to look for new buildings whenever they needed it. The world over, low-cost airlines had also carved out a major share of the passenger market. The industry life cycle theory neatly explains why a new centre for ferry service innovation failed to materialize. Globally the business for overnight ferry services had entered the declining stage of its life cycle. In the end, the regional market structures could not shield ferry shipping against structural changes in the

global economy. The development of ferry shipping in the twentieth and early twenty-first centuries is therefore a reminder that global economic processes can have pervasive effects even on regional businesses.

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References

- Baird, A. J. (1999). A Comparative Study of the Ferry Industry in Japan and the UK. *Transport Reviews*, 19(1), 33–55.
- Baird, A. J. (2000). The Japan Coastal Ferry System. *Maritime Policy & Management*, 27(1), 3–16.
- Baird, A. J. (2012). Comparing the Efficiency of Public and Private Ferry Services on the Pentland Firth Between Mainland Scotland and the Orkney Islands. *Research in Transportation Business & Management*, 4, 79–89.
- Baird, A. J., Wilmsmeier, G., Brooks, M. R., & Frost, J. D. (2011). Public Tendering of Ferry Services in Europe. *European Transport*, 49, 90–111.
- Bergenek, A., & Brogren, K. (2006). *Passagerare till sjöss: den svenska färjesjöfartens historia*. Halmstad: ShipPax Information.
- Brogren, K. (Ed.). (1991). *Designs 91*. Halmstad: Plus 2 Ferryconsultation.
- Brogren, K. (Ed.). (1993). *Designs 93*. Halmstad: ShipPax Information.
- Brogren, K. (Ed.). (1995). *Guide 95*. Halmstad: ShipPax Information.
- Brogren, K. (1998–2006). *Statistics 98–06*. Halmstad: ShipPax Information.
- Brogren, K. (Ed.). (1999). *Designs 99*. Halmstad: ShipPax Information.
- Brogren, K. (Ed.). (2000). *Designs 00*. Halmstad: ShipPax Information.
- Brogren, K. (Ed.). (2010). *Guide 10*. Halmstad: ShipPax Information.
- Brogren, K., Bergenek, A., & Sahlsten, R. (2012). *Stena Line – historien om ett färjerederi*. Gothenburg/Halmstad: Stena Line/ShipPax Information.
- Brooks, M. R., & Frost, J. D. (2004). Short Sea Shipping: A Canadian Perspective. *Maritime Policy & Management*, 31(4), 393–407.

- Casaca, A. C. P., & Marlow, P. B. (2005). The Competitiveness of Short Sea Shipping in Multimodal Logistics Supply Chains: Service Attributes. *Maritime Policy & Management*, 32(4), 363–382.
- Dicken, P. (2015). *Global Shift: Mapping the Changing Contours of the World Economy* (7th ed.). New York: Guilford Press.
- Dobruszkes, F. (2013). The Geography of European Low-Cost Airline Networks: A Contemporary Analysis. *Journal of Transport Geography*, 28, 75–88.
- Eliasson, T. (2005). *Viking Line i bakspegeln*. Mariehamn: Viking Line.
- Fellman, S., Iversen, M. J., Sjögren, H., & Thue, L. (Eds.). (2008). *Creating Nordic Capitalism: The Business History of a Competitive Periphery*. Basingstoke: Palgrave Macmillan.
- Francis, G., Humphreys, H., Ison, S., & Aicken, M. (2006). Where Next for Low Cost Airlines? A Spatial and Temporal Comparative Study. *Journal of Transport Geography*, 14(2), 83–94.
- Graae, P. (1966). *Hundrede år på havene*. Copenhagen: DFDS.
- Hahn-Pedersen, M., Bisbjerg, L., Hansen, L. A., Jacobsen, A. L. L., Poulsen, R. T., & Søndergaard, M. K. (2004). Nye tider i Englandstrafikken – På triptur med M/S Dana Sirena. In M. Hahn-Pedersen (Ed.), *Sjæk'len, Årbog for Fiskeri- og Søfartsmuseet 2003* (pp. 98–117). Esbjerg: Fisheries and Maritime Museum.
- Hahn-Pedersen, M., Hansen, L. A., Jacobsen, A. L. L., Poulsen, B., Poulsen, R. T., & Søndergaard, M. K. (2003). På triptur med Dana Anglia. In M. Hahn-Pedersen (Ed.), *Sjæk'len, Årbog for Fiskeri- og Søfartsmuseet 2002* (pp. 57–78). Esbjerg: Fisheries- and Maritime Museum.
- Hahn-Pedersen, M., & Poulsen, R. T. (2006). Danske passagerlinjer på Nordsøen, ca. 1850–2005. In M. Hahn-Pedersen (Ed.), *Sjæk'len, Årbog for Fiskeri- og Søfartsmuseet 2005* (pp. 8–25). Esbjerg: Fisheries and Maritime Museum.
- Harberg, J. (1995). *Åländsk sjöfart med maskindrivna fartyg*. Mariehamn: Ålands Nautical Club.
- Heijveld, H., & Gray, R. (1996). The Competitive Environment of a Service Industry: The Examples of the UK-Continent Passenger Sea Ferry Services. *Journal of the History of Economic Thought*, 23(2), 157–166.
- Jamieson, A. G. (2003). *Ebb Tide in the British Maritime Industries: Change and Adaptation, 1918–1990*. Exeter: University of Exeter Press.
- Johnman, L., & Murphy, H. (2002). *British Shipbuilding and the State Since 1918: A Political Economy of Decline*. Exeter: University of Exeter Press.
- Karlsson, A. (2007). *Det åländska sjöklustret. En studie i den ekonomiska tillväxtens entreprenöriella och institutionella förutsättningar*. Mariehamn: ÅSUB.

- Lange, O. (1995). *Logbog for Lauritzen 1884–1995, historien om konsulen, hans sønner og Lauritzen Gruppen* (pp. 296–316). Copenhagen: Handelshøjskolen Forlag.
- Lorenz, E. H. (1991). An Evolutionary Explanation for Competitive Decline: The British Shipbuilding Industry, 1890–1970. *The Journal of Economic History*, 51(4), 911–935.
- Louagie, M. (Ed.). (2013–16). *Market 13–16*. Halmstad: ShipPax Information.
- Louagie, M. (Ed.). (2017). *Market 17*. Halmstad: ShipPax Information.
- Luis, J. Á. H. (2002). Temporal Accessibility in Archipelagos: Inter-Island Shipping in the Canary Islands. *Journal of Transport Geography*, 10(3), 231–239.
- Malmberg, T., & Sjöström, P. (1997). *Bore 1897–1997: ett sekel finländsk sjöfart*. Turku: Bore Shipowners.
- Malmberg, T., & Stempohl, M. (2007). *Femti år med Silja*. Esbo: Tallink Silja Oy.
- Miller, M. B. (2012). *Europe and the Maritime World: A Twentieth Century History*. Cambridge: Cambridge University Press.
- Møller, A. M. (1983). København-Kristiania: Fra sejlpacket til konferenceskib. *Maritim Kontakt*, 6, 115–132.
- Murphy, H., & Tenold, S. (2008). Strategies, Market Concentration and Hegemony in Chemical Parcel Tanker Shipping, 1960–1985. *Business History*, 50(3), 291–309.
- Ojala, J., & Tenold, S. (2017). Maritime Trade and Merchant Shipping: The Shipping/Trade Ratio Since the 1870s. *International Journal of Maritime History*, 29(4), 838–854.
- Pantouvakis, A. M. (2007). Who Pays the Ferryman? An Analysis of the Ferry Passenger's Selection Dilemma. *Maritime Policy & Management*, 34(6), 591–612.
- Peter, B. (2004). *Danish Ship Design: The Work of Kay Fisker and Kay Kørbing*. Ramsey: Ferry Publications.
- Peter, B. (2017). *Knud E Hansen A/S 80 Years*. Ramsey: Ferry Publications.
- Peter, B., & Dawson, P. (2010). *The Ferry: A Drive-Through History*. Ramsey: Ferry Publications.
- Peter, B., & Id, K. (2017). *Innovation and Specialization: The Story of Shipbuilding in Finland*. Lyngby: Nautilus Forlag.
- Poulsen, R. T., Jensen, K., Christensen, R. S., & Jiang, L. (2017). Corporate Strategies and Global Competition: Odense Steel Shipyard, 1918–2012. *Business History Review*, 91(4), 707–734.
- Quartermaine, P., & Peter, B. (2006). *Cruise: Identity, Design And Culture*. London: Laurence King Publishing.
- Rinman, T. (1968). *Svenska Lloyd gennem etthundra år*. Gothenburg: Zinderman.

- Rinman, T. (1989). *Rederiet: Johnson Line under 100 år*. Gothenburg: Rinman & Lindén AB/Johnson Line AB.
- Rutz, W. O. A., & Coull, J. R. (1996). Inter-Island Passenger Shipping in Indonesia: Development of the System—Present Characteristics and Future Requirements. *Journal of Transport Geography*, 4(4), 275–286.
- Sahlsten, R., Söderberg, B., & Bång, K. (1992). *Stena Lines fartyg 1962–1992*. Gothenburg: Stena Line AB.
- ShipPax Information. various years. *Markets and Statistics*. Halmstad: ShipPax Information.
- Simonsen, P., & Krogh-Andersen, S. (2016). *The DFDS Fleet 1991–2016*. Copenhagen: DFDS A/S.
- Sjögren, H. (2015). *Högtryck: SAS och omvandlingen*. Stockholm: Dialogos Förlag.
- Sjöström, P., & Brzoza, K. (2009). *Vägen över havet – från pionjärer till marknadsledare*. Gothenburg: Breakwater Publishing AB/Viking Line.
- Sletmo, G. K. (1989). Shipping's Fourth Wave: Ship Management and Vernon's Trade Cycles. *Maritime Policy & Management*, 16(4), 293–303.
- Stråth, B. (1987). *The Politics of De-industrialisation: The Contraction of the West European Shipbuilding Industry*. London: Croom Helm.
- Sturmey, S. G. (1962/2010). *British Shipping and World Competition*. St. John's, NL: International Maritime Economic History Association.
- Svensson, H. (1986). *En man och hans linje: Gunnar Eklund och färjtrafiken Sverige-Åland-Finland*. Mariehamn: Viking Line.
- Svensson, H. (1990). *Med Carl Bertil Myrsten från ö till ö: En envis gottlänning och färjtrafiken Sverige-Åland-Finland*. Mariehamn: Viking Line.
- Tenold, S. (2006). *Tankers in Trouble: Norwegian Shipping and the Crisis of the 1970s and 1980*. St. John's, NL: International Maritime Economic History Association.
- Tenold, S. (2009). Vernon's Product Life Cycle and Maritime Innovation: Specialised Shipping in Bergen, Norway, 1970–1987. *Business History*, 51(5), 770–786.
- Tenold, S. (2019). *Norwegian Shipping in the 20th Century: Norway's Successful Navigation of the World's Most Global Industry*. Cham: Palgrave Macmillan.
- Tenold, S., Iversen, M. J., & Lange, E. (Eds.). (2012). *Global Shipping in Small Nations: Nordic Experiences After 1960*. Basingstoke: Palgrave Macmillan.
- Tenold, S., & Ojala, J. (2017). How to Sail a Sinking Ship: Regulatory Innovation and the Competitiveness of the European Shipping Industry. In B. Bouwens, P. Donzé, & T. Kurosawa (Eds.), *Industries and Global Competition: A History of Business Beyond Borders* (pp. 215–234). New York: Routledge.

- Thanopoulou, H. A. (1995). The Growth of Fleets Registered in the Newly-Emerging Maritime Countries and Maritime Crises. *Maritime Policy & Management*, 22(1), 51–62.
- Thorsøe, S., Simonsen, P., Krogh-Andersen, S., Frederichsen, F., & Vaupel, H. (1991). *DFDS 1866–1991: Skibsudvikling gennem 125 år fra Hjulpdamper til Rulleskib/ DFDS: Ship Development through 125 years – from Paddle Steamer to Ro/Ro Ship*. Copenhagen: DFDS A/S/World Ship Society.
- Thorsøe, S., Simonsen, P., Krogh-Andersen, S., & Vaupel, H. (2006). *DFDS 1991–2006 Skibsudviklingen fortsætter/ DFDS 1991–2006 Ship Development Continues*. Copenhagen: DFDS A/S/World Ship Society.
- Tolstrup, N. (2012). *Pionerer mod øst: Personlige fortællinger om DSB Rederis/Scandlines' indtog i den østlige del af Østersøen*. Lyngby: Nautilus Forlag.
- Tor Line. (1985). *Tor Line: 20 years*. Gothenburg: Tor Line.
- UNCTAD. (2016). *UNCTAD Review of Maritime Transport 2016*. Geneva: UNCTAD.
- Vernon, R. (1960). International Investment and International Trade in the Product Cycle. *Quarterly Journal of Economics*, 80(2), 190–207.
- Wergeland, T. (2012). Ferry Passenger Markets. In W. K. Talley (Ed.), *The Blackwell Companion to Maritime Economics* (pp. 161–83). Malden, MA: Wiley-Blackwell.
- Westerlund, K. (Ed.). (2012). *Färjefart: Historiska og etnologiska perspektiv på färjetrafiken mellan Finland och Sverige* (Meddelande från Sjöhistoriska Institutet vid Åbo Akademi 33). Turku: Sjöhistoriska Institutet vid Åbo Akademi.
- Widdows, N. (2010). *Stena Line: The Fleet*. Ramsey: Ferry Publications.
- Widdows, N. (2011). *DFDS: The Fleet* (2nd ed.). Ramsey: Ferry Publications.

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