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Norwegian maritime expansion in the 19th century: Existing explanations and some new explorations

Preliminary draft. Please do not quote -

The Norwegian merchant fleet expanded dramatically during the second and third quarter of the nineteenth century. Between 1850 and 1880 alone, the size of the fleet increased more than fivefold, making it the fastest expanding fleet in the world and reaching the position as the third largest fleet in the world by 1880 in terms of tonnage.¹ The growth in registered tonnage reflected an increasing orientation towards international freight markets by Norwegian ship-owners: In 1875, 78 percent of the earnings made from the fleet was accumulated in cross-trades, and this expansion made shipping the largest export earner in the Norwegian economy, accounting for approximately 30 to 40 percent of export incomes in the period from 1835 to 1970.²

¹ All figures estimated from Lewis R. Fischer and Helge W. Nordvik, "Maritime Transport and the Integration of the North Atlantic Economy, 1850-1914," in *The Emergence of a World Economy in the Latter Half of the Nineteenth Century. Papers of the IX. International Congress of Economic History. Part II: 1850-1914.*, ed. Wolfram Fischer, R. Marvin McNinnis, and Jürgen Schneider (Wiesbaden: Steiner Verlag, 1986), p 323.

² The estimation of shipping income from cross-trades and Norwegian trades is derived from figures reported by Det statistiske centralbureau *C.No. 3c, Tabeller vedkommende Norges skibsfart I aaret 1875*, Christiania 1877. For shipping incomes share of export incomes, see Camilla Brautaset, "Norsk Eksport 1830-1865. I Perspektiv Av Historiske Nasjonalregnskap" (Norges Handelshøyskole, 2002), and Juul Bjerke, *Langtidslinjer I Norsk Økonomi 1865-1960* (Oslo: 1966).

The rise of the Norwegian merchant fleet in the last half of the 19th century has attracted scholarly attention, and several different explanations have been offered. In the voluminous commissioned history published from 1923 to 1952, historian Jacob Worm-Müller attributed the rise to three factors: Firstly; the chance to compete on fair grounds offered by the repeal of the Navigation Act. Secondly; the skill and ingenuity of Norwegian ship-owners, and, thirdly; the high quality and low cost of Norwegian seamen.³ While the last two claims were supported by only scattered evidence, they have none-the-less resonated strongly in more recent literature. The predominant position in the modern literature, perhaps best exemplified by Fritz Hodne, is that Norway's position in international shipping was primarily a reflection of the availability of cheap labour and the utilisation of low cost second-hand tonnage.⁴ As demonstrated by Fischer and Nordvik, however, the role of low wages seems to be a less convincing explanation for Norwegian maritime expansion. Their data shows a smaller initial cost advantage in wages than previously assumed, Norwegian wages were around 15 percent lower than the Canadian/British average in the 1860s, and the advantage was decreasing in the following decades. In addition, they present data on the cost structure of ships demonstrating that an initial advantage in lower wages must have had a much more limited impact than argued by Hodne and others, since these costs only accounted for just under 20 per cent of total costs.⁵ As they conclude: "Even assuming that the 15 %

³ Alexander Bugge et al., *Den Norske Sjøfarts Historie. Fra De Ældste Tider Til Vore Dage (1. Bind)*, ed. Jacob S. Worm-Müller, vol. I, *Den Norske Sjøfarts Historie. Fra De Ældste Tider Til Vore Dage* (Oslo: Steenske forlag, 1923), Fredrik Scheel and Jacob S. Worm-Müller, *Den Norske Sjøfartshistorie (Bd Ii.I)*, ed. Jacob S. Worm-Müller, vol. II.I, *Den Norske Sjøfarts Historie. Fra De Ældste Tider Til Vore Dage* (Oslo: Steenske forlag, 1935), Johan Nicolay Tønnesen and Nils A. Ytreberg, *Fra Klipperen Til Motorskipet (Bd Ii.Iii)*, ed. Jacob S. Worm-Müller, vol. II.III, *Den Norske Sjøfarts Historie. Fra De Ældste Tider Til Vore Dage* (Oslo: Steenske forlag, 1951), Jacob S. Worm-Müller, *Fra Klipperen Til Motorskipet (Bd Ii.Ii)*, ed. Jacob S. Worm-Müller, vol. II.II, *Den Norske Sjøfarts Historie. Fra De Ældste Tider Til Vore Dage* (Oslo: J. W. Cappelens forlag, 1950), Jacob S. Worm-Müller, ed., *Den Norske Sjøfarts Historie. Fra De Ældste Tider Til Vore Dage (Bd Iii.Ii, Sær-Emner Ii)*, vol. I, *Den Norske Sjøfarts Historie. Fra De Ældste Tider Til Vore Dage* (Oslo: Steenske forlag, 1923).

⁴ Fritz Hodne, *Norges Økonomiske Historie, 1815-1970* (Oslo: J.W. Cappelens forlag, 1981).

⁵ Lewis R. Fischer and Helge W. Nordvik, "From Namsos to Halden: Myths and Realities in the History of Norwegian Seamen's Wages 1850-1914," *Scandinavian Economic History Review* 1 (1987). A strong finding in their studies of international wage levels is that the availability to set national wage levels was more limited than previously believed. It should also be noted that even if one follows the type of arguments posed by Hodne and

wage differential translated into a 15 % savings on the total wage bill, this would have provided Norwegian owners with only about a 3 % comparative advantage.”⁶

The scholarly debate has to a large extent focused on attempting to measure macroeconomic factors that may have contributed to a competitive advantage of Norwegian shipping during the 19th century. Much less emphasis has been placed on systematic investigations into the business strategies of Norwegian ship-owners and their relationships to key agents in international markets. This contrasts to central findings in the international literature in maritime history. Recent studies of the Greek shipping industry, for instance, has emphasized the role of networks in supporting Greek maritime expansion in the 19th and 20th century, stressing the role of Greek Diaspora networks as pivotal in providing market information and chartering opportunities for Greek ship-owners.⁷ Similarly, Gordon Boyce’s analysis of business and family structures in British shipping demonstrates the role of networks for key British companies identifying this as a central feature of the maritime industries.⁸ In addition, Jesus Valdaliso has argued that network relationship had key impact on the growth of leading maritime firms in Spain.⁹

The role of network relationships in providing information and trust between agents has been underlined as a key element in the development of different maritime regions. Very little is known about this aspect of Norwegian merchant shipping, and only scattered

others, it is still not entirely clear why a country with low wages would specialize in an extremely capital intensive industry such as shipping. If the comparative advantages in wages was the crucial causal factor explaining Norwegian adaptation, one should expect stronger growth in more labour intensive sectors of the economy. In addition, capital costs and capital depreciation is a type of cost that is not easily measured in the available statistics, and including a better estimation of them would probably further reduce the potential comparative advantage given to a country from low wages.

⁶ Ibid, p. 62.

⁷ Gelina Harlaftis, *A History of Greek-Owned Shipping. The Making of and International Tramp Fleet, 1830 to the Present Day*, ed. Lewis R. Fischer, *Maritime History* (London: Routledge, 1996), Gelina Harlaftis and Costas Chlomoudis, "Greek Shipping Offices in London in the Interwar Period," *International Journal of Maritime History* V, no. 1 (1993), Gelina Harlaftis and John Theotokas, "European Family Firms in International Business: British and Greek Tramp-Shipping Firms," *Business History* 46, no. 2 (2004).

⁸ Gordon Boyce, *Information, Mediation and Institutional Development: The Rise of Large-Scale Enterprise in British Shipping, 1870-1919* (Manchester: Manchester University Press, 1995).

⁹ J.M. Valdaliso, "The Rise of Specialist Firms in Spanish Shipping and Their Strategies for Growth, 1860 to 1930," *Business History Review* 74, no. 2 (2000).

reference can be found pointing to such network relationships. Commissioned histories of Norwegian shipping companies seldom make reference to links with international agents, and histories of local home-ports seldom utilize archival resources to identify such links.¹⁰ It can be argued that when Norwegian ship-owners increasingly began operating in cross-trades, the ability to develop relationships between key agents in maritime centres became crucial. In an industry as reliant on acquiring correct information we may ask: What strategies did Norwegian ship-owners rely on to expand into international carrying trades after 1850, and what sort of external networks did the ship-owners develop in the period? Comparing the Norwegian ship-owning community with the Greek, we may ask if Norwegian ship-owners developed a Norwegian “diaspora” network in central international ports?

Investigating these questions the paper seeks to shed new light on the business strategies and institutional mechanisms that supported Norwegian maritime expansion into international cross-trades after 1850. We focus on the English freight market, the single most important market for Norwegian shipping, and present data from the port of Liverpool. The Atlantic trades became the key source of earnings for Norwegian shipping after 1850, and the port of Liverpool in many ways represented a gateway into these trades. We present data extracted from the Liverpool Bill of Entry on all Norwegian ships arrived in the port of Liverpool in five decadal sample years from 1855 to 1895. The Bill of Entry data for Liverpool makes it possible to identify both principal routes and cargoes, as well as the relationships between ships and Liverpool based shipping agents, and thus identify patterns of network relationship between Norwegian operators and key agents in the Liverpool freight market.

¹⁰ A significant exception is found in the analysis of the broker firm Fearnley and Eger, see Lewis R. Fischer and Anders Martin Fon, "The Making of a Maritime Firm: The Rise of Fearnley and Eger, 1859-1917," in *From Wheel House to Counting House: Essays in Maritime Business History in Honour of Professor Peter Neville Davies*, ed. Lewis R. Fischer, *Research in Maritime History* (St. Johns, Newfoundland: International Maritime Economic History Association, 1992).

The remainder of the paper is as follows: In the next subsection we analyze the role of the English freight market for Norwegian shipping, identifying particular features of Anglo-Norwegian commercial relations as they developed from around 1700 to 1850. The legacy of Anglo-Norwegian commercial relationships, in particular the timber trade as organised after 1700, obviously had important ramifications for the development after 1850. As we will argue, both long established commercial relationships and specialisation in the transportation of timber had important consequences for later developments. In the second subsection we discuss the role of the port of Liverpool in the decades following the repeal of the navigation act, focusing on the trades that Norwegian vessels entered. The final subsection presents evidence on Norwegian ship-owners relationship to agents in the port of Liverpool from 1855 to 1895.

Norwegian maritime expansion: the English Market

Throughout the 19th century, the English freight market was the single most important for Norwegian ship-owners.¹¹ In the 1870s it was estimated that earnings from Great Britain and Ireland accounted for 27 percent of total gross earnings from shipping activity, and this estimation probably understates the importance of the British freight market for Norwegian ship-owners.¹² Due to England's position as the key market in the international economy during the 19th century, it is likely that a large percentage of freight income recorded for other geographical destinations were related to English commercial activity. The combined income from geographical locations where Norwegian ships predominantly carried goods for the

¹¹ The discussion that follows will use the terms British and English interchangeably, hopefully not because of confusion of the meaning of the terms. Many of the sources published in the 19th century use Great Britain as denominating area. All evidence points to English ports being the far most important, and were possible the more precise denominator will be applied.

¹² Estimations published by Statistisk Sentralbyrå, C. No. 3 c., Tabeller vedkommende Norges Skibsfart I Aaret 1872, Chirstiania (1874), p. VII.

British market would reach over 50 percent, although this estimation should be taken as a rough indication.¹³

The importance of the English freight market had long established precedents. Ever since the mid 17th century, the English market was the central outlet for the single most important export commodity of Norway, namely timber, and Norwegian exports was by far the most important source of timber in the English market from the early 18th century.¹⁴ Timber, off course, had a particularly significant position in the shipping market, as it was one of a few bulky commodities that created most of the demand for shipping services prior to the late 19th century.¹⁵ The transportation of timber from Norway to ports in England was, thus, one of the key markets for shipping services, and during the 18th century, the Anglo-Norwegian timber trade expanded significantly, leading to increasing demand for shipping.¹⁶ According to Ralph Davies, the tonnage of shipping required to transport timber from Northern Europe accounted for nearly half of the total tonnage needed to carry English imports in 1751.¹⁷

The legacy of the Anglo-Norwegian timber trade would have important ramifications for later development of the Norwegian fleet. Studies of leading Norwegian timber dynasties suggests that the timber trade led to strong commercial links between Norwegian and English agents, and proficiency in English writing was common among timber exporters and ship-owners from the early 18th century.¹⁸ From that period, the timber trade was dominated by a

¹³ Based on data on arrivals of Norwegian ships recorded by the Swedish-Norwegian consular service, published by Statistisk Sentralbyrå. See Eivind Merok and Espen Ekberg, "Sail to Steam Revisited: Market Specialisation of the Norwegian Fleet, 1880-1914," *paper presented at the fifth IMEHA International Congress of Maritime History* (forthcoming). for a discussion of the sources and long-term trends in the Norwegian merchant fleets deployment. See also discussion in Helge W. Nordvik, "The Shipping Industries of the Scandinavian Countries, 1850-1914," in *Change and Adaption in Maritime History*, ed. Lewis R. Fischer and Panting (St Johns: 1985).

¹⁴ H.S.K. Kent, "The Anglo-Norwegian Timber Trade in the Eighteenth Century," *The Economic History Review*, New Series 8, no. 1 (1955).

¹⁵ Ralph Davis, *The Rise of the English Shipping Industry* (London: Macmillan & Co Ltd, 1962)., p 183.

¹⁶ S. Kjærheim, "Norwegian Timber Exports in the Eighteenth Century," *Scandinavian Economic History Review* V (1957).

¹⁷ Davis, *The Rise of the English Shipping Industry*. p. 184.

¹⁸ John Peter Collett and Bård Frydenlund, eds., *Christianias Handelspatrisiat: En Elite I 1700-Tallets Norge* (Oslo: Andresen & Butenschøn, 2008).

small number of agents on both the Norwegian and the English side, and several of the Norwegian timber exporters established their own importing business in London.¹⁹ Few Norwegian timber exporters chose to invest heavily in shipping, however, and outside London few English ship-owners owned vessels for this trade, thus, creating a sizable market for independent ship-owners.²⁰ Available evidence seems to indicate that Danish-Norwegian ship-owners took active part in this market. As reported by Ralph Davies, 71 percent of arriving tonnage from Norway or Denmark in 1771-3 was foreign, i.e. Norwegian or Danish under the provisions of the 1651 Navigation Act.²¹

While less is known about the Norwegian shipping agents participating in the transportation of Norwegian timber, some assumptions can be made. In particular, due to its high transportation costs timber had to be carried close to its final destination. Norwegian ships engaged in this trade, thus, had to carry timber to a large variety of ports, and Norwegian agents had a commercial presence in most western European ports from the early 18th century. In England, this led to a presence in most ports, with London being the dominant together with Hull and (later) Liverpool, but Norwegian ships carried timber to most outports in Britain.²² It is likely that agents involved in the shipment of Norwegian timber accumulated important commercial information about the shipping industry through this activity.²³

This position was clearly taken advantage of when international conflicts opened new opportunities for agents from neutral countries. The registered Danish-Norwegian tonnage increased dramatically in the period of turmoil after the American war of independence. Although tonnage statistics prior to 1800 are extremely sketchy, some indication of the development of the fleet can be given. According to A.N. Kiaer, the fleet could be estimated

¹⁹ For instance, the house of Collets, who ran importing businesses out of London through the partnerships Collett & Gram until the 1780s, see Anton Fredrik Andresen, "Luksusliv Og Samfunnsånd - John Collett Og Opplysningstidens Patriotisme," in *Christianias Handelspatrisiat. En Elite I 1700-Tallets Norge*, ed. John Peter Collett and Bård Frydenlund (Oslo: Andresen & Butenschøn, 2008).

²⁰ Collett and Frydenlund, eds., *Christianias Handelspatrisiat: En Elite I 1700-Tallets Norge*.

²¹ Davis, *The Rise of the English Shipping Industry*. p. 215.

²² *Ibid.*, pp. 213ff.

²³ Stein Tveite, "Engelsk-Norsk Trelasthandel 1640-1710" (Universitetsforlaget, 1961).

to consist of around 60.000 register tons in the years 1776-1778, increasing to around 110.000 register tons in 1792, and reaching 180.000 register tons by 1806.²⁴

The position of the Norwegian ship-owners in 1805 was thus enviable: The domestic exportation of timber gave them privileged access to an important freight market and the timber trade must have fostered strong commercial ties with what would become the leading trading nation in the following century. From 1809, however, the reliance on the English market had dramatic consequences as the introduction of timber duties led to a dramatic collapse in Norwegian exports and a corresponding decline in Norwegian registered tonnage. Existing records indicate that timber imports from southern cities of Norway fell by 47 percent from 1805 to 1819, rendering a large proportion of the fleet previously engaged in this trade superfluous.²⁵ In the crisis that followed, most of the established timber dynasties, that were the focal point for Anglo-Norwegian commercial links, went bankrupt.²⁶

Much of what we know about the institutional foundations for Norwegian shipping activities in the 18th century is derived from studies of the leading timber houses. Evidence of trading and shipping activities is far more sketchy for the period after 1814, when most of these houses were in the process of dissolving their activities. Some aspects of the general pattern of development can be ascertained. The crisis in the Anglo-Norwegian commercial relations was partly compensated through a reorientation of Norwegian timber exports to alternative markets. This could not compensate for the general decline in shipping, and the registered tonnage fell from 175.700 in 1816 to 128.200 tons in 1825.²⁷

The accession of Norway from Denmark to Sweden following the peace in Vienna did open new opportunities. Throughout the 18th century the Kingdoms of Denmark and Sweden

²⁴ A. N. Kiaer, "Historical Sketch of the Development of Scandinavian Shipping," *The Journal of Political Economy* 1, no. 3 (1893).

²⁵ Ibid.

²⁶ Jacob S. Worm-Müller, *Christiania Og Krisen Efter Napoleonskrigene* (Kristiania, i kommission hos Grøndahl, 1922).

²⁷ Kiaer, "Historical Sketch of the Development of Scandinavian Shipping."

had developed a consular service in order to support international commercial expansion. It seems that few Norwegian agents participated in Danish international trade before 1814, however, as this activity was largely concentrated in Copenhagen.²⁸ After the accession to Sweden, Norwegian ship-owners gained access to a widely dispersed consular service, and equally importantly, from May 1825 Norwegian ships were given equal access to carry Swedish bulky exports from Sweden. This broadened the available market for Norwegian shipping, and available evidence indicates that Norwegian ship-owners eagerly took up the opportunity. The reciprocal treatment of Norwegian and Swedish ships led to marked increase of Norwegian ships in Swedish trade, and the statistician A.N. Kiaer reported that the tonnage of Norwegian ships entering Sweden increased by a factor of 4,6 from 1827 to 1840, and the percentage of Norwegian ships of all ships entering Sweden increased from 4 percent in 1819 to 34 percent in 1849.²⁹ The expansion into the Swedish freight market was also accompanied by a broader engagement in international carrying trade.³⁰

By 1849, then, the Norwegian fleet had recovered from the dramatic decline after 1809, and the repeal of the Navigation Act in many ways reopened the traditionally important English freight market for Norwegian ship-owners. It is to that development we now turn.

²⁸ Leos Müller, "Swedish-American Trade and the Swedish Consular Service, 1780-1840," *International Journal of Maritime History* XIV, no. 1 (2002), Leos Müller and Jari Ojala, "Consular Services of the Nordic Countries During the Eighteenth and Nineteenth Centuries: Did They Really Work," in *Resources and Infrastructure in the Maritime Economy, 1500-2000*, ed. Gordon Boyce and Richard Gorski, *Research in Maritime History* (St. John's, Newfoundland: International maritime economic history association, 2002).

²⁹ Kiaer, "Historical Sketch of the Development of Scandinavian Shipping.", p.344.

³⁰ Nordvik, "The Shipping Industries of the Scandinavian Countries, 1850-1914.", p. 120.

Norwegian shipping after the Navigation Act: the case of Liverpool

The repeal of the Navigation Act opened the British freight market for Norwegian ship-owners, and the promises of such a liberalisation might have been perceived as particularly bright for the Norwegian merchant marine, as Norwegian ships had managed to compete successfully in trades opened to them after 1825.

As expected, the overall activity of Norwegian shipping on Great Britain increased markedly after 1849, with annual growth far outstripping the growth in activity in other areas.³¹ A gradual orientation towards international carrying trade is discernable in the port statistics. While Norwegian ship arrivals had prior to 1850 been scattered across most of the British ports, a fact reflecting the high transportation cost of timber, activity would from 1855 increasingly be concentrated in the leading foreign trade ports in England. Among these, Liverpool would become the port that experienced the highest growth of Norwegian activity, increasing its share of all Norwegian arrivals in Great Britain and Ireland from a mere 3,2 percent in 1855 to 15 percent in 1875. By then, the leading foreign trade ports of England represented almost 80 percent of all arrivals in Great Britain and Ireland, with London (42 percent), Newcastle (21,2 percent) and Liverpool (15 percent) being the most prominent.³²

The expansion of activity in Liverpool was marked, and this in many ways represented a new market for Norwegian ship-owners. Prior to the repeal of the navigation act, we find few if any Norwegian ships arriving in Liverpool, as Liverpool timber importers had since the

³¹ Estimations based on published figures of arrivals in various international ports Statistiske centralbureau, see footnote 13.

³² Figures of arrived tonnage is based on records published by Det statistiske centralbureau, C. No. 3 c., *Tabeller vedkommende Norges Skibsfart i Aaret 1866*, Chirstiania (1868), and C. No. 3 c., *Tabeller vedkommende Norges Skibsfart i Aaret 1875*, Chirstiania (1877).

1820s been oriented towards exporters in North-America.³³ From a low base in 1855 when only 35 Norwegian ships arrived in Liverpool representing a total carrying capacity of 7 225 tons, the growth of activity thereafter would outstrip the growth of production in all other areas. As presented in table 1, Norwegian tonnage arriving in Liverpool doubled from 1855 to 1865, increased by a factor of 8,4 between 1865 to 1875. By 1885, then, the total arriving tonnage in Liverpool was above 180 000 tons.

Table 1: Arriving Norwegian Tonnage in the Port of Liverpool, 1855-1895, total tonnage and country/area of departure

	1855	1865	1875	1885	1895
Total Tonnage	7 225	15 736	138 405	182 180	127 967
<i>Annualised growth rate</i>	<i>11,78</i>	<i>7,84</i>	<i>3,19</i>	<i>-2,98</i>	
- Norway	1 939	4 525	22 254	40 602	45 853
- Canada	0	2 489	42 875	46 479	27 011
- USA	480	765	33 553	54 790	20 099
-South America	489	3 422	19 531	21 488	17 206
-Western Europe	1 933	3 107	5 740	8 742	10 048
-Eastern Europe	150	295	8 431	3 756	525
- Africa	1 954	584	164	0	533
- Asia	280	549	5 857	6 323	2 006
- Oceania	0	0	0	0	4 686

[Sources: Liverpool Bill of Entry for the years 1855, 1865, 1875, 1885, 1895]

This expansion was partly due to a revival of the direct trade from Norway. Table 1 above records the departure country or area of Norwegian ships arriving in Liverpool. As we see, direct arrivals from Norway represented the most important route in all years except 1875 and 1885, and consistently among the three most important routes. As a percentage of total arrivals, arrivals from Norway represented between 25 and 32 percent in 1855 to 1885, and

³³ Simon, timber trade, Liverpool, we did three samples from 1845, 1835 and 1825 of the months may to june, but managed to identify only five ships each years.

increased to close to half of the arrivals in the 1895 sample. The increase in the direct trade from Norway to Liverpool was largely a result of the gradual liberalisation of the duties on Norwegian timber after 1850. Out of all Norwegian arrivals in Liverpool, ships carrying timber from Norway represented between 14 percent (1895) and 6 percent (1875).

Still, the most important factor behind the Norwegian expansion on Liverpool was the entry into the international cross-trades of Liverpool. The far most important of these became the trades across the Atlantic between US and British North America, respectively, and Liverpool. The importance of the Atlantic trades for Norwegian ships arriving in Liverpool is well reflected in the figures. As shown in table 1, the most important source of growth was the trade from Canada, US and South America, which accounted for over 67 percent of all arriving tonnage in 1885.

This pattern can partly be explained by the collapse in the US merchant marine after the civil war. As reported by Graham Milne, US registered ships had dominated among sailing ships arriving in Liverpool in the first decade after the repeal of the Navigation Act, representing close to half of all arriving sail tonnage in 1855. The collapse of the US merchant fleet in the following decades was marked, and by 1870 American arrivals represented only 15 percent of arriving sail tonnage.³⁴

The specialisation on the Atlantic trades stands out as one of the most significant feature of the Norwegian fleet. Compared to the overall maritime activity in Liverpool, it is striking that Norwegian ships hardly participated in the Mediterranean trades, nor participated in any significance in the trades on the Far East. For instance, of all arrivals in Liverpool in 1870, arrivals from the Mediterranean represented 21 percent, while the corresponding figures for Norwegian ships were in 1875 a mere 2 percent. Similarly, while arrivals from Canada

³⁴ Graeme J. Milne, *Trade and Traders in Mid-Victorian Liverpool. Mercantile Business and the Making of a World Port* (Liverpool: Liverpool University Press, 2000), table 2.2, p. 37.

and US represented 30 percent of all arrivals to Liverpool, arrivals from these destinations represented almost half of all Norwegian arrivals in 1875.³⁵

This pattern of specialisation in particular routes corresponds closely with the type of cargoes typically carried by Norwegian ships. Table 2 gives information about the principal cargoes carried by arriving ships. The Liverpool Bill of Entry often lists several cargoes, and the classification here is based on the first (and often the only) listing in the itinerary. Not surprisingly, bulky goods as timber, cereals, cotton and sugar, loom large as cargoes, comprising between 67 percent and 86 percent of the classified tonnage. What is striking, however, is the extreme reliance on the timber trade, representing close to 70 percent of all tonnage arriving in the peak year 1885. The growth of Norwegian shipping on Liverpool was largely based on the expansion into the timber trade of North America. For example, from 1865 to 1875, this tonnage represented 38 percent of the total increase in arriving tonnage

Table 2: Principal cargoes carried by Norwegian vessels arriving in Liverpool, 1855-1875

	1855	1865	1875	1885	1895
Total tonnage	7 225	15 736	139 111	183 423	128 725
<i>Timber</i>	27,8	58,3	64,7	69,5	64,8
<i>Cereals</i>	22,2	3,5	1,4	1,1	5,9
<i>Cotton</i>	11,2	7,9	16,2	11,0	0,4
<i>Sugar</i>	6,1	3,5	1,7	4,3	3,4
<i>Ice</i>	4,6	2,2	3,5	3,0	6,2
<i>Oil-related</i>	0,0	1,3	2,4	1,5	1,2
<i>Iron</i>	0,0	0,0	0,3	2,0	0,0
<i>Other cargoes</i>	28,2	21,4	9,6	7,5	18,0

³⁵ Ibid., table 3.1, p. 58. Milne reports summaries of all arriving vessels for the sample years 1855, 1863 and 1870. The Norwegian figures have been extracted for the year 1875, based on the Bill of Entry sources used elsewhere.

The Norwegian maritime expansion in Liverpool was, thus, largely based on carrying a familiar cargo from unfamiliar areas. In 1885, ships carrying timber from the US or Canada accounted for close to a third of all arriving tonnage, while the combined role of vessels carrying timber from all destinations account close to 70 percent of all arriving tonnage in 1885. It can be noted that Norwegian vessels had a significantly lower net carrying capacity than sailing vessels from other destinations. The average carrying capacity of Norwegian vessels Graham Milne’s sample was estimated to be 232 tons in 1855 as compared to 485 for Liverpool registered vessels, and 1046 for US registered vessels. The difference was not significantly reduced by 1870.³⁶

Table 3: Arrived tonnage with timber as principal cargo, total and from different areas (percentages in brackets)

	1855	1865	1875	1885	1895
Total	2 010	9 318	89 500	125 983	82 402
<i>Norway</i>	1 330 (66,2)	3 670 (39,4)	16 267 (18,2)	33 940 (26,9)	35 623 (43,2)
<i>Canada</i>	480 (23,9)	765 (8,2)	32 444 (36,3)	52 985 (42,1)	20 099 (24,4)
<i>US</i>	0	1 092 (11,7)	16 320 (18,2)	21 215(16,8)	18 347 (22,3)
<i>South-America</i>	200 (10)	1 499 (16,1)	11 852 (13,2)	9 728 (7,7)	6 807 (8,3)
<i>Eastern-Europe</i>	0	295 (3,2)	7 397(8,3)	3 502 (2,8)	0
<i>Western-Europe</i>	0	1 997 (21,4)	5 220 (5,8)	4 613 (3,7)	1 526 (1,9)

The expansion into the Atlantic cross-trades was by far the most important factor behind Norwegian maritime expansion in the 1850s and 1860s. By the early 1870s, the trades across the Atlantic were the most significant for Norwegian shipping, and important elements of this trade was centred on Liverpool.³⁷ The importance of Liverpool, however, cannot

³⁶ Ibid., table 2.2, p 37. Milne’s sample is based on vessels arriving in February, June and October. Our sample of Norwegian ships is based on arrivals for the entire year, and our estimations for average carrying capacity presented in table 1 diverges somewhat.

³⁷ Ibid.

exclusively be gauged by raw tonnage figures. As a key port for the Atlantic trades, the Liverpool mercantile community represented the gateway into these new trades for the Norwegian ship-owners. The port of Liverpool, thus, represented a key institutional arena for Norwegian ship-owners seeking to find new sources of employment after the repeal of the Navigation Act. In the next sub-chapter we will present new data on the agencies that represented the gateway into the Liverpool freight market.

Anglo-Norwegian Networks in the port of Liverpool

As we have seen, Norwegian maritime activity on Liverpool grew strongly after 1849, and most of this growth can be explained by entry into the Atlantic timber trades. Carrying timber was, of course, a type of cargo that Norwegian operators were familiar with, but the entry into this international carrying trade involved establishing commercial knowledge and relationships in areas where Norwegian ship-owners had few previous experiences.

The literature on Norwegian maritime history has paid relatively little attention to Norwegian activities in international ports. In the shipping industry, however, relationships between ship-owners, shipping agents, traders and merchants were of vital importance, and these relationships often had a geographical centre in central foreign trade ports. In order to assess profitable chartering opportunities and keep the vessel occupied, ship-owners and masters relied on acquiring information from agents and other participants in the mercantile community, and forging links with such agents must have been a vital for the Norwegian growth in international carrying trades.

In an information intensive industry as the shipping industries, therefore, network relationships could influence income opportunities. The relationship to shipping agents could

also be vital for controlling costs. As mentioned in the introduction, the debate on Norwegian maritime expansion has focused on low wages as the single most important explanation. While dubious in itself, the focus on wages may also have overshadowed other important costs accrued by the vessel. The best available source for identifying the cost-structure of Norwegian ships active in international carrying trade remains a survey of accounts gathered by A.N. Kiær in the late 1860s and early 1870s, which is based on returns from 159 ships. The data indicates that wages and provisions to sailors represented a total 25 percent, while fees to agents and other port costs represented around 26 percent of all costs.³⁸ The costs accrued in ports were, therefore, a significant proportion of costs, and could be expected to influence profitability.

In the following we will focus on the shipping agents responsible for handling Norwegian vessels entering Liverpool. Shipping agents could have varying roles in the mercantile community of a port, and the dividing lines between a shipping agent, shipowner, broker and merchant, could in many places be blurred. According to Milne, however, a process of functional diversification between the shipping community and the merchant community was well underway in most trades operated by sailing ships by 1850, a process that would further strengthen with the introduction of steamers. This process was largely a result of the complexities involved in acting as an arriving ship's agent. For the ship-owners, a significant proportion of costs accrued while the vessel was in port, and manoeuvring through the bureaucracy of various port authorities was time consuming and could be costly if errors were made. In the shipping side of the business, therefore, it was customary from the mid 19th century for ship-owners to entrust these tasks to a shipping agents, typically creating an alliance with one or a few agencies that would handle all vessels of the ship-owner entering

³⁸ Figures reported in Statistisk Centralbureau, *C. No. 3, Tabeller Vedkommende Norges Handel Og Skibsfart I Aaret 1874* (Christiania: 1876).. The full aggregate account includes the following costs: chartering, port-costs, ordinary maintenance, extraordinary repairs, provisions, depreciation, insurance of ship and cargo, captains pay, pay to sailors, provisions to crew and net dividend. Note that this is a different cost survey than the one applied by Fisher and Nordvik in their study of wages, see footnote 5.

the port. Shipping agents would handle most of the administrative tasks for the vessel, tasks ranging from reporting a cargo inward, loading and unloading a vessel, paying the necessary bills, and for ship-owners living outside Liverpool, it was customary to allow the shipping agent wide discretion to charter the ship, as the agent would be in close contact to the trading community.³⁹

There are good reasons to expect that the shipping agents handling Norwegian ships entering Liverpool played an important role for Norwegian ship-owners and masters. As we recall, Norwegian ship-owners had few or no previous experience in the carrying trades of Liverpool. And in the particular trades that Norwegian vessels increasingly entered, Norway had few or no previous commercial relations to support ship-owners seeking chartering opportunities. Who, then, were the shipping agents serving Norwegian ships arriving in Liverpool? How many agents were there? How did they operate and to what extent did they reflect the same type of Diaspora network utilised by Greek ship-owners?

Bellow, we report information on the shipping agents listed as inward agents for all Norwegian ships in the sample years.⁴⁰ Table 4 bellow reports the tonnage handled by all agencies responsible for two or more vessels in the sample years.

³⁹ Milne, *Trade and Traders in Mid-Victorian Liverpool. Mercantile Business and the Making of a World Port.*, pp 104ff

⁴⁰ The Bill of Entry for Liverpool reports agents for both arriving and departing vessels, but the listings for arriving vessels are far more detailed and were therefore chosen. This choice potentially introduces a bias, see the discussion in the appendix.

Table 4: Shipping agents handling two or more Norwegian vessels arriving in Liverpool, 1855-1895

	1855	1865	1875	1885	1895
Bahr, Behrend & Co	253	2 074	5 907	42 866	39 592
M Foyn (S)	823	3 053	288	-	-
Suter, M Neilledge & Co	1 962	3 708	38 078	28 550	-
J C Hansen & Co (S)		3 760	27 416	7 291	1 050
D E Gauwin & Co	3 005	-	-	-	-
Lamport & Holt		2 048	-	-	-
Brodersen, Vaughan & Co (S)			34 690	30 780	21 642
Moos & Co			27 550	-	-
N Johansen & Dahl (S)				25 919	25 773
P M Guffie & Co				4 798	
Pedersen, Salvesen & Co (S)				31 912	
R Burns & Co				5 612	
Goodyear & Co					1 899
A Byford & Co					9 139
Japp & Kirby					6 647
Lorentz & Gjersoe (S)					4 809
Vogt & Maquire					4 496
Others	1 182	1 093	5 182	5 695	13 042
Total	7 225	15 736	139 111	183 423	128 089

A general finding illustrated in the table is how Norwegian masters and ship-owners seem to have developed strong links with a small number of agencies. These agencies handled the bulk of all Norwegian vessels, and the concentration of vessels among the most important agencies each year was high: the five agencies handling most tonnage each year were responsible for between 77.5 and 100 percent of all arriving tonnage. It may be noted that few of the agencies are represented in all the sample years. In fact, the well known Bahr, Behrend & Co is the only agency handling Norwegian ships in all the sample years. This may be explained by the relatively long period under study, as the partnerships usually changed names or disbanded when one of the partners exited the business. The absence of a group of agencies with dominant position throughout the sample period may however also indicate

some fluidity in the network structures that surrounded Norwegian shipping agents in Liverpool.

How did the agencies operate? As we still lack detailed archival research into these agencies, there is still a wide lacuna in our knowledge about these matters. Still, some aspects of their operations can be ascertained through the listed information. The dominance of a few agencies in each sample year seems to underline the importance of these agents for Norwegian ship-owners and masters in Liverpool, as central hubs in the network structure surrounding Norwegian ship-owners activity in the port of Liverpool. An analysis of the merchants listed as receivers of cargo revealed no evidence of a similar clustering of Norwegian vessels to Liverpool merchants, indicating that the chartering of Norwegian vessels was not controlled by leading merchants.

The agencies listed seem also to have dealt mainly in the shipping agency business, and we find little evidence that they mainly handled vessels active in particular trades. In order to assess the profile of the most important agencies we collected additional information on the agencies handling most tonnage in the sample years 1865, 1875, 1885 and 1895. For every agency, we gathered information on all the vessels handled by the agency for a five month period. The data revealed that very few of the agencies seem to have specialized in dealing with particular trade routes or commodities. Of the 17 shipping agencies in the total sample only one agency – M. Foyn & Co – dealt exclusively with ships in one trade, the timber trade from Norway, and the typical pattern was that the agency handled ships arriving from several ports, carrying all sorts of cargo.

As the reader may well have noticed, several of the shipping agents presented in table 4 had listed partners with Scandinavian surnames. If this is taken as an indication that the partnership was of Scandinavian (or even Norwegian) origin, our material indicates a growing presence of such agencies. Agencies were one of the partners had a Scandinavian surname

handled an increasing proportion of arriving Norwegian tonnage, reaching 52 percent in 1885. As shipping agents, off course, also could have several unlisted partners or take in junior partners with a Scandinavian background, the figures here represent a lower bound estimate.

The question remains whether these agents were representatives of a Norwegian Diaspora community in Liverpool? An analysis of the shipping agencies seems to confirm that several of the partnerships specialized in dealing with Norwegian ships. The agency Brodersen, Vaughan & Co, for instance, was listed as handling agent for Norwegian vessels with a net carrying capacity of 34 690 in 1875, and was the second most important shipping agency for Norwegian vessels in Liverpool in 1885 and 1895. An analysis of their total activity for the same years reveals that the agency handled Norwegian vessels exclusively. Similarly, the agencies N. Johansen & Dahl and Pedersen, Salvesen & Co, among the most important from 1885 worked with only Norwegian vessels throughout the period. Hence, while agencies refrained from specialising in particular trades or in freight from particular ports they seem to have specialised in chartering ships from a selected nationality. As such the data may indicate a Diaspora structure also surrounding the Norwegian merchant fleet.

A closer look at table 4 should, however, warn the reader against reaching this conclusion. Firstly, several of the most important agencies in terms of handled tonnage had no listed partners with a Scandinavian surname, the agencies Bahr, Behrend & Co and Suter, M Neilledge & Co being the most prominent examples. For most of the period covered here, the majority of tonnage was in fact handled by agencies with no Scandinavian partners. In addition, several of the agencies here counted as “Scandinavian” were Anglo-Scandinavian partnerships. Judging by this, Norwegian or Scandinavian agents were not expatriate agents, but integrated into the Liverpool Mercantile Community. A further evidence of this integration is found in the activity of the partnership Suter, M Neilledge & Co. An analysis of

the list of vessels handled by this shipping agent reveals that they handled Norwegian vessels and British vessels exclusively in the period.

How important were the shipping agents? Without archival evidence it is difficult to ascertain their role in finding profitable employment. Our data do however provide some indication of their importance. There are no evidence to suggest that either one of the agencies were essential for entering a particular trade. The crucial Canadian and US timber trade to Liverpool was handled by all agencies with significant portfolios of vessels. Similarly, virtually all major agencies were responsible for handling vessels carrying cotton. An analysis of the activities on different ports also reveals that all agencies were involved with vessels arriving from the most important destinations.

Indirectly, however, the profiles of some of the agencies suggest that they developed in close concert with Norwegian shipping interest. For instance, the entry of Norwegian ships into the sugar trade seems to have been closely connected to the activities of the shipping agents Pedersen, Salvesen & Co as virtually all ships arriving with sugar were handled by this agent from 1885. The list of vessels handled by Brodersen, Vaughan & Co seems also to indicate that the agency both handled vessels employed in the direct trade with timber between Norway and Liverpool and as an agent for vessels active in carrying timber from other areas. In the year 1885, for instance, Brodersen, Vaughan & Co were listed as agent for 74 vessels, 56 of which were carrying timber as their principal cargo, arriving from Archangel, Pensacola, and various Canadian and Norwegian ports. The list of vessels handled by the partnerships, thus, seems to reflect the expansion of Norwegian shipping interests, carrying the traditional Norwegian staple export commodity from new destinations.

Discussion

The expansion into cross-trades was the key factor in the growth of Norwegian merchant fleet in the last half of the 19th century. Since the mid 1850s, a majority of the freight income was earned carrying freight between foreign ports, and a large proportion of the Norwegian fleet rarely entered a Norwegian port. Still, few studies of the Norwegian merchant marine have attempted to study the activity of Norwegian ships in international ports, and published work, either of individual companies or Norwegian home-ports, seldom make extensive reference to the relationship between ship-owners in Norway and agents in foreign ports. A key aspect of the business strategies of Norwegian ship-owners in the period, and the institutional mechanisms that supported Norwegian maritime expansion, has been neglected.

This paper attempts to make a first step towards remedying this. In the introduction we raised three principal questions motivating the paper: What strategies did Norwegian ship-owners rely on to expand into international carrying trades after 1850, and what sort of external networks did the ship-owners develop in the period? In addition, we asked if Norwegian ship-owners developed a Norwegian “diasporas” network in central international ports.

Indirectly, the data presented in this paper can reveal some aspects of the business strategies applied by Norwegian ship-owners. Firstly, we argue that the institutional legacy created through the Norwegian timber exporting sector had important ramifications for the business decisions made by Norwegian ship-owners when entering the international carrying trade. As we have seen, the timber trade created a sizable market for Norwegian tonnage after 1700, and much of this was independent from the timber exporting dynasties. This created a

strong pattern of specialisation, both in regards to the type of ships typically owned by Norwegian ship-owners, and in the typical trades vessels from Norway entered. After the repeal of the Navigation Act, Norwegian entry into the British freight market seems to have followed this line of specialisation closely. With few exceptions, Norwegian ships arriving in Liverpool were typically smaller sailing vessels, and their cargo was predominantly bulky commodities as timber, cotton, sugar and cereals, with timber being the far most important. A plausible hypothesis, at least, is that Norwegian ship-owners applied business strategies that had been developed since 1700 when entering the carrying trades across the Atlantic. Our analysis, thus, indicates a strong continuity in business strategy that allowed Norwegian vessels to compete successfully first in direct trade between Norway and England, then in the direct trades between Sweden-Norway and England, and, finally, for freights between North-America and England.

In the port of Liverpool, the specialisation into the Atlantic timber trades is particularly striking, as the port's total trading activities could have opened several sources of alternative employment. This uneven distribution is perhaps not the finding we would expect if a low cost strategies (implicitly implied in most established analysis) was the only common denominator. In contrast, the specialisation in a few select trades indicates that technological specialisation, human capital accumulation or institutional path-dependencies shaped Norwegian adaptation well into the last decades of the 19th century. Norwegian masters and ship-owners sought out trades where Norwegian sailors had experience, and where their vessels were well adapted.

The findings in our paper needs to be interpreted within the broader framework of Norwegian shipping activities as it emerged as a result of Norway's own export of timber. Turning to our analysis of the post-1850 developments our data is indicative of a business strategy where outsourcing of key aspects of management was important source of new

growth. Shipping agents, Norwegian or foreign, based in key international ports seems to have played a major role in Norwegian maritime expansion. This finding is perhaps not revolutionary, but it is at odds with the treatment shipping agents have been given in the existing literature. Understanding the role of shipping agents in this period would obviously demand further archival studies, but including foreign based shipping agents in such searches would in our mind be essential.

In addition to business strategy, the paper has sought to identify the external networks supporting Norwegian shipping activities in the port of Liverpool. The analysis has come some ways in identifying the institutional mechanism that supported Norwegian maritime activities in the port of Liverpool from 1855 to 1895. Again, our data seem to underline the legacy of the timber trade on Anglo-Norwegian commercial relations since the early 18th century, both through the close institutional amorphism of Norwegian and English agencies and through the type of cargoes typically handled by Norwegian ships.

The formation of an Anglo-Norwegian trading network from the early 18th century is well documented in the existing literature. How these relationships evolved through the commercial crisis in Anglo-Norwegian trade from 1809 to 1849 is, however, less clear. The rapid expansion of Norwegian maritime activity in Liverpool after 1849 seems to suggest that the pre-existing linkages helped prepare the ground for maritime expansion. Norwegian ship-owner's and shipping agents were relatively quick to become involved in the mercantile activities of Liverpool, and the Norwegian fleet was the fastest growing foreign fleet in Liverpool after 1850. Our data indicates that a large number of new Scandinavian or Anglo-Norwegian shipping agents were established in Liverpool throughout the period, and there seems to have been a parallel expansion of Norwegian timber exports, Norwegian vessels carrying timber and shipping agents with close ties to the Norwegian ship-owning community.

The expansion into the cross-trades organized from Liverpool was in many ways based on carrying a familiar cargo from unfamiliar areas. A high proportion of the growth in arrived tonnage can be attributed to the expansion into the trade in timber from south-America, the US and Canada to Liverpool. In these trades, Norwegian ship-owners had few if any pre-established commercial relationships to rely on, and it is likely that the entry into this trade was heavily reliant on utilizing the commercial network organized from and around Liverpool.⁴¹

The analysis of the shipping agents responsible for all Norwegian ships entering Liverpool in the sample years documents that Norwegian ship-owners and captains relied on a small number of agents in each sample year, and most of these agencies specialized on dealing with Norwegian ships entering Liverpool. Throughout the period, the five agencies responsible for handling the highest tonnage of ships represented 77 to 100 percent of all arriving tonnage. In the mercantile community of Liverpool, with a multitude of agencies operating, this concentration is worth noting. Although there was considerable shift among the agencies that handled Norwegian ships, the concentration is a consistent feature. A rather high proportion of the agencies also had listed partners with Scandinavian surnames, and the analysis of key shipping agents total handling list seems to confirm that these agencies specialized in dealing with Norwegian ships.

So far, it seems that the data assembled for this paper documents an expatriate Norwegian maritime community in Liverpool, much the same as identified in studies of the Greek merchant fleet. As mentioned in the introduction, studies of the Greek merchant fleet seems to suggest that a key factor behind its expansion was the development of what seems to be a closed network of Greek traders, shipping agents, and ship-owners. Our analysis has,

⁴¹ It may be noted that the Swedish-Norwegian consular service may have been an alternative source of information for Norwegian ship-owners, in particular for South-American markets. See Müller and Ojala, "Consular Services of the Nordic Countries During the Eighteenth and Nineteenth Centuries: Did They Really Work."

however, identified some particular features of the Norwegian case. Agencies that are here presented as “Scandinavian” (ie were one partner has a Scandinavian surname), did not, handle the entire Norwegian tonnage arriving in London, and only in one year did these agencies handle a majority of the arriving tonnage. While the Scandinavian presence is significant, it is important to note that a Norwegian ship was just as likely to use British agencies specialising on Norwegian ships. It is also worth noting that several of the agencies were Anglo-Norwegian partnerships, or as the example of Suter & Co shows, English agencies specialising in carrying British and Norwegian ships exclusively. This indicates a stronger integration of Norwegian expatriate commercial agents into the mercantile community of Liverpool.

The most prominent finding in our study is therefore that Norwegian merchant fleet relied on an Anglo-Scandinavian group of agents in the port of Liverpool, and this indicates a stronger integration of Norwegian shipping agents than has previously been documented for the comparable Greek case. This feature is perhaps most readily understandable in light of the long trading relationships between Norway and Scandinavia and Britain. It must also reflect the openness of the Liverpool merchant community for integrating foreign operators into the mercantile community in the port. In light of the Norwegian example of Anglo-Scandinavian integration, it is perhaps more surprising that some nations, as the Greeks, kept to themselves, relying on exclusive Greek international networks.

Identifying the shipping agents responsible for Norwegian ships arriving in Liverpool reveals a complex configuration of agents. Few agents, it seems, choose to specialise in a particular trade, the only example being one Norwegian agent specialising in the timber trade between Norway and Liverpool. The more representative strategy of agents was to handle a variety of cargoes from different ports, but it seems that most of them were consistently choosing to charter ships from a selected nationality. With the exception of Bahr& Behrend,

who represented a major agency in Liverpool in the period, most of the agencies represented in our sample were specialising in Norwegian tonnage. This seems to indicate that the agents represented in our sample were primarily specialising on handling a national fleet, and the most convincing interpretation would be that they had a key role in connecting the mercantile community of Liverpool to the Norwegian shipping community.

As mentioned in the introduction, very little is known about the relationships between Norwegian ship-owners and foreign commercial centres during the 19th century. This paper has identified the key agents involved in chartering Norwegian ships in the port of Liverpool. We furthermore suggest that the paper has identified some particular features of the relationship between ship-owners and shipping agents in foreign ports, making it possible to identify some particular features of the institutional mechanisms available for Norwegian ship-owners.

While this may be an important first step, much remains to be studied. Most importantly, the data presented here identifies the institutional mechanisms used by Norwegian ship-owners, but it does not give conclusive evidence if this gave ship-owners an advantage or disadvantage in competition with ship-owners from other countries. While it is often claimed that networks in the maritime world were beneficial for ship-owners, providing trust and easy transmission of information⁴², the opposite can also be suggested. The ship-owners reliance on a few gateways into the Liverpool shipping market can be viewed as a disadvantage as the agents in Liverpool could achieve market powers, and thus receiving monopoly rents on services provided to Norwegian ships. Or, in the words of network theory, the agents in Liverpool would be situated as central hubs between agents in two previously separate network structures, a network of Norwegian ship-owners, on the one side, and the Liverpool mercantile community, on the other side. Agents bridging two networks could in

⁴² In particular, Harlaftis and Chlomoudis, "Greek Shipping Offices in London in the Interwar Period.", Harlaftis and Theotokas, "European Family Firms in International Business: British and Greek Tramp-Shipping Firms."

this line of reasoning be seen as filling structural holes, and the main beneficiaries of the structure would be the agents themselves.⁴³

Furthermore, one could argue that the reliance on few agents in Liverpool could lead to biases in what sort of information that reached the community of Norwegian ship-owners. The relationship between Norwegian ship-owners and Liverpool agents are a typical example of what Mark Granovetter has termed strong ties. Their weakness, obviously, is that although they may foster trust and reciprocity on behalf of the involved agents, a network of strong ties would be a more limited channel of information for Norwegian ship-owners, as compared to a situation where Norwegian ship-owners relied on a larger number of agencies. The heavy specialisation in a few trades, and absence in others, may be indications of such a channelling effect.⁴⁴

On basis of the institutional mechanism identified here, it is possible to suggest several opposing hypothesis on how this mechanism affected the overall expansion of the Norwegian fleet. These hypotheses could potentially be confronted by empirical evidence, if it were possible to collect information about the real costs of Norwegian ships entering international cross-trades in the 1850s and 1860s, comparing the costs paid by Norwegian ship-owners in varying institutional arenas, or comparing the costs paid by Norwegian ship-owners to ship-owners operating from other countries.

In concluding this paper we would like to underline again the importance of these costs. The central argument in the historiography is that the Norwegian maritime expansion was caused by Norway's comparatively lower wages. It is important to note that wages represented only a fraction of costs for ship-owners, and other costs related to chartering or handling the ship once at dock was equally significant. The costs involved in entering a port, arguably reflecting the cost of relying on information from third-parties, was therefore a

⁴³ This argument is derived from Ronald Burt, *Structural Holes* (Cambridge: Harvard University Press, 1992).

⁴⁴ Mark Granovetter, "The Strength of Weak Ties," *American Journal of Sociology* 78 (1973).

significant factor determining profitability, and the relationships between ship-owners and agents could reasonably be expected to influence these costs.

Appendix

The data presented in the paper is based on a three samples extracted from the Liverpool Bills of Entry. The primary sample records all Norwegian arriving ships consists of records from the years 1855, 1865, 1875, 1885, and 1895. For the period covered by the paper, the bills were published up to three times a week, and contain information about the port of departure and date of departure, basic information about the vessel and it's master, the cargo(s) and the recipients' of the cargo, and lists the shipping agent responsible for the vessels. Here we present data based on listed port of departure, carrying capacity, handling agents, and principal cargo. The principal characteristics of the primary sample are recorded in table 1 bellow.

Table X.1: Principal characteristics of primary sample

	1855	1865	1875	1885	1895
Number of ships	36	55	316	368	218
Total carrying capacity	7225	15736	139111	183423	128725
Average carrying capacity	200,69	286,11	440,22	498,43	590,48
Total number of handling agents	7	9	11	16	23

[Sources: Liverpool Bill of Entry's, accessed in microfilmed version at the Merseyside Maritime Museum]

In addition we constructed a second sample of handling agencies that were important for Norwegian ships in the years 1865, 1875, 1885 and 1895. We selected four to six handling agencies each year and recorded all ships handled by these agencies for five sample months, typically march to July. The selected agencies represented in this second sample are arguably

highly representative of the shipping agents. As documented in table 6 bellow, the five agents responsible for handling the largest amount of tonnage, represented between 77,5 to 100 percent of all arriving tonnage.

Table X.2: Tonnage handled by largest Liverpool shipping agents, 1855-1895

	1855	1865	1875	1885	1895
Total arriving tonnage	7 225	15 736	139 111	183 423	128 089
<i>Three largest agents</i>	<i>80,1</i>	<i>66,9</i>	<i>72,1</i>	<i>57,5</i>	<i>67,9</i>
<i>Five largest agents</i>	<i>100</i>	<i>93,1</i>	<i>96,1</i>	<i>77,5</i>	<i>85,2</i>
<i>"Scandinavian" agents</i>	<i>11,4</i>	<i>43,3</i>	<i>44,9</i>	<i>52,3</i>	<i>41,6</i>

The Bill of Entry files obviously contain information of varying quality. The recording of net carrying capacity is obviously subject to the common pitfalls of varying standards of measurement and potentially widely varying practices for assessing a vessels tonnage. The estimations of tonnage should therefore be taken with a grain of salt. Similarly, the spelling of Norwegian surnames and cities documents a varying knowledge of Norwegian, and there are reasons to expect that the same practices applied to other geographical destinations. Some of the data for identifying voyage patterns may, thus, have biases. Still, these biases should be minor, as most of the ports where Norwegian vessels arrived from must have been fairly known to the officers responsible for printing the Bills.

A potentially more difficult challenge with the data concerns the choice of using the list of arriving vessels as the primary source. The Bill of Entry recorded both arriving and departing vessels, but the listed data for the former is far more detailed than the latter. Our choice was therefore primarily motivated by the availability of data. However, basing our sample on arriving vessels potentially introduces a bias as the listed shipping agency for an outward vessel could more plausibly have played a role in securing the charter. If the primary motivation is to understand the obtainment of employment, our data may have a significant

bias. In order to control for this biases we created a sub-sample of 40 vessels in each sample year identifying both shipping agents listed for the vessels arrival and departure. The sub-sample showed a strong consistency, as the inward agent was also the outward agent for over 76 percent of the cases where it was possible to identify the shipping agent for both the arrival and the departure of the vessel. The improvement in data achieved from relying on the listing of arrivals to our judgment outweighed the potential biases introduces in our sample.

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