

# The Norwegian Natural Ice Industry and Ice Exporter Thomas Johannes Wiborg (1870–1930)

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Knut M. Nygaard

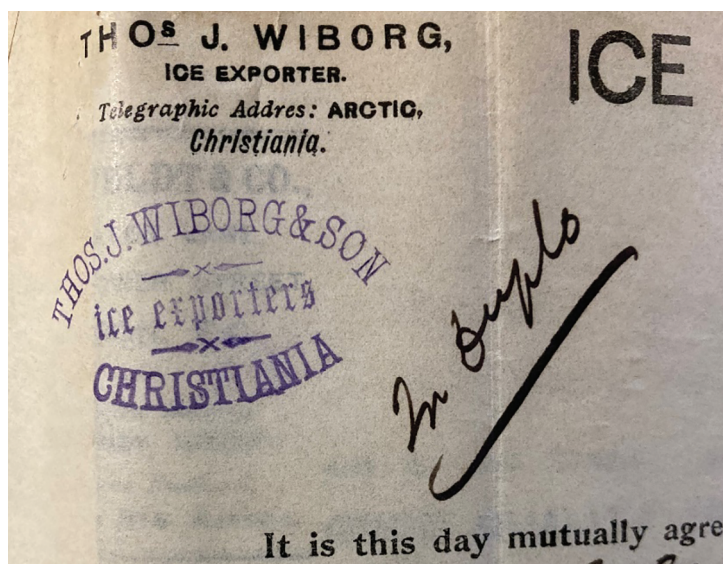


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Title page image: Letterhead for ice exporter Thos. Johannes Wiborg (1910). Source: Thos. J. Wiborg Archive. Protocol with ice contracts (1910–1915).

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# Chronological overview over the activities of Thomas Johannes Wiborg

- 1845 Thomas Johannes Wiborg Jnr is born in Brevik.
- 1865 Wiborg starts working in his father's company.
- 1870 Wiborg establishes his own company, T. J. Wiborg Jnr, in Brevik. Aim shipbroking, ice and timber-agent.
- 1874 T. J. Wiborg Snr dies. Wiborg exports ice on behalf of the deceased's estate together with his brother Ludvig and half-brother Axel.
- 1878 Wiborg establishes the company Wiborg & Sommerville together with his brother-in-law Thos. T. Sommerville. Aim production and export of ice.
- 1879 Wiborg & Sommerville moves to Kristiania.<sup>1</sup>
- 1881 Wiborg & Sommerville is dissolved.
- 1881 Wiborg establishes the company T. & A. Wiborg together with his half-brother Axel Q. Wiborg. Aim production and export of ice.
- 1883 Wiborg co-founds the Kiberg Whaling Company in Finnmark. Several partners. Aim whaling. Wiborg becomes 'catch manager'.
- 1889 The whaling 'adventure' in Kiberg is over. Kiberg Whaling Company dissolved.
- 1898 Peak year for Norwegian ice exports, both in volume and value.
- 1898 The company T. & A. Wiborg is dissolved.
- 1899 Wiborg establishes the company Thos. J. Wiborg. Aim production and export of ice.
- 1910 Wiborg admits his son Thomas J. (Tom) Wiborg to the company. New name Thos. J. Wiborg & Son. Aim production and export of ice.
- 1915 Thos. J. Wiborg & Son engages in broking and tramp shipping.

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<sup>1</sup> The spelling changed from Christiania to Kristiania in 1877 and is used correspondingly in the book.

- 1923 Thos. J. Wiborg & Son achieves a record 56.4% share of all Norwegian ice exports.
- 1927 Ice and shipping business is wound up.
- 1929 Thomas Johannes Wiborg passes away on New Year's Eve.

## Preface

I am very grateful for all the help from John Tore and Inger Margrethe Norenberg who, during the writing period, lent me the archive of John Tore's great-grandfather Thomas Johannes Wiborg, one of Norway's largest ice exporters and the main character in this book. Without the archive, there would have been no book.

I am also grateful that project leader Professor Emeritus Per Norseng invited me to participate in '*The Last Ice Age*' project, which provided four years of very interesting research work, and grateful to all my fellow participants in the project for all their help, good cooperation, and pleasant and useful meetings.

I would also like to thank all the nice people at home and abroad that I have come into contact with and who have helped me, Haakon Aspelund and Ole Hajem Fiske, colleagues at the University of South-Eastern Norway and Blaydes Maritime Centre at the University of Hull, the staff at the British Library, Follo Museum, Lemvig Museum, the National Library of Norway and the Norwegian Maritime Museum.

I would also like to remember Jan Wold Hansen, who worked with the Wiborg archive for parts of the 1980s and 1990s while writing a master's thesis, which unfortunately he never finished.

Professor Emeritus in Economic History Kristine Bruland has read the manuscript and provided detailed comments. I am extremely grateful for her help.

Finally, I would like to express my sincere thanks to my family, Inger-Lise, Anna and Andreas, who once again allowed me to use weekends and free time working on a book.

Any errors and omissions relating to the book are, of course, my own responsibility.





# Introduction

This book is about the development of the Norwegian natural ice industry in the period 1870 to 1930, with a focus on Thomas Johannes Wiborg<sup>2</sup> (1845–1929), who was one of Norway’s largest ice exporters. He was active in the Norwegian ice industry for almost 60 years, in extensive international shipping as charterer and from 1915 also as shipowner. The book discusses the growth and decline of the Norwegian natural ice industry, changes in the international market for ice, and the general relationship between ice exports and the shipping sector. How T. J. Wiborg managed to survive in the ice export industry for so long, where volumes and values changed almost from year to year, is a key question.

The book begins by exploring the international and the Norwegian natural ice industries before providing an overview of the Norwegian ice sector. Afterwards the book is mainly chronologically laid out, and the chapters cover the topics by first discussing market developments and Norwegian ice exports, before focusing on the development of T. J. Wiborg’s business activities. The starting point of this part, 1870, was the year when Wiborg started his own business, having already worked for his father’s ice and timber business for a few years. The end point, 1930, was the year that Wiborg died. It is also the last year for which we have official Norwegian export statistics for natural ice.<sup>3</sup> The years from 1870 until 1900 were characterised by gradual developments: in business cycles, temperatures and other events. Thereafter, up to and including the First World War and the post-war period until 1930, was a period marked

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2 Thomas Johannes Wiborg is generally referred to as T. J. Wiborg or Wiborg hereafter. His son with the same name is referred to as Tom Wiborg, while his father, also with the same name, is generally referred to as T. J. Wiborg Snr. We mainly use the Wiborg companies where two or more of the companies he was involved in are seen together.

3 Statistics Norway’s Historical statistics of external trade with ice extend from 1847 to 1930. <https://www.ssb.no/a/histstat/publikasjoner/histemne-o8.html>

by recession and drama. At the end of the book, concluding remarks are made.

The book is a part of the project '*The Last Ice Age: The trade in natural ice as an agent of modernization and economic integration in the nineteenth and early twentieth centuries*', funded by the Research Council of Norway.

The aim of this project is to place the ice industry in a larger geographical, economic, technological and cultural context. The project highlights the long-term effects of the trade in natural ice in the decades before artificial ice and refrigeration technology took over in the 1900s and thus links local Norwegian ice production to worldwide phenomena and developments.<sup>4</sup> The book constitutes an important contribution to the project in that it assesses the market for the export of ice on several levels over a 60-year period, while also drawing on the relationship between the shipping and ice industries.<sup>5</sup>

During the project period, I have been working as a researcher at the Department of Business, History and Social Sciences, University of South-Eastern Norway (USN), School of Business.

The book is based on extensive research and brings novel source material and new empirical evidence to the historical discussion. The Thos. J. Wiborg Archive has been particularly important, which, together with statistical data, have made it possible to reconstruct aspects of the Norwegian natural ice industry and its exports linked to the shipping sector. The writing has benefited greatly from digital publications at

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4 The project has been organised around four partly overlapping main tracks in the exploration of the natural ice trade: 1. Ice production, technology and the environment/climate; 2. Shipment and transport of ice; 3. The market and areas of use for Norwegian natural ice and the competition with artificial cold; and 4. Changes in food and drink culture in Northern and Western Europe that accompanied the use of ice.

5 The project, which was formally concluded at the turn of 2022/2023, has, in addition to a large number of articles and lectures, so far resulted in two PhD dissertations, *Tracing the Norwegian Ice Trade in Northern France 1870–1920: Reception, Controversies and the Politics of the Trade* by Efstathia Dorovitsa (University of Hull) and *Nature's Factory: A Case Study of Norwegian Natural Ice Exports in the Era of Industrialization, 1840–1920* by Eyvind Bagle (University of South-Eastern Norway), three master's theses, one of which should be highlighted: *Ice as an Agent of Change in a Colonisation Project. Norwegian Ice to Algeria in the 19th Century* by Solfrid Klakegg Surland (University of Oslo), and a scientific monograph, *Ice Blocks from Norway: The Importation of Natural Ice to Britain, ca. 1870 to 1925* by Michael Freeman.

Statistics Norway, especially *Historical statistics of external trade* and *Consular reports*, as well as the National Library of Norway's digitised collection of books, periodicals and newspapers.

The literature on Norwegian production and export of natural ice is relatively extensive.<sup>6</sup> Much of it is local and regional historical literature that focuses on ice plants and ice export from specific cities or customs districts.<sup>7</sup> One aspect that will be discussed in this book are the locations of the industry, not just in terms of where the resources were located, but also where the enterprises that produced and exported them operated from. As we shall see, the Wiborg companies represent firms that operated in much larger areas.

A second aspect worth mentioning is how the ice industry was linked to shipping. In much of the literature, the Norwegian ice trade has been seen as a typical Norwegian activity, mostly carried out with the ice exporter's own ships or local ships.<sup>8</sup> In this book, aspects that will be discussed are the various ways of obtaining ships for the transport of ice and the internationality of the shipping of ice. As we shall see, Wiborg participated in a larger shipping market than the Norwegian one. A third aspect concerns the international nature of the ice industry. Much literature has until recently placed emphasis on domestic developments.<sup>9</sup> In this book we will use Wiborg's export activities to discuss aspects of the international dimension of the ice trade. A fourth aspect is the different ways of organising ice exports. Much of the existing literature has placed little emphasis on brokers, agents and the mix of different contract types.<sup>10</sup> Through Wiborg's export activities, we will highlight the importance of this.

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6 See Norseng (2014) for a review of literature on the topic.

7 See, for example, Pedersen (1933); Schilbred (1946); Tønnesen (1957); Hals (1968); Gardåsen (2004); Sørensen (2010); Gundersen (2021); as well as several references in Norseng (2014), pp. 158–159.

8 See, for example, Pedersen (1933) pp. 40–48; Tønnesen (1957), p. 305; Sørensen (2010), p. 2; Norseng (2019), p. 227.

9 See, for example, Pedersen (1933); Schilbred (1946); Hals (1968); Gardåsen (2004); Sørensen (2010); Gundersen (2021); as well as several references in Norseng (2014), pp. 158–159.

10 Ibid.



## CHAPTER 1

# The international natural ice industry

Throughout history, ice has been traded in many parts of the world, used by the rich to cool foodstuffs, wine and other drinks. By the late 17th century, it was common for the European upper classes to store ice, and by the end of the 18th century, ice houses were common in most towns and cities.<sup>11</sup> However, the end of the 18th century also marks a turning point: in Europe, the trade in natural ice began to increase. Europe was industrialising, especially in the UK where industrialisation involved further reorganisation of production, expanding mechanisation, urbanisation and population growth.<sup>12</sup> It also meant that more people relied on buying rather than making the food and drink they needed. This put great demands on the suppliers of food and drinks. Supplies often had to be transported over long distances, and it was essential that they were not spoiled during transport or storage.<sup>13</sup> The best way to preserve food was to cool it down, and before artificial methods became available, natural ice provided the best means of refrigeration. Thus, from being the preserve of the upper classes, ice became a household necessity and was in huge demand. In this book, when ice is mentioned it is natural ice unless otherwise specified.

## American natural ice production and trade

Plans for the export of ice first emerged in Boston in the US. In 1805, Fredric Tudor, a New England businessman, wrote in his diary about plans to export ice to tropical regions.<sup>14</sup> He and his brother William had

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11 Beamon & Roaf (1990), p. 18.

12 Bruland & Mowery (2014), pp. 85–86; Hobsbawm (1968), p. 56; Harley (2014), p. 491.

13 Harley (2014), p. 509.

14 Weightman (2002), p. 7.

already been toying with the idea for a few years.<sup>15</sup> Their business plan was to export New England ice overseas and attempt to achieve a trading monopoly,<sup>16</sup> and in the following year they exported ice to Martinique in the West Indies.<sup>17</sup> Initially, they experienced many practical problems, but after ten years they succeeded in monopolising much of the ice trade from the US to the Caribbean.<sup>18</sup> They then turned their attention to markets in the southern US and in 1833 expanded their export activities to India, China and other Far Eastern countries.<sup>19</sup>

Advanced production techniques were key to the success of the American ice industry. An ice plough was invented in 1827, which saved 60% in labour costs in what had become a highly labour-intensive industry.<sup>20</sup> Subsequent advancements included special tools for almost all stages of the production process.<sup>21</sup>

Despite the Tudor brothers' efforts to monopolise the ice export trade, they began to experience competition from other enterprises in the area. In 1842, one competitor, the Boston-based firm of Gage, Hittinger & Co., made the first attempt to ship American ice to the UK, although without success.<sup>22</sup> In 1844, a consortium of shipping merchants, calling themselves the Wenham Lake Ice Company, tried to ship ice to the UK, having first constructed a series of ice houses on Wenham Lake (six miles north of Salem in Massachusetts).<sup>23</sup> Their first consignment left Boston for Liverpool in June 1844. It was a great success and Wenham ice became synonymous with high quality natural ice.<sup>24</sup> The Wenham Lake Ice Company gained a unique position in the UK ice market, creating a brand that was in huge demand. (It also launched affiliated products

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15 Smith (1981), p. 43. Smith's collection. Manuscript letter, Boston, 17 June 1806, by William Tudor Jnr, describing in detail he and his brother's first attempts to market ice in the West Indies.

16 Smith (1981), p. 43; Weightman (2002), p. 11. Smith describes the strategy as follows, '... he (Tudor) employed every art and device business practice could contrive to retain his monopolies over the trade.'

17 Beamon & Roaf (1990), p. 11; Smith (1981), p. 43.

18 Beamon & Roaf (1990), p. 38; Weightman (2002) pp. 39–43.

19 Smith (1981), p. 43–44; Beamon & Roaf (1990), p. 39.

20 Cummings (1940) in Beamon & Roaf (1990), p. 41; Cummings (1949), p. 22.

21 Beamon & Roaf (1990), pp. 39–41.

22 Smith (1981), p. 44.

23 Beamon & Roaf (1990), p. 41; Smith (1981), p. 44.

24 Smith (1981), pp. 45–49.

such as the Wenham Lake refrigerator – an icebox – designed for the use of Wenham Lake Ice only.)<sup>25</sup> A number of affiliates emerged in different cities, such as the ice import firm Wenham Lake Ice Company founded in Liverpool (later named Messrs H. T. Ropes and Co.).<sup>26</sup> As many had before them, the company soon realised that success breeds competition, and in 1846 their prices in the UK were undercut by Norwegian exporters, who charged less for Norwegian ice.<sup>27</sup> In 1850, increasing volumes of ice were supplied to the UK from Norway and less from Lake Wenham, where provision for domestic consumption took precedence.<sup>28</sup>

However, the name Wenham Lake Ice continued to be used in the UK market, but now in connection with ice from Norway. There are a number of explanations for this. One is that, in a last ditch attempt to recover profits, the Wenham Lake Ice Company bought the rights to produce ice from a lake in Norway (Oppegårdstjernet) close to Drøbak and Christiania (later Oslo) Fjord and branded it as Wenham Lake Ice for sale in the UK.<sup>29</sup> A second is that, in the 1860s, an English brewer obtained the rights to sell ice in the UK from the same lake under the name of Wenham Lake Ice.<sup>30</sup> A third explanation is that it was an English speculator who sold ice in London from the lake Oppegårdstjernet as Wenham Lake Ice.<sup>31</sup> Finally, the fourth story is that it was the ice merchant Søren Parr, one of the largest ice merchants in Norway, who sold ice from the same lake as Wenham Lake Ice, in London.<sup>32</sup> The idea is supposed to have come from a Mr Playford, Parr's agent in London, who believed that the brand name would make it easier to sell the ice for high prices as a bespoke quality product.

That Norwegian ice sold in the UK was branded as Wenham Lake Ice may well have stimulated the export of ice from Norway to the UK.<sup>33</sup>

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25 Smith (1981), p. 45–49; Weightman (2002), pp. 142–145; Beamon & Roaf (1990), pp. 43–46.

26 *Cold Storage and Ice Trades Review* (15 February 1900).

27 *London Times*, 23 and 30 April 1846. In Smith (1981), p. 49.

28 Smith (1981), pp. 45–49; Weightman (2002), pp. 142–145; Beamon & Roaf (1990), pp. 43–46.

29 Smith (1981), pp. 45–49; Weightman (2002), pp. 142–145; Beamon & Roaf (1990), pp. 43–46.

30 Worm-Müller (1935), p. 689.

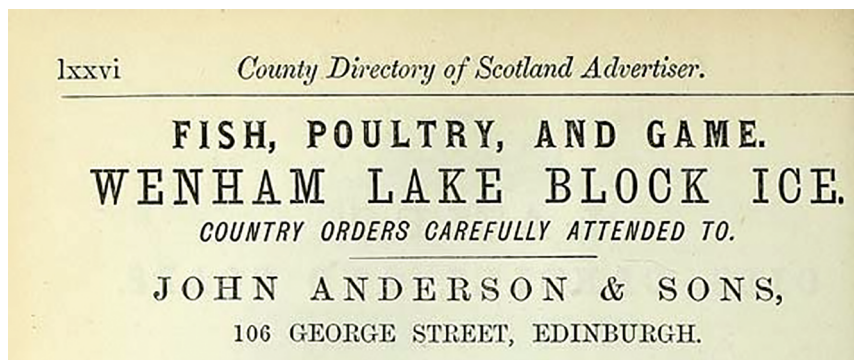
31 The Norwegian newspaper *Morgenposten* (24 December 1864).

32 National Library of Norway. The *Worm-Müller Collection III* transcribed interview of 23 May 1935 with Kammerherrerinde Egeberg, born Parr (daughter of Søren Parr).

33 Cummings (1949), p. 48.



In the 1872 County Directory of Scotland, John Anderson & Sons of Edinburgh advertised Wenham Lake Block Ice with ‘*Country orders carefully attended to*’ (Picture 1-1). Three years later, the company purchased its first ice from the Norwegian company T. J. Wiborg Jnr and a business relationship was established that was to last until 1898.



**Picture 1-1.** Advertisement for Wenham Lake Block Ice (1872).

Source: Scottish Post Office Directories, County Directory of Scotland (1872).

The Wenham Lake Ice Company’s adventure in London lasted for about five years. Its demise was the result of high transport costs which made the product uncompetitive in the face of ice imports from Norway.<sup>34</sup> During the 1840s, the Norwegians had successfully copied American ice production techniques and they knew how to operate an efficient business.<sup>35</sup> From the 1850s, Norway supplied most of the UK ice imports. Norway was close to the markets in the North Sea area and had an abundance of good quality natural ice, which was harvested during cold winters from numerous lakes close to the sea, notably in and around Christiania Fjord.<sup>36</sup>

<sup>34</sup> David (1995), p. 53.

<sup>35</sup> Weightman (2002), p. 140.

<sup>36</sup> Ouren (1981), p. 31; Weightman (2002), p. 144.

## European natural ice production and trade

Natural ice was not only produced and harvested in Norway.<sup>37</sup> Across Europe, natural ice continued to be produced and harvested on a regular basis in the 1800s and early 1900s. Exports of ice became more common and the harvesting and production of ice from glaciers, lakes and rivers in countries such as Germany, Austria, Switzerland and France acquired a distinct industrial character.

Swiss ice was exported by rail to Germany and France – for example from Lake Brenet in Vallée de Joux to France. The company La Société anonyme pour l'exploitation des glaces des lacs de la Vallée de Joux, founded in 1879, acquired the rights to produce ice from this valley.<sup>38</sup> It built a railway from Lake Brenet to the town of Vallorbe in 1885, went bankrupt in 1886, but later acquired new capital and recommenced its operations. The stated aim of the company was to produce ice 'of exceptional quality' and transport it to the breweries of Paris, Lyon, Geneva and other larger cities. The breweries needed ice for cooling during production.<sup>39</sup> At the height of its activity, the company exported about 40,000 tons of ice per year, using around 3,000 fully loaded rail wagons.<sup>40</sup> The company was eventually dissolved in 1942. Another Swiss company was owned and run by the local authorities in Rothenthurm.<sup>41</sup> It built an ice dam in the town and began production in the 1890s,<sup>42</sup> selling and transporting ice by rail, mainly to breweries in Switzerland, but also in Germany. Around the turn of the century, approximately 5,000 tonnes of ice went by rail every winter and, in the record years of 1910 and 1911, took up more than 1,300 fully loaded freight wagons. Ice was also exported from Switzerland to Munich, Dresden and Hamburg, and Swiss ice was

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37 The term 'harvesting' is used when ice is sourced from ponds that have not been substantially worked prior to ice cutting. The term 'production' is used in connection with the sourcing of ice from ponds where prior work had been carried out and where infrastructures were involved. See also page 31 'The difference between ice harvesting and (industrial) ice production.'

38 *Compagnie du Train à Vapeur de la Vallée de Joux; L'histoire de la ligne Le Brassus-Vallorbe*, <https://www.ctvj.ch/lassociation/histoire>

39 Norseng (2019), p. 228.

40 *Das Tropeninstitut, Kalt Machen* <https://wildeiswissen.net/wordpress.com/2012/10/10/kalt-machen/>

41 Gisler (2008). <http://www.moorevent.ch/de/geschichte/natureisproduktion/>

42 Gisler (2008).

used to cool drinks onboard some of the large ocean liners that traversed between Europe and the US.<sup>43</sup>

In Austria, ice production was an important industry, and Zell am See in Salzburg was a key location, where production in the 1880s employed around 450 seasonal workers a year, including local farmers in need of winter work and people who travelled long distances from Bavaria in Germany.<sup>44</sup> In 1884, between mid-February and the end of March, 3,133 wagon loads of ice left the area, of which 1,228 were for domestic use and 1,905 bound for Germany.<sup>45</sup> German stakeholders, including the major company Münchener Eiswerke, based in Munich, held shares in the production of ice from Lake Zell. The company was also involved in the harvesting of snow from below the Birnhorn Glacier and ice from Lake Griessensee, where the company built three large ice houses, with two more in Hochfilzen. All transport was carried out by rail, which was the only alternative for the long-distance transport of ice on land.<sup>46</sup>

In Germany, natural ice was harvested and produced all over the country, from Schleswig-Holstein to the Alps, and in normal years the country was almost self-sufficient.<sup>47</sup> In Picture 1-2 below we see ice being produced at Lake Rummelsburger on the River Spree in Berlin. The company Norddeutschen Eiswerke owned the rights to ice production at this location and was the largest producer of ice in the Berlin area.<sup>48</sup>

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43 Fischer-De Santi, *Ein eiskaltes Geschäft, auf der Webseite des Oldtimer Club Feldschlösschen* <https://www.oldtimerclub-feldschloesschen.ch/brauereigeschichte/historische-geschichten-details/>

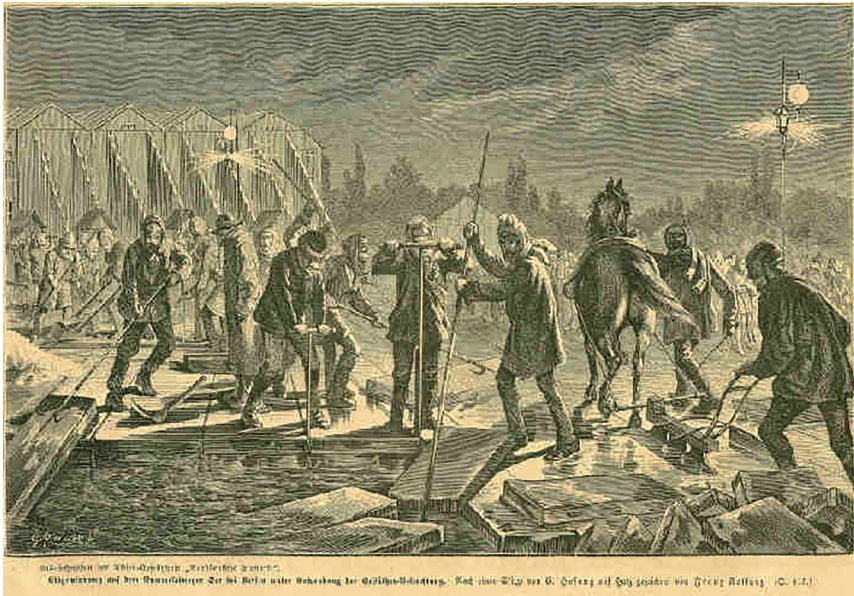
44 Müller (1995), pp. 783–786; *Chronik, Eisrennen am Zeller See*. <https://www.thumersbach.at/eisrennen/html/eisdecke.html>

45 Destinations in Austria included Vienna, Linz, Wels, Lambach, Redl-Zipf and Hallein, and in Germany, Munich, Ulm, Stuttgart, Karlsruhe, Heidelberg and Frankfurt am Main.

46 Müller (1995), pp. 793–794.

47 Berdrow (1896), in Zeitschrift „Gartenlaube“ - Ausgabe 47. <https://www.berlin-eisfabrik.de/Geschichte/Natureis.html>

48 Ibid.



**Picture 1-2.** Ice production at Lake Rummelsburger near Berlin.

Source: *Teltower Kreisblatt* (18 September 1886), p. 554.<sup>49</sup>

In Germany, natural ice production was industrialised and was soon controlled by large companies. In 1896, Norddeutschen Eiswerke employed up to 1,200 people who produced ice in the company's various ice plants in the Berlin area.<sup>50</sup> When the winters were mild, imports of ice increased markedly, most of it from Norway.

In France, as in Germany, natural ice production became industrialised in the 19th century with the construction of large ice ponds and ice houses.<sup>51</sup> In the early 1800s, Paris was known for the ice house at Saint Ouen, which stored ice from the Seine and the Canal Saint Denis.<sup>52</sup> An improved road network permitted widespread transport of ice by horse and cart, and when the railways were expanded in the late 1800s, long-distance transport shifted to the railways, causing a fall in the price

49 *Teltower Kreisblatt* (18 September 1886), p. 554. <https://www.berlin-eisfabrik.de/Geschichte/Rummelsbg.html>

50 *Ibid.*

51 *Histoire de l'eau à Hyères, La glace de la nature*. [http://www.histoire-eau-hyeres.fr/616-histoire\\_glace-pg.html](http://www.histoire-eau-hyeres.fr/616-histoire_glace-pg.html). Acovitsotil-Hameau (2005), Historical Provence Paper 220.

52 Beamon & Roaf (1990), p. 52.

and increasing the consumption of ice. Ice from the Alps could now be offered across large parts of France at competitive prices. During the 19th century, factory production of ‘artificial’ ice was developed and eventually gained a significant market share in some locations. Although factory-made ice gained market shares when it became feasible, natural ice retained its importance in France until the 1920s because many customers preferred it.<sup>53</sup>

In the UK, large-scale imports of ice began in the 1840s, initially from the US and then, from the late 1840s, Norway. Previously, most ice had been harvested locally in the UK, but a series of mild winters caused domestic production to go into decline, unable to meet the growing demand.<sup>54</sup> Another problem was that ice was harvested from partly polluted natural channels. In London around 1850, the ice merchant and ice-cream manufacturer Carlo Gatti was allowed to harvest ice from Regent’s Canal, close to the city centre.<sup>55</sup> However, the company soon began to import ice from the US and then also from Norway, which was of much greater purity than ice made from contaminated canal water. Imports of natural ice started more or less simultaneously with the expansion of the UK rail network, and fledgling importers boasted that they could deliver ice anywhere in the country within 24 hours.<sup>56</sup>

It was the combination of demand, import opportunities of good quality ice and good rail links across the country that encouraged the UK to import rather than produce natural ice. This was a very different approach to most other European countries.<sup>57</sup>

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53 Encyclopædia Britannica (2020). <https://www.britannica.com/technology/refrigeration>. Commercial refrigeration (and ice making) was initiated by inventions in the late 1850s. The inventions were followed by innovations in freezing and refrigeration technology which eventually made factory ice competitive with natural ice by about 1900.

54 Beamon & Roaf (1990), p. 33.

55 Kinross (1991), pp. 25–26.

56 Beamon & Roaf (1990), p. 33.

57 Ibid.

## Norwegian natural ice production and trade

The so-called ‘last ice age’ in Norway started in the late 1840s and lasted for almost 100 years. Although small-scale exports of ice continued into the 1960s, trade had virtually stopped by the beginning of the 1930s. In February 1932, the trade journal *Cold Storage and Produce Review*<sup>58</sup> reported that the quantity and value of Norwegian natural ice imported into Great Britain and Ireland in January amounted to zero.<sup>59</sup> Norway’s success in the ice export trade was undoubtedly linked to the ability to produce a quantity of natural ice far greater than domestic demand, unlike most countries in Europe, and it could therefore offer large quantities of ice for export. Norway also had a low-cost workforce and a large fleet of wooden sailing ships suitable for transporting ice, which employed seamen at low wage levels. In addition, there had been innovations in communication; the telegraph had come to Norway in the 1850s and was in operation between Norway and Europe from the 1870s, making it easier to conduct business over long distances.<sup>60</sup> This created a good basis for competitive production and transport that, together with better communication, laid the foundations for a major new export industry.

However, it was a British pastry chef, William Leftwich, who, according to T. J. Wiborg, first exported Norwegian ice to the UK.<sup>61</sup> In 1822, the Norwegian newspaper *Morgenbladet* reported, under the headline ‘Trade speculation in Norwegian ice’,<sup>62</sup> that Leftwich had chartered a vessel (called the *Spring*) to sail to a location north of Trondheim, where a cargo of nearly 300 barrels of ice (each weighing 20 centner – 2,000 lbs/907 kg) was loaded.<sup>63</sup> He sold the ice in London for GBP 12 a barrel. With total costs of about GBP 1,000, he made himself a nice little profit. T. J. Wiborg

58 The journal was published in 1898 under the name *Cold Storage and Ice Trades Review*. It changed names in 1911 to *Cold Storage and Produce Review*.

59 *Cold Storage and Produce Review* (18 February 1932), p. 48. In the *Cold Storage and Produce Review*, the last trace of Norwegian ice export I have found is from October 20, 1932, p. 210, when it was reported that during September 1932, 33 tons of Norwegian ice were imported.

60 Sætra (2008), pp. 61–68 in Onestad (2016), p. 46.

61 Wiborg (1914), p. 1.

62 *Morgenbladet* (11 August 1822), pp. 1783–1784.

63 *Store Norske Leksikon* (Norwegian encyclopedia) (2018). <https://snl.no/quintal>.

describes Leftwich as London's first ice merchant.<sup>64</sup> Leftwich continued this success and founded a firm that came to dominate ice imports to London for over 100 years.<sup>65</sup>

After this modest beginning around 1820, exports from Norway remained low until the late 1840s when they expanded significantly. After the abolition of the so-called Corn Laws in 1846 and the subsequent repeal of the British Navigation Act in 1849, Britain adopted free trade principles leading to a boom in trade which was fully exploited by ice merchants.<sup>66</sup> The ice trade continued to grow until the turn of the century,<sup>67</sup> with a peak in 1898 when a total of 553,366 register tons of ice were exported (valued at NOK 4,706,000).<sup>68</sup> The following year, volumes started to decline and this continued during The First World War. By the end of the 1920s, Norway's ice trade boom was over.

## Refrigeration and industrialised production of ice

One major reason for the decline in the production of natural ice was increased competition from refrigeration and factory-made artificial ice. The basic scientific and technological principles of cooling had been known since 1755, when Professor William Cullen published his 'Essay on Cold produced by Evaporating Fluids' and described his water evaporation apparatus, generally regarded as the beginning of the art of refrigeration.<sup>69</sup> In the period that followed, knowledge in the field

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64 Wiborg (1914), p. 1.

65 Wiborg (1914), p. 1. From the *Yarmouth Weekly Standard* (11 December 1908). In Beamon & Roaf (1990), p. 46.

66 O'Rourke & Williamson (1999), p. 77. England's Corn Laws, regulations governing the import and export of grain. The Corn Laws were repealed in 1846. <https://www.britannica.com/event/Corn-Law-British-history>, <https://snl.no/kornlover> The Navigation Acts dating from 1651 were a series of English seafaring laws enacted to restrict other nations from participating in British trade. The Acts limited the right of other nations' ships to carry cargo to and from Great Britain and between the British colonies. Only ships from countries where the goods were produced, in addition to British vessels, could transport goods to Britain. <https://www.britannica.com/event/Navigation-Acts>, <https://snl.no/Navigasjonsakten>

67 Statistics Norway. Tables relating to Norwegian commerce.

68 Statistics Norway. Historical statistics of external trade (1898), Tables relating to Norwegian commerce.

69 Smith (1943), p. 101; Thevenot (1979), pp. 28, 402. Cullen was Professor of Chemistry at the University of Glasgow.

gradually improved.<sup>70</sup> In 1819, Robert Salmon and William Warrel took out what is said to be the first patent for artificial production of cold.<sup>71</sup> Commercial refrigeration was in operation from the late 1850s and developed in two main directions. The Australian James Harrison invented and patented the first vapour compression machine to be used in ice manufacturing in 1855, and in 1859, the French engineer Ferdinand Carreé introduced the ammonia absorption machine.<sup>72</sup> According to Roger Thevenot, these two machines were, world-wide, the only two suitable for making artificial ice in the beginning of the 1860s,<sup>73</sup> and both principles came to be extensively used in the coming decades.<sup>74</sup> In 1861, the world's first freezing works were erected in Australia to freeze meat. In 1871, the German Carl von Linde published the paper 'Improved ice and refrigeration machine' and the year after took patents in Germany and England for an ammonia compression machine.<sup>75</sup> The Scotsman David Boyle developed a similar machine, and from 1878 to 1888 his company delivered a total of 200 larger ice and refrigeration plants.<sup>76</sup> In most countries where refrigeration plants were built in the late 1800s, their first use was to produce artificial ice.<sup>77</sup> In Norway, the first three mechanical refrigeration plants were built at the turn of the century by Kampens Mechanical Works (in Kristiania). A few years later, a department for refrigeration machines was established at the Myren Mechanical Works (in Kristiania) and transferred to Drammen Ironworks (in Drammen) in 1912.<sup>78</sup> As we can imagine, from the late 1800s factory-made artificial ice became a highly competitive product and the market segment for natural ice contracted.

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70 Bruland (2022), p. 99; Thevenot (1979), p. 28.

71 Smith (1943), p. 101; Thevenot (1979), pp. 38, 76.

72 Borgnes (1968), pp. 25–26; Smith (1943), p. 103; Thevenot (1979), pp. 38, 402.

73 Roger Thevenot was Director of the International Association of Refrigeration, and the International Institute of Refrigeration (1956–1971).

74 Thevenot (1979), p. 72.

75 Borgnes (1968), pp. 22–23; Smith (1943) p. 104.

76 Ibid.

77 Thevenot (1979), p. 74.

78 Borgnes (1968), pp. 23–24.



For centuries ice had been traded in many parts of the world, used by the rich to cool foodstuffs, wine and other drinks. A turning point came at the end of the 18th century when the trade in natural ice began to increase. Europe was industrialising, the population was growing and the best way to preserve food was to cool it down. Ice became a household necessity and was in huge demand. The export of ice started in the US in the early 1800s. Across Europe, natural ice was produced and harvested on a regular basis in the 1800s and early 1900s. In the 1840s, Norway became the main ice-exporting nation in Europe and remained so for almost the next 100 years. From the late 1800s, factory-made artificial ice became a strong competitor to natural ice.

## CHAPTER 2

# Norway and the ice

A stable cold climate that made it possible to produce ice every winter<sup>79</sup> was a key element in the success of the ice industry in Norway in the 1800s and early 1900s. Knowledge and technology were also fundamental and were sought abroad. In the 1840s, for example, Norwegians went to New York to acquire American knowledge and technology, and learn how to produce ice efficiently and economically.<sup>80</sup>

As shown in Map 2-1, the ice trade was based primarily on ice from the east and southeast coasts, from the Swedish border and Kristiania Fjord (now Oslo Fjord) to Risør in the south.<sup>81</sup> This region can be divided into two subareas: the northern area around Kristiania Fjord, where Kristiania and Drøbak were the main hubs; and the southern area from Larvik to Risør, with Brevik and Kragerø as the main centres. The region accounted for about 95% of ice exports from Norway in the 1870s, and between 98% and 100% in the period 1880 to 1930.<sup>82</sup>



**Map 2-1.** The main Norwegian ice export area.

Source: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1870–1923).

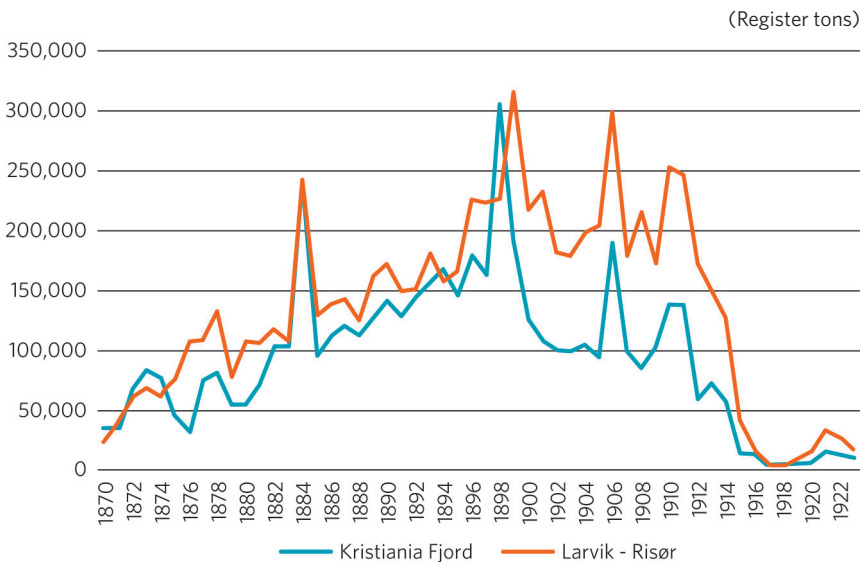
79 Ouren (1981), p. 31.

80 Weightman (2002), p. 144.

81 Statistics Norway. Historical statistics of external trade by customs office (1870–1923).

82 Ibid.

As illustrated in Figure 2-1, the two subareas of Kristiania Fjord and Larvik – Risør closely followed each other in terms of exported volume until 1900, when ice exports from Kristiania Fjord declined to a greater extent than those from the Larvik – Risør area. During the First World War, both areas' ice exports declined sharply and almost stopped towards the end. Both areas started exporting ice again after the war and continued until at least 1923, the last year with national export statistics for ice divided by customs areas.<sup>83</sup>



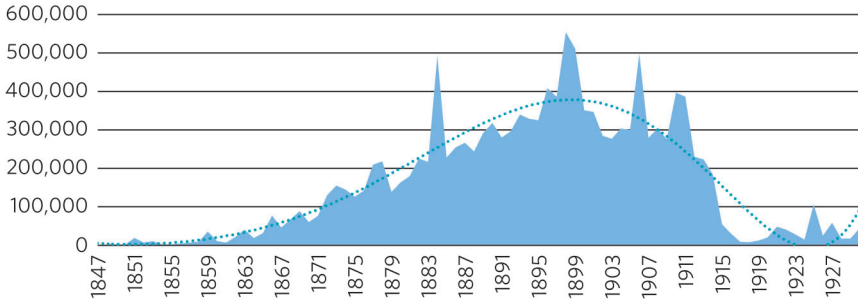
**Figure 2-1.** Ice exports sourced from the two main areas of Norwegian export (1870–1923).

Sources: Compiled on the basis of Statistics Norway. Historical statistics of external trade by customs office (1870–1923).

## Volumes and values

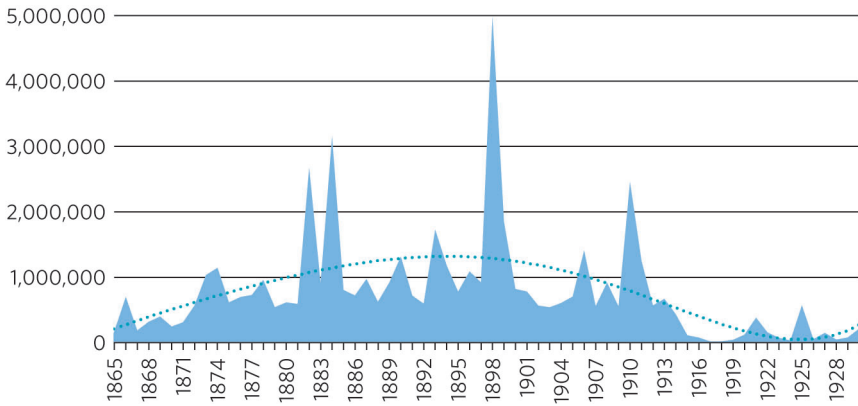
The growth and decline of ice exports did not take a linear shape: as we can see in Figures 2-2 and 2-3 there were distinct peak years, which will be discussed in the following chapters.

<sup>83</sup> Statistics Norway. Historical statistics of external trade by customs office (1870–1923). The last year showing ice exports sorted according to customs office is 1923.



**Figure 2-2.** Total exports of Norwegian ice in register tons.

Source: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1847-1930).



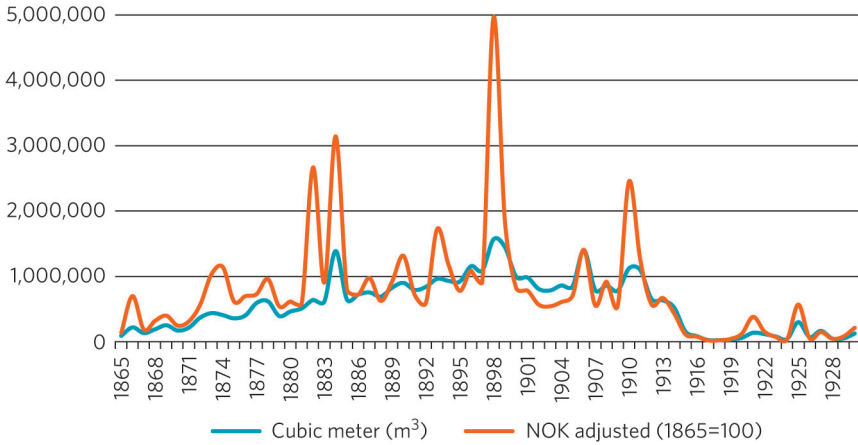
**Figure 2-3.** Exports of Norwegian ice. Values in NOK (1865 = 100).<sup>84</sup>

Source: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1865-1930).

An examination of the values of ice exports, shown in Figure 2-3, exhibits the same rounded trend curve as in Figure 2-2, which displays trade volumes.<sup>85</sup> However, there are discrepancies, with exceptionally large trade values in certain years that do not match the volumes traded. Figure 2-4 combines values and trade volumes. We see that while some of the peaks coincide, in some years the value increases but the volume does not.

<sup>84</sup> In order to compare the values in different years, the NOK exchange rate has been adjusted in relation to 1865, i.e. how much NOK 1 in the year in question was worth in 1865 (1865 = 100).

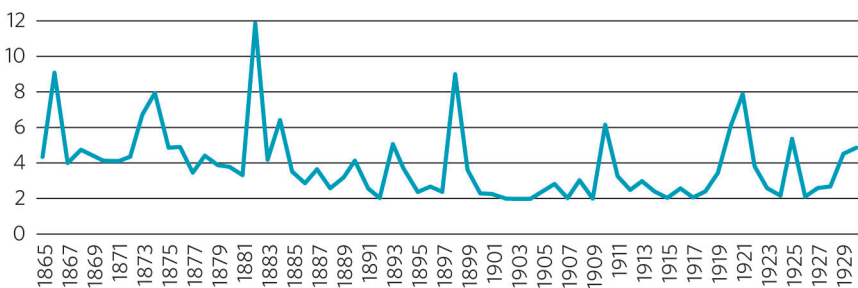
<sup>85</sup> Statistics Norway. Tables relating to Norwegian commerce.



**Figure 2-4.** Export of Norwegian ice in both m<sup>3</sup> and NOK (1865 = 100).

Source: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1865–1930).

How can the occurrence of peaks be explained? If we examine the prevailing climatic temperatures, we see that the peaks coincided with mild winters in Europe, when local natural ice producers were unable to satisfy the demand for ice. This led to increased demand for Norwegian ice and to an increase in its volume and value. Exports to Germany increased in particular during these peak years: in a normal year, Germany was either self-sufficient or imported ice from the Alps, but when the winters were mild, large volumes were imported from Norway.



**Figure 2-5.** Average value of Norwegian ice exports per register ton (1865 = 100).

Source: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1865–1930).

At times, mild winters made it difficult to produce ice even in Norway. This is illustrated in Figure 2-5, which shows the average value of Norwegian ice exports per register ton in the individual year. It appears

that the years when exports were greater in volume do not always coincide with the years when the ice had its highest value. Rather, the value was at the highest in the years when demand was high but production was low. Examples include the years 1866, 1874 and 1882,<sup>86</sup> when the winters were mild, demand was high, supply was insufficient and those ice exporters that could deliver made large profits. In other words, Norwegian ice export statistics appear to run in parallel with the theory of supply and demand: high demand and restricted supply result in the highest value of the product.

## Major Norwegian ice exporters

In 1849, the ice export pioneer Søren Parr (1815–1902) started exporting from the Drøbak area,<sup>87</sup> and in 1850, he bought the ‘Parr estate’ where he built four ice houses.<sup>88</sup> In Kragerø, Johan Dahll (1830–1877) began exporting ice at about the same time. Dahll was a pioneer in ice storage and experimented with ice houses. In Kragerø, the Wiborg family also began to export ice and rose rapidly to achieve a dominant position in the trade. In Brevik, Nicolai W. Cock began ice production in 1849 and built the first ice production facility in the area in the 1850s. Cornelius Røe (1856–1910), also from Brevik, became a major exporter, operating several facilities in the local area. The Wiborg family was also active in Brevik, and it was T. J. Wiborg Snr who started up the family’s ice export business.

### *The Wiborg family*

The Wiborg family came to Norway in the 1640s, when Christian Ohlson moved from Denmark to the newly established town of Christiansand in the southernmost part of the country. As was the custom, he took a new surname after the town from which he came, namely Wiborg.<sup>89</sup> The Wiborg family subsequently formed different branches.

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86 Wiborg (1914), p. III.

87 Worm-Müller (1935), p. 690; Parr’s diary for 1849 in an unpublished manuscript, after Jan Wold-Hansen.

88 Egeberg (1957), p. 32.

89 Fleischer (1925), p. 10.

In the ice export context, two branches are of particular interest: the Brevik branch and the Kragerø branch. Both descend from Simon Grøtter Wiborg (1758–1847) who was a ship's master and, from 1815, merchant in Brevik.<sup>90</sup> Two of his sons, Simon (1803–1854) and Thomas Johannes (Snr) (1812–1874) were sent to Kragerø for education and apprenticeship in the firms H. Bjørn and I. C. Heuch.<sup>91</sup> Simon Wiborg eventually established himself in Kragerø as general and timber merchant, and shipowner,<sup>92</sup> while T. J. Wiborg (Snr) was granted commercial citizenship in Skien, Porsgrunn and other trading stations in 1838 and settled in Brevik as general and timber merchant, and shipowner.<sup>93</sup>

In Kragerø, Simon Wiborg was the first of the Wiborg family to enter into ice export.<sup>94</sup> He was followed by his sons Simon Carl Wiborg (1834–1924) and, in particular, Thomas Møller Wiborg (1835–1918), who rapidly achieved a dominant position in the Kragerø ice industry.<sup>95</sup> Thomas Møller's son (Simon) Nicolay Wiborg (1867–1946) acquired his father's ships and ice business, becoming the major player in Kragerø around the turn of the century, and he was, according to the family history, for many years the country's largest ice exporter.<sup>96</sup>

In Brevik, T. J. Wiborg (Snr) started exporting ice as a supplement to his timber business. The ice was harvested from the lake Siljantjern which Wiborg Snr had bought in 1865.<sup>97</sup> The dammed lake's outlet river was used to transport logs from the forest to the coast. The use of the lake was now expanded. The ice was sent down a long wooden chute from the

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90 Letter from Simon Grøtter Wiborg's daughter Sophie Høegh, in Fleischer (1925), pp. 85–87.

91 *Ibid.*, p. 113.

92 *Ibid.*, p. 26.

93 Fleischer (1925), p. 46. Thomas Johannes Wiborg (Snr). He was also engaged in shipbuilding and ran a major timber business trading with the Netherlands. Dutch vessels, called smacks, regularly loaded timber at Brevik. It is recorded that forty-two smacks were loaded at the same time in 1845. A smack is a Dutch vessel rigged with two masts. It has a flat-bottomed, full-bodied hull and a submersible keel on its wide sides. Smacks were mainly used as cargo vessels. Winge (1981), p. 309.

94 Letters from Simon Wiborg to Thomas M. Wiborg, 24 March and 4 April 1851, where the export of ice is one of the topics. Attachment to Wiborg (1943).

95 Fleischer (1925), p. 29.

96 *Ibid.*, pp. 32, 34.

97 Gisholt (1947), p. 30.

lake to the coast where it was picked up and stored (at Lakseberget).<sup>98</sup> This became a large-scale activity that continued during the spring and summer. Wiborg Snr used Norwegian and English vessels to ship the ice to England, mainly to be sold to the fishing industry. He also chartered a number of Dutch smacks that transported ice bound for breweries in the interior of Germany.<sup>99</sup>

Wiborg Snr was closely integrated in the local business community.<sup>100</sup> He acted as corresponding shipowner in traditional partnership shipping businesses, closely linked to his family and the local community.<sup>101</sup> He was also chair of the board in the local *Fellesfløtningsforeningen* from 1847–1867, a joint association of timber merchants who floated timber along the Herre waterway.<sup>102</sup> Both his timber business and his new ice export trade were conducted in traditional ways, firmly integrated in the local community.

After his death, four of his sons and one son-in-law all attempted to follow in his footsteps and establish themselves as large-scale ice exporters.<sup>103</sup>

The two branches of the Wiborg family in Kragerø and Brevik were thus closely related and both were involved in ice exports. A natural question is whether they cooperated. However, it has not been possible to document a business or a private collaboration based on the material that has been reviewed in connection with this book. What is written relates to either the Kragerø or the Brevik branch, without any connections being drawn between them. In the family history from 1925, the branches are treated separately and no collaboration is mentioned. Neither is any such cooperation mentioned in an article about

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98 Wiborg (1925), cited in Worm-Müller (1935), p. 693. More information about Norwegian ice exports is available on pages 688 to 705 in this volume of *Den norske sjofarts historie (Norwegian Maritime History)*. According to editor-in-chief J. S. Worm-Müller, Thos. J. Wiborg Jnr was the main source of this information.

99 Ibid.

100 Fleischer (1925), p. 46. He was the mayor of Brevik in 1846 and 1858, and a member of Parliament between 1868 and 1873.

101 For a detailed discussion of partner shipping companies and their importance in the Norwegian sailing ship industry, I refer to Hodne (1981), pp. 146–149; and Hodne & Grytten (2000), pp. 112–113.

102 Schilbred (1949), p. 108.

103 Fleischer (1925), pp. 48–50, 53, 55, 58, 59; Thomas Johannes Wiborg, Ludvig Theodor Wirsching Wiborg, Axel Quinsgård Wiborg, Halvor Nicolay Wiborg and Thomas Townshend Somerville.



ice exports written in 1914 (on the Brevik branch), nor in one written in 1943 (on the Kragerø branch).<sup>104</sup> Nor has it been possible to demonstrate any cooperation in the commercial or private part of T. J. Wiborg's archive. On the contrary, the ice exporters from Kragerø mentioned in the archive are the major competitors, who dumped ice on the market.<sup>105</sup> It has thus not been possible to demonstrate that any collaboration took place.

### *Thomas Johannes Wiborg*



**Picture 2-1.** Thomas Johannes Wiborg.  
Source: Sørensen (1912), p. 111.

T. J. Wiborg (see Picture 2-1) spent three years at the Emil Schreiner Latin School in Kristiania, followed by a period at a boarding school in Boulogne-sur-mer in France, before he began working for his father in 1865 at the age of 20.<sup>106</sup>

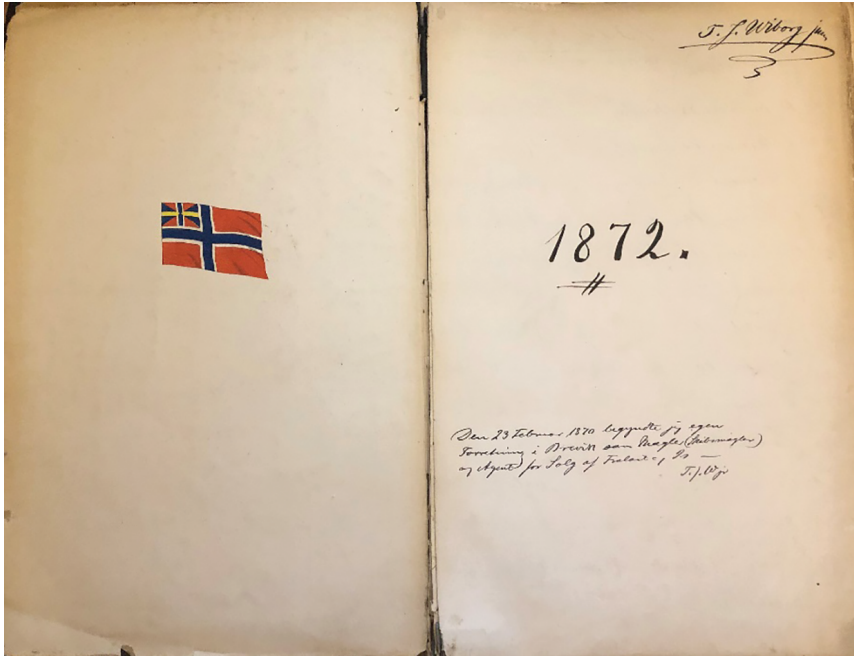
Five years later he started his own business in Brevik using the name T. J. Wiborg Jnr. He began his company's chartering journal (1872–1891) (Picture 2-2) with the following handwritten message: *'On February 23, 1870, I started my own business in Brevik as a shipbroker and agent for the sale of wooden cargoes and ice. T. J. W. Jnr.'*

Wiborg's business plan developed gradually. Ice exports were growing during the 1870s and the aim became to fully enter the ice trade, which he did in 1876. Together with his brother-in-law Thos. T. Sommerville, he established the company Wiborg & Sommerville in 1878. After going bankrupt the same year, the business moved to the capital, Kristiania, in 1879. Wiborg & Sommerville was dissolved in 1881, and T. J. Wiborg established the company T. & A. Wiborg with his half-brother Axel Q. Wiborg.

104 Fleischer (1925); Wiborg (1914); Wiborg (1943).

105 Thos. J. Wiborg Archive. Copy book (1889–1898), p. 400. Letter to Thos. Joh. Heftye & Son, 10 January 1898.

106 Fleischer (1925), pp. 48–50.



**Picture 2-2.** T. J. Wiborg Jnr. Chartering journal (1872).

Source: Thos. J. Wiborg Archive.

This company was dissolved 17 years later in 1898, and the year after he set up the company Thos. J. Wiborg on his own. Wiborg's son Thomas J. (Tom) Wiborg entered the company in 1910, and the company changed its name to Thos. J. Wiborg & Son. All of these companies had the object of producing and exporting ice. For the transport of ice from Norway to customers abroad, the different companies exclusively used chartered ships. In fact, Wiborg was not a shipowner until 1915.

During first World War, Norwegian ice exports declined and almost came to a halt in 1918. The shipping sector, on the other hand, experienced a wartime boom and in 1915, Wiborg expanded into the shipping sector as shipowner in the tramp trade, carrying bulk cargoes. The market for ice exports revived after the war and in 1921–1923 the company was Norway's largest ice exporter. Both the ice and shipping business were wound up in 1927. Two years later, on New Year's Eve 1929, the ice exporter and shipowner Thomas Johannes Wiborg passed away.

## Provision of ice

When ice exporting first began in Norway, the common method of ice production was to collect the ice that formed on lakes, fjords and rivers close to harbours or moorings from where ships could transport it abroad.<sup>107</sup> The ice was sawn into blocks and loaded directly onboard.<sup>108</sup>

From the late 1840s, these processes became more industrialised.<sup>109</sup> Blocks were now produced only in freshwater lakes, ponds and purpose-built dams. The customers demanded that the ice should be clear and clean, and work would start in the autumn to clear the water of reeds, grass and leaves in order to prevent contamination.<sup>110</sup> When the water froze, the ice had to be kept free of snow to ensure the clearest possible ice and partly because the snow insulated the ice and prevented it from achieving marketable thickness. Ice quality was checked regularly throughout the winter, often every week.<sup>111</sup> Ice cutting started in January or February, when thicknesses had reached between 12 and 20 inches.<sup>112</sup> The ice was first cut into long strips using special cutters, often pulled by horses.<sup>113</sup> The strips were then detached from the ice edge before being sawn into square blocks, which were loaded directly onto ships or transported to ice houses for storage. Devices such as ice chutes were used to move heavy blocks with the help of gravity from the ponds to the ice houses or shipping quays. In order to reduce the speed of the blocks travelling down the chutes, planks with protruding nails were installed at points where speeds tended to increase.<sup>114</sup> The ice blocks were handled using tools such as boathooks, ice scissors, ice claws or other specialised equipment.

There were several types of ice houses. Many were built with double boarded walls and insulated in between with 6 to 8 inches of sawdust.<sup>115</sup>

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107 Norwegian Maritime Museum. The Worm-Müller Collection. Brevik/Langesund. A note from Thomas Johannes Wiborg dated February 1926.

108 Gøthesen (1986), p. 127.

109 Worm-Müller (1935), p. 689.

110 *Ibid.*, p. 129.

111 Wiborg (1943), p. 5.

112 Gøthesen (1986), p. 113; Wiborg (1943), p. 4.

113 Wiborg (1943), p. 3; David & Norman (1994), pp. 289, 292.

114 Wiborg (1943), p. 3.

115 *Ibid.*; David & Norman (1994), p. 292.

They were often divided into several compartments, which also helped to prevent melting. So-called ice stacks or ice bins, without roofs, were also constructed. Here, sawdust was strewn across the top of the ice as insulation. Ice blocks transported to the ship directly from the place of production were known as ‘pond shipments’ and as ‘house shipments’ when the ice blocks were stored.<sup>116</sup> Work in and around the ponds and storage areas was commonly carried out by local people and was described in the literature as welcome winter work.<sup>117</sup>

## Difference between ice harvesting and (industrial) ice production

The meaning of the terms ‘harvesting’ and ‘production’ of ice is not always clear in the historical literature, where ice ‘production’ typically refers to all procurement of ice. Little is said about the type of ‘production facility’ used. Both ‘harvesting’ and ‘production’ are used to describe the overall nature of the work processes involved, but often without making clear what they mean exactly or whether they are different, and if so how. One source that can help us in these matters is the archive of the ice merchant T. J. Wiborg, more specifically his company’s lease agreements from the 1890s and its General Ledger from 1898.<sup>118</sup> The term ‘harvesting’ is used when ice is sourced from ponds that have not been substantially worked prior to ice cutting. Such ponds are often known as ‘ice drifts’. The term (industrial) ‘production’ is used in connection with the sourcing of ice from ponds where prior work had been carried out. (As described above in the section Provision of ice). Where infrastructures were involved (such as ice chutes and storage houses), extensive maintenance was carried out, perhaps all year round. Ice is ‘produced’ and stored in such locations, and terms such as ‘ice establishment’, ‘ice business’, ‘ice facility’ and ‘ice plant’ are used interchangeably in connection with such sites. This distinction between the terms appears to have been supported in a

116 Gøthesen (1986), p. 131; Thos. J. Wiborg Archive, Chartering journal (1906–1920).

117 Wiborg (1943), p. 4.

118 Thos. J. Wiborg Archive. Folder marked ‘General Ledger, T. & A. Wiborg’ (1898). Folders containing copies of contracts for the lease of ice establishments, ice facilities and ice drifts.

judgment by the Kristiania City Court in 1904, when it decided that ice ponds seen ‘in isolation’ (meaning ponds that were simply harvested) did not constitute an industrial activity, while ice from ponds where infrastructure systems were involved – such as buildings for storage (stack buildings) and ice chutes for moving ice – were considered to constitute an industrial activity.<sup>119</sup>

## Shipment of ice from Norway – sailing ships and wooden steamships

The Norwegian ice export industry was a part of the international shipping market as shippers, shipowners and charterers,<sup>120</sup> and the industry was almost entirely dependent on transport by ship. Infrastructure for land haulage hardly existed. Some ice was transported from Norway to Sweden by rail, but the quantities were insignificant.<sup>121</sup> The sea was also the preferred transport route for the domestic trade, although there were instances during mild winters when ice was brought from inland locations to coastal ports for loading onto ships for export. Rail came to play an increasingly important role as the railway network expanded in the 1870s.<sup>122</sup>

For many years, ice was seen as a typical sailing ship cargo, partly because it was important to transport ice in wooden ships built which offered the best insulation, and partly because of the availability of sailing ships. The sailing ship fleet was large. Even when steamships became an alternative in the 1880s and 1890s, it was still more common to transport ice in sailing ships. In many ways the first steamships to carry ice were ships that represented a transitional solution between the sailing ships built at local shipyards and the new steamships.<sup>123</sup> These were wooden

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119 Siewers (1906), pp. 83–163. Judgment in an appeal hearing of 6 November 1904.

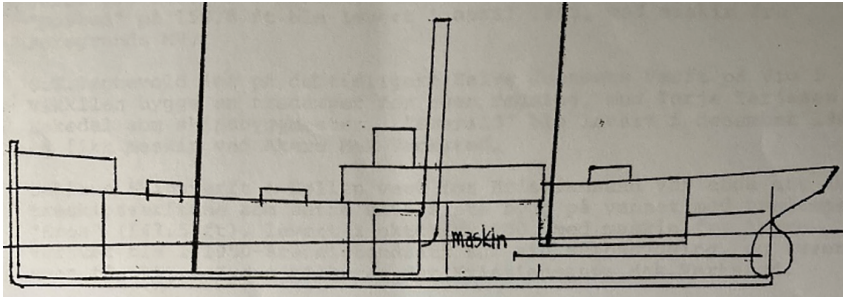
120 Ice exporters = shippers; ice exporters that owned ships = shipowners; ice exporters without own ships = charterers.

121 Norwegian historical statistics show only exports transported by ship.

122 A historical overview of railways in Norway. [https://www.banenor.no/Om-oss/Om\\_Bane-NOR/Historisk-oversikt-jernbanen-i-Norge/](https://www.banenor.no/Om-oss/Om_Bane-NOR/Historisk-oversikt-jernbanen-i-Norge/)

123 Bakka (1983), pp. 34–44.

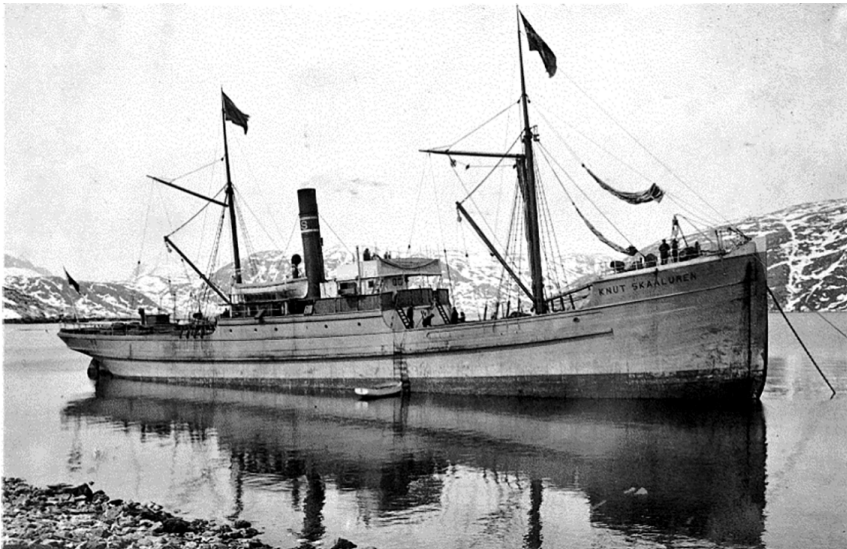
steamships, which were of a standard construction that could also be built at local shipyards for sailing ships.<sup>124</sup> (See Pictures 2-3 and 2-4.)



**Picture 2-3.** Standard arrangement of a Norwegian wooden steamship.

Source: Courtesy of Dag Bakka Jnr, Bakka (1983).

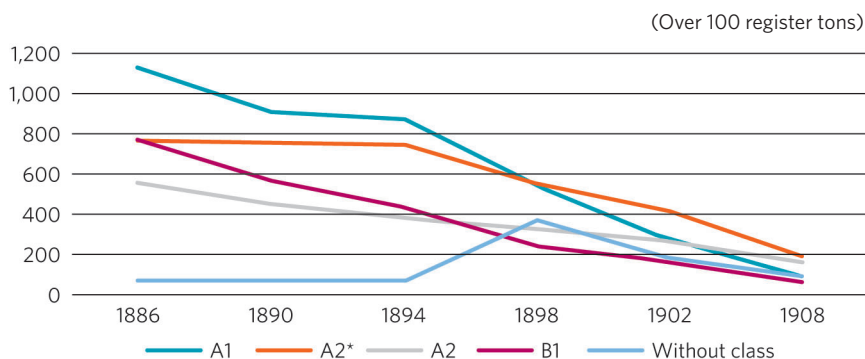
Unlike sailing ships, steamships required a package of new technology: a steam engine with essential accessories such as a boiler, shafts and a propeller. These were manufactured in mechanical workshops located in cities which had already started steamship construction and had the necessary expertise. Professional engineers were hired to install the new technology.



**Picture 2-4.** The wooden steamship *Knut Skaaluren*.

Source: Courtesy of the Norwegian Maritime Museum.

Standard steamships built in iron and steel were also used to transport ice, but these had to be fitted with a plank lining in order to prevent the ice from coming into direct contact with the ship's sides, decks and bulkheads.<sup>125</sup> Traditional Norwegian wooden sailing ships were gradually becoming redundant. They were old, there were fewer of them and, in many cases, they were not insured.<sup>126</sup> Figure 2-6 shows the decline in the numbers of registered wooden sailing ships in the period 1886 to 1908, both in terms of numbers and classification, where class served as a measure of the condition of the ship, with A1 as the best. However, wooden sailing ships continued to be important in the ice trade, at least until the start of the First World War. As many as 117 of a total of 133 vessels chartered in 1913 by Thos. J. Wiborg & Son were wooden sailing ships.<sup>127</sup>



**Figure 2-6.** Number and condition of wooden Norwegian sailing vessels (1886-1908).

Source: Compiled from data in Den Norske Veritas ship registers.

The export of ice from Norway by ship commonly involved one of two types of contracts. The ice was either sold 'free on board' (FOB) or carried as 'cost, insurance and freight' (CIF).<sup>128</sup> FOB contracts entailed that the customer assumed responsibility for the ice at the loading port, while CIF contracts meant that the customer took responsibility at the port of discharge after the ice was unloaded. Under FOB contracts, a whole

<sup>125</sup> Worm-Müller (1935), p. 696.

<sup>126</sup> Worm-Müller (1935), p. 704; Ytreberg (1951), p. 411.

<sup>127</sup> Thos. J. Wiborg Archive. Chartering journal (1913).

<sup>128</sup> Gøthesen (1986), p. 158; Wiborg (1943), p. 5; Worm-Müller (1935), p. 698.

shipload was sold in register tons according to the ship's tonnage,<sup>129</sup> while CIF contracts entailed the ice being weighed (in metric tons) on arrival, with the recipient paying only for the quantity received.<sup>130</sup> It is perhaps not surprising that CIF contracts were the preferred option, not least because in the North Sea trade, between 12.5% and 17% of an ice cargo would melt during a summer voyage in a typical wooden steamship.<sup>131</sup> Melted volumes on wooden sailing ships in the same trade were typically between 17% and 25%.<sup>132</sup> Although both the steamships and sailing ships were built of wood, the voyage by sail took longer. In autumn and winter when the weather was cold, the melted volumes were generally between 3% and 4% for both types of ships. In the North Sea trade, ice blocks were loaded without insulation in the wooden ships.<sup>133</sup> The ice was stowed very tightly, right up to the beams of the deck. Over long distances, sawdust was added, and it is said that a layer of planks was placed on top of the standard deck in order to reduce melting. These planks were kept wet during transport and sold on arrival.<sup>134</sup>

The amount of ice to be unloaded from sailing ships and steamships per day was often stated in the ice contract and in the ship's charterparty.<sup>135</sup> According to Worm-Müller, sailing ships carrying ice to some ports had to discharge in turn, in other words form a queue and unload one at a time.<sup>136</sup> This was particularly problematic when the freight was carried as CIF as the ice was weighed after unloading, and the recipient paid only for the quantity received.<sup>137</sup> However, we have not found this practice in Wiborg's ice contracts and therefore cannot say anything about how common this practice was.<sup>138</sup> In some years, the ships themselves were

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129 In general, FOB contracts were common when the buyer transported the ice using his own ship and thus had control over the transport.

130 Ibid.

131 Compiled based on Worm-Müller (1935), p. 693; *Cold Storage and Ice Trades Review* (August 1905), p. 57; Statistics Norway. Historical statistics of external trade (1930).

132 Ibid.

133 Gøthesen (1986), p. 157; Wiborg (1943), p. 4.

134 Gøthesen (1986), p. 158.

135 Thos. J. Wiborg Archive. Protocol with ice contracts; Bakka (1983). Charterparty from 1900 between Axel Wiborg and the sailing ship Bertie.

136 Worm-Müller (1935), p. 698.

137 Gøthesen (1986), p. 157.

138 Thos. J. Wiborg Archive. Protocol with ice contracts.



used by London ice importers as storage ‘warehouses’ for a period prior to unloading without the shipping companies receiving any payment.<sup>139</sup> The practice was documented in 1891 and there were protests and demands for regulation, but it continued as late as 1907.<sup>140</sup>

At the port of discharge, the ice had in some cases reached its final destination. If it was purchased by a trawling company (for the cooling of fish catches), it would be sent into cold storage before being loaded onto the trawlers bound for the North Sea. In other cases, the port of discharge served as an intermediate storage station from where the ice was loaded onto well-insulated rail wagons and sent to industrial cities inland. Here, it was purchased by ice retailers, who sold ice blocks to households as a food and drink ‘refrigerant’ for use in refrigerators or ice boxes, or to ice-cream makers, butchers, fishmongers and breweries that all needed ice to cool their products. There was a great demand for ice and, even after transport and intermediate storage, the product had to be as clear as possible and free of harmful bacteria on delivery to the end user. In other words, good hygiene and the product’s appearance both played an important role.

## Brokers and knowledge of the market

The potential for adverse effects on all aspects of the ice trade, due to the uncertainties in the market during the ‘last ice age’ period, was considerable. Agreements and contracts were, at times, contested or breached, and the broker, who had market knowledge and acted as an intermediary between the seller and the buyer in a given transaction, was important.<sup>141</sup> Ice was bought and sold in an international market with customers and suppliers located in different countries, and was often transported very long distances by ship. One problem was the particular nature of the product – its tendency to shrink – which challenged the integrity of contracts between sellers and buyers of a given volume. To guarantee secure

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139 *Norges Sjøfartstidende* (15 August 1891, 14 May 1907); *Kysten* (22 October 1906).

140 *Ibid.*

141 <https://snl.no/agent>; <https://snl.no/megler>. The role can be compared to that of an estate agent or football agent.

contractual compliance, it was helpful if prior knowledge about the trustworthiness of the sellers or buyers was available, but this was difficult to obtain, particularly where long distances were concerned.<sup>142</sup>

Larger concerns, such as major British and European liner shipping companies, were able to develop and accumulate this kind of expert knowledge in-house. For companies participating in the ice trade this was far too expensive.<sup>143</sup>

Another way of dealing with uncertainty, which was common in the Norwegian shipping sector, was to draw on a variety of external third-party brokers. Håkon With Andersen has introduced the terms ‘frontline firms’ and ‘supporting groups’;<sup>144</sup> the former refers to firms that were directly exposed to market fluctuations, while the supporting groups were comprised of external partners, such as brokers, agents and consultants, whose collaboration made it easier to survive those fluctuations.<sup>145</sup>

The brokerage profession came in this way to establish an international network of utmost importance for all relevant groups in shipping, owners, builders, shippers, and insurers. It became the spider in the maritime Web, sitting on the most valuable of all commodities in a business based on rapid change: information.<sup>146</sup>

This applies to the ice export industry, which participated in the shipping sector as shippers, shipowners and charterers. Picture 2-5 shows an advertisement for the Christiania Shipbrokers’ Association, where they recommend shipowners, importers, exporters (shippers) and other charterers to use their services.

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142 For example, in the early 1900s it could have been difficult for an ice importer in Ireland to get an overview of the ice market in Norway, information about which exporters could offer ice, what quality they could offer, at what price, if they were to be trusted, etc. Similarly, it could be difficult for ice exporters in Norway to obtain an overview of the ice market in Europe, potential customers, prices they were willing to pay, how to minimise risk, etc.

143 Nygaard (2011), pp. 52–55; Andersen (1997), p. 485.

144 Andersen (1997), pp. 463–464.

145 Ibid.

146 Ibid., pp. 482–483.



**Picture 2-5.** Advertisement published by the Christiania Shipbrokers' Association.

Source: *Norges Handels og Sjøfartstidende* (30 August 1917).

In the ice export industry, this kind of arrangement also helped small companies to conduct international trade and helps to explain why relatively small companies could handle large ice exports. '*... they could do so because of the very strong infrastructure on which they could rely.*'<sup>147</sup> For example, in 1906, only three people were employed in the office of the company Thos. J. Wiborg, yet 120 ships were chartered and its exports accounted for 7% of total Norwegian ice exports that year.<sup>148</sup>

## Ice agents

Several shipbrokers, Norwegian, Danish, German, British and Irish, also acted as ice agents.<sup>149</sup> Presumably, this combination offered both diversification and an opportunity to spread risk.

The ice agents were primarily commission agents, based in the importing country, who mediated sales for a percentage of the contract value paid by the exporter.<sup>150</sup> For instance, the company Thos. J. Wiborg paid its agents between 2.5% and 5%, depending on the type of contract, the amount of work involved and the conditions in the market. Agents did not obtain orders solely from the location where the agent company was based, but from several cities or regions and, in some cases, from more than one country. Agents set up the contracts between sellers and

<sup>147</sup> Andersen (1997), pp. 463–464.

<sup>148</sup> Thos. J. Wiborg Archive. Copy book (1900–1910). Letter to Claus Brodersen, 25 April 1906.

<sup>149</sup> Thos. J. Wiborg Archive. Protocol with ice contracts.

<sup>150</sup> This section is based on the Thos. J. Wiborg Archive. Protocol with ice contracts and chartering journals.

buyers, and also signed on behalf of either one or both parties, adding ‘as by authority’ or ‘by telegraphic authorisation’ and the name of the ice export company to their signature. Although close relationships were often established between ice agents, sellers and buyers, the agents themselves were external third parties operating independent businesses. Large importers were thus able to purchase ice via several agents at the same time. In 1906, when Thos. J. Wiborg sold six ice cargoes to the ice-cream company Messrs United Carlo Gatti and Stevenson & Slaters Ltd. of London, the transactions were mediated by three different agents.<sup>151</sup>

However, not all ice sales took place through agents. Wiborg, who had many well-established, long-term customers often sold directly to the importer, because both the seller and the buyer stood to benefit from cutting out the middleman.

## Main Norwegian ice export markets (1840s–1900s)

Ice was exported from Norway to a large number of countries. As Map 2-2 illustrates, Europe was the main market, but ice was also transported to North Africa and Turkey. Exports to North Africa continued over a 20-year period from 1882 to 1902, although the trade to Turkey lasted only a few years.<sup>152</sup> The US represented an even more remote export target, and deliveries were made in 1884, 1886, 1890, 1892, 1894 and 1897.<sup>153</sup> The record year was 1890 when 19 Norwegian ships arrived in the US carrying a total of 14,239 register tons of ice,<sup>154</sup> which was five times more than was exported to the US in 1894, the second highest year. The reason for the export peak to New York in 1890 was the relatively high winter temperature, averaging 4.7°C. For the first and only time, the winter had been so mild that it was not possible to produce ice on the Hudson River. Prices increased, making export across the Atlantic profitable for Norwegian ice exporters.<sup>155</sup>

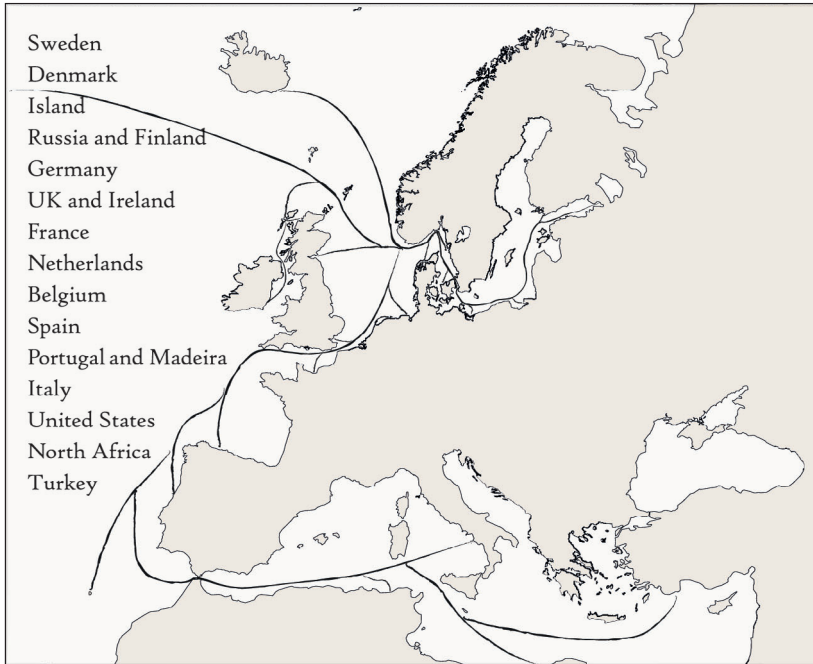
151 Thos. J. Wiborg Archive. Protocol with ice contracts (1906). Through John Goodchild & Co., Blichfeldt & Co., and G. L. Figge.

152 Statistics Norway. Historical statistics of external trade by country (1865–1930).

153 Ibid.

154 Ibid.; Worm-Müller (1935), p. 696.

155 Parker (1981), p. 3; Worm-Müller (1935), p. 696.



**Map 2-2.** Exports of ice from Norway (1884-1885).

Source: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1884-1885).

By far the largest importer of ice from Norway was the UK, as shown in Table 2-1, with London being the largest port of import/discharge. Ice exports to the UK started in the 1840s, and the country retained its position as the primary export target for Norwegian ice up until the First World War nearly 75 years later.<sup>156</sup> In other countries, it was the incidence of mild winters with high air temperatures that stimulated demand for ice imports. For example, 1884 was a mild winter in Europe and Norwegian exports increased to a number of countries, especially to Germany. Exports totalling 150,000 register tons of ice were sent to that country in 1884 (which was two-thirds of the volume exported to the UK). Another mild winter occurred in 1898, both in Europe and Norway, with a record high export volume and a very high ice value. The warmer weather meant, as in 1884, that German domestic ice production could not meet demand and more than 180,000 register tons of ice were

<sup>156</sup> Statistics Norway. Historical statistics of external trade (1847, 1855, 1864-1918). Tables related to Norwegian commerce.

**Table 2-1.** Norwegian ice exports per decade, distributed by country (1870–1929)

(Register tons)

	1870-1879	1880-1889	1890-1899	1900-1909	1910-1919	1920-1929	Total	In %
<b>UK and Ireland</b>	1,191,118	1,961,276	2,931,661	2,461,720	919,531	84,279	9,549,585	74.45%
<b>Sweden</b>	1,165	13,768	26,659	12,394	64,901	86,867	205,754	1.60%
<b>Denmark</b>	5,105	47,890	42,104	16,551	79,095	49,330	240,075	1.87%
<b>Germany</b>	59,169	167,894	316,575	296,679	247,808	103,183	1,191,308	9.29%
<b>France</b>	81,547	145,477	240,941	238,208	139,126	49,651	894,950	6.98%
<b>The Netherlands</b>	26,984	98,300	38,280	66,969	13,822		244,355	1.90%
<b>Belgium</b>	23,407	74,886	99,304	113,429	66,693		377,719	2.94%
<b>Spain</b>	7,479	7,393	5,010	3,914			23,796	0.19%
<b>Italy</b>		6,346	3,411	2,676			12,433	0.10%
<b>Portugal</b>		3,513	1,442	2,053			7,008	0.05%
<b>US</b>		15,604	18,054				33,658	0.26%
<b>Africa</b>		14,003	21,918	1,500			37,421	0.29%
<b>Other countries</b>	2,175	2,548	829	53	2,815	565	8,985	0.07%
<b>Total</b>	<b>1,398,148</b>	<b>2,558,898</b>	<b>3,746,188</b>	<b>3,216,146</b>	<b>1,533,791</b>	<b>373,875</b>	<b>12,827,046</b>	<b>100.00%</b>

Source: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1870–1929).

imported from Norway. Such minor or major peaks in exports caused by mild weather – or ‘mud winters’<sup>157</sup> as they were called – were quite common during the ‘last ice age’ and contributed to making the export of ice an unpredictable industry.

## Cooperation in ice exports

From the 1850s onwards, cartels were common, as were shipping conferences, cartels which regulated the shipping markets.<sup>158</sup> This raises the question of how Norwegian ice exporters responded to this trading reality? Existing literature often claims that no collaboration took place between ice exporters and gives examples of firms working against each other and undercutting each other’s prices.<sup>159</sup> Such a lack of cooperation has been seen as an explanation for the fluctuating prices, high risks and erratic economic performances that characterised the industry.<sup>160</sup>

157 Ice industry jargon.

158 Nygaard (2011), pp. 39–65.

159 National Library. The Worm-Müller Collection II, p. 166; Worm-Müller (1935), p. 696.

160 Worm-Müller (1935), p. 696.

The Norwegian exporters knew that their overseas customers united to work against them and that collaboration would give them an advantage. For example, at a meeting in Kristiania in 1903 it was stated that overseas customers were working together with the aim of ‘*reducing prices to a minimum*’, while at the same time Norwegian exporters were not cooperating but were, in fact, trying to underbid each other.<sup>161</sup> It was also seen as problematic that large, well-organised and capital-intensive UK importers used this lack of solidarity among Norwegian exporters to dictate trading terms and conditions, especially with the smaller enterprises. (See also page 121).

But was this situation problematic for all ice exporters or only for some? The major players, according to Worm-Müller, delivered ice to regular customers with whom they had established long-term relationships and regularly negotiated prices.<sup>162</sup> Moreover, their contracts were ‘concluded on delivery’. In other words, the contracts were signed in advance for deliveries made in the future. For example, a contract might be signed in the autumn of one year for the delivery of ice in the spring the following year.<sup>163</sup> Such contracts, also known as ‘forward contracts’, were (and still are) common in many types of commodity trading in non-transparent markets and were normally associated with attempting to minimise the risks for both buyers and sellers. Under such a scheme, both parties achieved a price that may not have been entirely optimal. The parties benefited a little less than they ideally would have when selling and buying at a price agreed in advance if weather conditions caused the price to rise or fall. But they lessened the risk of major losses.<sup>164</sup>

Worm-Müller described this practice almost as a disadvantage because no party could be sure of how next year’s season would turn out.<sup>165</sup> Yet this type of contract was also seen as one of the main reasons for trading success, especially among the major players. The success of Søren Parr in Drøbak, for instance, has been explained by the company’s ability to combine effective production techniques with organisational improvements,

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161 Ibid.

162 National Library. The Worm-Müller Collection II, p. 166; Worm-Müller (1935), p. 688; Wiborg (1943), p. 1.

163 Ibid.

164 Worm-Müller (1935), p. 696.

165 Ibid.

including multi-year contracts with ice importers in the UK which served to divide the risk between the two parties.<sup>166</sup> Similarly, Haakon Wiborg claimed that Nicolay Wiborg, the largest exporter in Kragerø, never made a loss in any year of operation, largely due to regular deliveries to known recipients based on fixed prices.<sup>167</sup> As we shall see, T. J. Wiborg also relied on long-term customers and used ‘forward contracts’. It seems reasonable to conclude that fixed ice delivery prices were a beneficial organisational aspect, at least for some of the ice exporters.

It is also worth noting that while the industry collaborated with international buyers, there is less evidence that they collaborated with each other. Whether it would have boosted the earnings of the ice export industry as a whole had they cooperated is a possibility. In fact, some form of agreement was reached in 1893<sup>168</sup> (see also Chapter 6, page 80), but it was of very short duration.<sup>169</sup> We find the same lack of cooperation in other Norwegian industries such as shipping. At a meeting called to form a national shipowners’ association in 1880, Christian Anker, a prominent industrialist, claimed, ‘there is hardly any country in the world where people are less likely to stick together where business is concerned.’<sup>170</sup>

## Was the Norwegian natural ice industry important in the ‘last ice age’ period?

Perhaps not surprisingly, the ice trade was declared to be of great importance to the Norwegian economy by contemporaries engaged in the trade. ‘One can hardly think of a more beneficial export commodity than ice.’<sup>171</sup> Its importance to the economy was indisputable; T. J. Wiborg, for example, proclaimed that ‘without the ice, both people and ships would have been unemployed.’<sup>172</sup> It was an important cargo and

166 Egeberg (1957), p. 32.

167 Wiborg (1943), p. 5.

168 *Farmand* (25 March 1893).

169 *Farmand* (20 October 1894).

170 Tønnesen (1951), p. 209.

171 Worm-Müller (1935), p. 697. ‘National economics can hardly be thawed’... ‘... a more advantageous export than ice exports.’

172 Norwegian Maritime Museum. The Worm-Müller Collection. Brevik/Langesund. A note from Thomas Johannes Wiborg dated February 1926.



contributed to significant wealth creation in the shipping sector. The transport cost by ship constituted the largest item of expenditure in the ice supply chain, amounting to approximately the same value as the ice cargo itself. The contribution of ice exports to the value of Norway's total exports was, however, modest – even if it grew rapidly, it started out late and from small beginnings.<sup>173</sup> For example, in the record-breaking year of 1898, the value of ice exports was 2.95% of total exports, while the contributions of long-established industries such as timber and fisheries amounted to 25.15% and 28.45% respectively.<sup>174</sup> Table 2-2 shows the ratio between volume and value for ice and timber exports in the period 1894–1898, in which we can see that ice accounted for no more than between 2% and 12% of the value of timber exports. In stark contrast, ice exports amounted to between 52% and 80% of the volumes of timber exported. Compared to timber, ice was a volume-demanding, low-value commodity.

**Table 2-2.** Values and volumes of Norwegian exports of ice and timber (1894–1898)

(in NOK/m<sup>3</sup>)

Value in kroner	1894	1895	1896	1897	1898
<b>Export of timber</b>	29,050,422	29,321,010	35,581,958	42,284,489	40,076,000
<b>Export of ice</b>	1,084,800	715,000	1,020,300	848,200	4,706,000
<b>Ice in relation to timber</b>	3.7%	2.4%	2.9%	2.0%	11.7%
<b>Volume in cubic meters (m<sup>3</sup>)</b>					
<b>Export of timber</b>	1,716,311	1,674,574	1,846,098	2,095,111	1,973,822
<b>Export of ice</b>	930,853	920,248	1,155,691	1,091,771	1,567,751
<b>Ice in relation to timber</b>	54.2%	55.0%	62.6%	52.1%	79.4%
<b>Export value per cubic meter (m<sup>3</sup>)</b>					
<b>Timber</b>	16.93	17.51	19.27	20.18	20.30
<b>Ice</b>	1.17	0.78	0.88	0.78	3.00
<b>Ice in relation to timber</b>	6.9%	4.4%	4.6%	3.8%	14.8%

Source: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1894–1898).

<sup>173</sup> Statistics Norway. Historical statistics of external trade (1894–1898). Tables of Norwegian commerce.

<sup>174</sup> Ibid. The forestry sector as a whole (timber together with wood pulp and cellulose, matches, spools of wood and turned wood products) accounted for 36.99% of Norwegian export values in this year.

Undoubtedly, the ice industry was important to shipping and to those involved in or affected by it. This applied not only to people who actively participated in the ice export trade, but also to those who earned their living working for the ice exporters or on board the ships that carried the ice. Yet as a contributor to the larger Norwegian economy the industry was of less importance.

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A stable cold climate that made it possible to produce ice every winter was a key element in the success of the ice industry in Norway in the 1800s and early 1900s. The ice industry was important as year-round or winter work for many people and thus contributed to employment in the ice districts. Virtually all ice was exported by ship and it was an important cargo for both sailing ships and wooden steamships, contributing to significant incomes in the shipping sector and providing work for the seamen onboard. The ice was exported all over Europe, with the UK as the main market. Some years, ice was exported as far away as the USA. The industry grew until 1898 before it started to decline. The reasons for this decline will be further discussed in the next chapters.



## CHAPTER 3

# Starting up (1870-1879)

## Market conditions and the Norwegian ice export

The first few years of the 1870s marked the end of an extended upturn for Norwegian exports and the start of a long period of decline, lasting until 1887.<sup>175</sup> Norway's most important trading partners, including the UK, experienced a number of problems, like negative trends in GDP. The decline first became evident in 1874 in the coastal areas south of the capital Kristiania, which were greatly reliant on shipping and the timber and ice export trades. Timber exports decreased in value from about NOK 56 to 30 million between 1873 and the 1880s, while the value of exported fish remained stable, although the fishing industry experienced less growth or stagnated.<sup>176</sup> In the shipping sector, freight rates fell sharply after 1873 due to overcapacity, and by the 1887s,<sup>177</sup> they had virtually been halved. Ice exports fared best during this crisis, and ice was in fact the fastest growing export commodity (measured in register tons) throughout the period 1865 to 1898.<sup>178</sup>

## *Norwegian ice exports and production*

Throughout the 1870s, more than 85% of Norwegian ice exports went to the UK and Ireland, as seen in Table 3-1.

France and Germany, with 5.8% and 4.2% respectively, were the two second largest importing countries. We note that a small quantity (500 register tons) was exported to the East Indies in 1877, to what was then Rangoon (now Yangon), the largest city in Burma (now Myanmar).<sup>179</sup>

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175 Hodne & Grytten (2000), pp. 233–234.

176 Ibid.

177 Ibid.

178 Ibid, p. 275.

179 Statistics Norway. Historical statistics of external trade by country (1877); *Morgenbladet* (7 April 1878).

**Table 3-1.** Norwegian ice exports distributed by country (1870-1879)

(Register tons)

	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	Total	In %
<b>UK and Ireland</b>	58,393	75,176	103,566	124,522	117,098	118,608	137,801	162,237	167,002	126,716	<b>1,191,118</b>	<b>85.19%</b>
<b>Sweden</b>			34	25	842	21	6		120	117	<b>1,165</b>	<b>0.08%</b>
<b>Denmark</b>			508	25	3,037	237	123	36	968	171	<b>5,105</b>	<b>0.37%</b>
<b>Germany</b>			10,053	10,252	12,436	819	62	10,971	14,538	38	<b>59,169</b>	<b>4.23%</b>
<b>France</b>	462	382	1,586	16,458	7,680	5,324	2,584	19,062	20,925	7,085	<b>81,547</b>	<b>5.83%</b>
<b>The Netherlands</b>	643		9,038	964	1,554	170		7,292	6,747	576	<b>26,984</b>	<b>1.93%</b>
<b>Belgium</b>		132	4,523	947	269	172	231	8,450	6,437	2,245	<b>23,407</b>	<b>1.67%</b>
<b>Spain</b>	542	578	613	945	596	664	739	672	531	1,599	<b>7,479</b>	<b>0.53%</b>
<b>East Indies</b>								500			<b>500</b>	<b>0.04%</b>
<b>Other countries</b>							229	500	946		<b>1,675</b>	<b>0.12%</b>
<b>Total</b>	<b>60,039</b>	<b>76,268</b>	<b>129,921</b>	<b>154,138</b>	<b>143,512</b>	<b>126,015</b>	<b>141,775</b>	<b>209,720</b>	<b>218,214</b>	<b>138,547</b>	<b>1,398,148</b>	<b>100.00%</b>

Sources: Compiled on the basis of Statistics Norway. Historical statistics of external trade by country (1870-1879).

The ice was carried as part of a speculative venture on the barque *Tordenskjold*.<sup>180</sup> During the voyage, the shipowner Andreas Salvesen assumed the role of supercargo,<sup>181</sup> responsible for the sale of the ice in Rangoon and for procuring return cargo.<sup>182</sup> Even though the ship was loaded with rice on its return voyage, the enterprise made a loss. The reason was said to be that too much ice melted during the voyage, and no more trips of this kind were made.<sup>183</sup> It nevertheless attracted considerable media attention and was reported in a number of newspapers.<sup>184</sup>

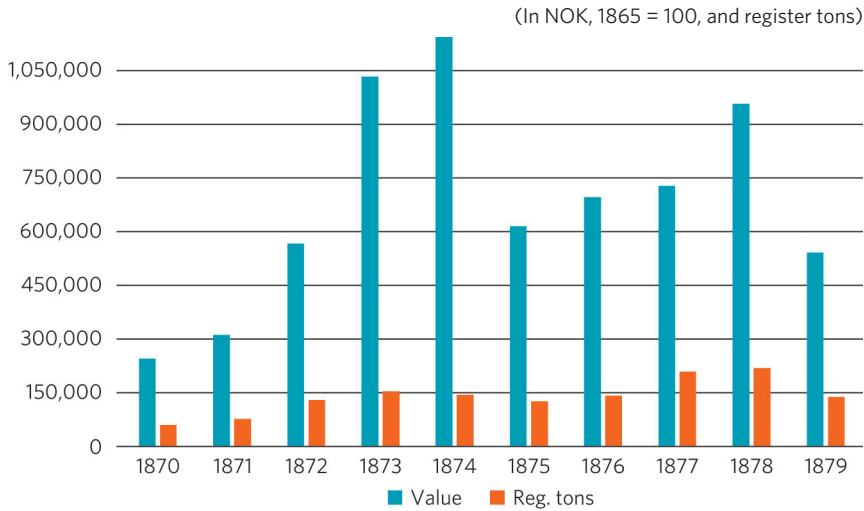
180 To be sold to the highest bidder.

181 de Kerchove (1961), p. 807. A person appointed by the owners of the cargo on a merchant ship whose task is to manage the sale or purchase of goods and to superintend all the commercial aspects of the voyage.

182 *Morgenbladet* (7 April 1878); Eirheim (2012), pp. 76-77.

183 Eirheim (2012), pp. 76-77. For more information, read about Andreas Salvesen in Eirheim (2012).

184 For example, the following newspapers: *Morgenbladet* (7 April 1878); *Grimstad Adressetidende* (10 April 1878); *Bergens Adresse-contours Efterretninger* (12 April 1878); *Bergens Tidende* (12 April 1878); *Hedemarkens Amtstidende* (12 April 1878).



**Figure 3-1.** Value and volume of Norwegian ice exports (1870-1879).

Sources: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1870-1879).

Exports of ice rose throughout the 1870s (see Table 3-1), amounting to a total of 1.4 million register tons worth NOK 6.8 million. The volumes and values fluctuated from one year to the next, as evidenced in Figure 3-1. Annual variations were largely due to imbalances between ice supply and demand, in part caused by temperature changes. One such year was 1874. The winter was mild in Norway, with Kristiania recording an average temperature of  $0.2^{\circ}\text{C}$ .<sup>185</sup> It was also mild on the Continent; in Berlin, the average winter temperature was  $2.9^{\circ}\text{C}$ .<sup>186</sup> In Britain, the summer was hot, with an average July temperature in central England of  $17.3^{\circ}\text{C}$ .<sup>187</sup> The result was that demand soared but supply was limited and prices rose sharply: in 1874, the value of ice was more than double the value of three years earlier in 1871. It reached NOK 7.96 per register ton, which was the second highest value recorded in the period covered by this book (1870-1930) and was exceeded only in 1882.<sup>188</sup>

<sup>185</sup> Ouren (1991), p. 26.

<sup>186</sup> Compiled on the basis of temperature records for December, January and February, as cited in Clayton et al. (1927), p. 502.

<sup>187</sup> Beamon & Roaf (1990), p. 146; Manley (1958), p. 419.

<sup>188</sup> Compiled on the basis of Statistics Norway. Historical statistics of external trade (1870-1930).

But there were also lean years, such as 1879 when exports fell by 40% in volume and 50% in value compared to the previous year.<sup>189</sup> Falling exports to the UK accounted for half of this decline. According to the General Consul in London,<sup>190</sup> this was due to reduced private consumption caused by an ongoing recession and by the low temperatures during the winter of 1878–1879 when ‘*the ice merchants were able to collect many thousands of tons of English ice*’.<sup>191</sup> More ice was being harvested domestically on the European continent also, causing a fall in imports. In Germany, they fell from 14,538 to 38 register tons, while imports to France fell by almost 13,000 register tons,<sup>192</sup> and they continued to do so during the 1880s and early 1890s.

Overall, it was a good decade where ice exports grew, and the value of ice exports remained high throughout the period, with a value per register ton of not less than NOK 4 in any individual year, a minimum value that was not achieved in any subsequent decade.<sup>193</sup>

## T. J. Wiborg Jnr

As already mentioned, Wiborg founded his business T. J. Wiborg Jnr on 23rd February 1870. His original business idea was to operate as a ship-broker, including acting as an agent in the sale of timber and ice, and this remained the main activity throughout the 1870s.<sup>194</sup> As a broker, the company acted as an intermediary between the shipper (the ice or timber exporter) and the carrier (the shipping company that owned the ship that was to transport the ice or timber). The company received payments ranging from 2.5% to 5% of the contract sum.<sup>195</sup> T. J. Wiborg also did some

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189 Compiled on the basis of Statistics Norway. Historical statistics of external trade (1879).

190 During the period 1814–1905, Norway was in a union with Sweden. The King was Swedish and Norwegian businesses were represented by Swedish/Norwegian consulates abroad.

191 Statistics Norway. Excerpts from annual reports from the consuls of Sweden/Norway (1879). Reports on trade and shipping, p. 256.

192 *Ibid.*, pp. 35, 403; Statistics Norway. Historical statistics of external trade (1879).

193 *Ibid.*

194 Thos. J. Wiborg Archive. Chartering journal (1872–1891) constitutes the main source for this book’s discussion of ice production before 1890.

195 Thos. J. Wiborg Archive. Chartering journal (1872–1891).

export business on his own behalf, where ice or timber was bought and resold abroad.

The family timber and ice business was largely run by his father. After his father's death in 1874, the company T. J. Wiborg Jnr became responsible for some ice export activities on behalf of the deceased's estate, until it was formally wound up.<sup>196</sup> In 1874 and 1875, two of T. J. Wiborg's brothers, Ludvig and Axel Q., were also involved in T. J. Wiborg Jnr, and all three signed correspondence on behalf of the company.<sup>197</sup> The company stopped exporting timber after 1875, and from 1876 it operated exclusively as an ice export enterprise.<sup>198</sup> As from November 1876, T. J. Wiborg stopped using 'T. J. Wiborg Jnr' and changed his company's name to T. J. Wiborg.<sup>199</sup>

### *Ice transport by chartered ships: national and international aspects*

It was not until 1915 that T. J. Wiborg bought his own ships; up until then, his various companies all used chartered ships for transport.

The Norwegian ice trade was an important customer for foreign carriers. We see this very clearly in the use of Danish sailing ships in the North and Baltic Sea trade in the 1870s.<sup>200</sup> T. J. Wiborg Jnr sought out Danish brokers who knew the shipping companies in the southern part of Fyn in Denmark, a sailing ship hub in much the same way as the Aust-Agder region in Norway.<sup>201</sup> In the autumn of 1871, T. J. Wiborg Jnr contacted two brokers in Fyn, Hude & Son in Svendborg and Ishøj & Grube in Marstal on the island of Ærø,<sup>202</sup> for the purpose of securing ships the following year to transport ice and timber, mainly to the UK. In 1872, T. J. Wiborg Jnr was the agent of 84 ships, 64 of which were Danish.<sup>203</sup> Of

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196 Thos. J. Wiborg Archive. Chartering journal (1874).

197 Thos. J. Wiborg Archive. Copy books (7 November 1874–7 September 1875; September 1875–August 1876). Copy books are missing for the period leading up to 1883, so it is not possible to determine the duration of the collaboration.

198 Thos. J. Wiborg Archive. Chartering journal (1872–1879).

199 Thos. J. Wiborg Archive. Chartering journal (1876).

200 Holm-Petersen & Rosendahl (1951), pp. 239–240.

201 Hermansen K. (2008), p. 88; Hanisch (1983), p. 119.

202 Thos. J. Wiborg Archive. Copy book (1871–1873); Letters to Hude & Son and Ishøj & Grube (autumn 1871).

203 Thos. J. Wiborg Archive. Chartering journal (1872).



these, 12 were chartered through Hude & Son and 27 through Ishøy & Grube.<sup>204</sup> In other words, only 20 Norwegian ships were chartered. This year was not exceptional: throughout the 1870s a large proportion of the sailing ships chartered were from foreign companies, many of which were Danish (see Table 3-2).<sup>205</sup>

**Table 3-2.** Nationality and number of ships transporting ice or timber

Chartered by T. J. Wiborg Jnr (1872-1878) and Wiborg & Somerville (1878-1879).

Year	1872	1873	1874	1875	1876	1877	1878	1879	Total
Denmark	64	35	12	13	39	17	7	5	192
Sweden		2							2
Finland							1		1
UK				1	3		1		5
Germany					2	1	1		4
The Netherlands			2						2
<b>Total foreign</b>	<b>64</b>	<b>37</b>	<b>14</b>	<b>14</b>	<b>44</b>	<b>18</b>	<b>10</b>	<b>5</b>	<b>206</b>
<b>Total Norwegian</b>	<b>20</b>	<b>5</b>	<b>11</b>	<b>17</b>	<b>12</b>	<b>44</b>	<b>33</b>	<b>8</b>	<b>150</b>
<b>Total ships</b>	<b>84</b>	<b>42</b>	<b>25</b>	<b>31</b>	<b>56</b>	<b>62</b>	<b>43</b>	<b>13</b>	<b>356</b>
<b>Foreign in %</b>	76%	88%	56%	45%	79%	29%	23%	38%	58%
<b>Norwegian in %</b>	24%	12%	44%	55%	21%	71%	77%	62%	42%

Sources: Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journal (1872-1891).

Table 3-2 clearly demonstrates that foreign ships dominated during the first five years of the decade. In the last three years, the share of foreign vessels was about 30%, and this level remained stable during the 1880s and 1890s. The reason for the large proportion of ships from southern Fyn in Denmark is that shipping from this area was predominantly carried out by wooden sailing ships, which were suitable for both ice and timber transport. They probably also had crews with experience handling these commodities.

Taking an international perspective gives us further insights into how the transportation of Norwegian ice was carried out. In the literature, both ice and timber shipping have been seen as typical Norwegian

<sup>204</sup> Ibid.

<sup>205</sup> Thos. J. Wiborg Archive. Chartering journal (1872-1879).

activities and the typical ice exporter as the owner of the ship.<sup>206</sup> In the case of Wiborg, we have a major Norwegian ice exporter who did not own his own ships for many years and who chartered largely foreign vessels for transport. What we know is that chartering ships as Wiborg did was a common way of securing shipping space.<sup>207</sup> In fact, owners of both wooden steamships and sailing ships tried to establish conferences, i.e. cartels, in order to be able to control the prices for chartering ships to transport ice. Without a market for chartered ships in the ice trade, this would not have been expedient (see also page 127).

Also the maritime author Gøthe Gøthesen confirms this when he writes, *‘It is important to bear in mind that a great deal of ice was transported by ships that had no fixed connection to the ice trade, ships that occasionally took a load of ice while they were otherwise engaged in other trades.’*<sup>208</sup>

The approach seems to have been common, albeit with some regional differences. In the case of the town Kragerø, for example, it has been described that the ice trade was conducted by local vessels, either owned by the ice exporters or chartered from within the region, and the same applies to Brevik and Langesund.<sup>209</sup> In the case of Porsgrunn, it has been described that the ice trade was conducted by vessels from other cities and also by foreign steamships as early as the 1870s.<sup>210</sup> In the Kristiania Fjord region, few sources have addressed this issue, but in Kristiania, at least two of the larger ice exporters chartered international tonnage,<sup>211</sup> namely T. J. Wiborg and the ice export pioneer Søren Parr.<sup>212</sup> As early as 1865, it is documented that Parr chartered foreign vessels to transport ice.<sup>213</sup> The Parr family did, in fact, own a number of sailing ships from 1850 onwards,

206 Wiborg (1943), p. 1; Worm-Müller (1935), p. 693.

207 For more information, see Nygaard (2022). Two conferences in the natural ice trade. In volume 34 of the *International Journal of Maritime History*.

208 Gøthesen (1986), p. 137. (Translation by the author).

209 Pedersen (1933), pp. 40–48; Tønnesen (1957), p. 305; Norseng (2014), p. 154.

210 Tønnesen (1957), p. 305; Norseng (2014), p. 154.

211 Norwegian Maritime Museum. The Worm-Müller Collection. Brevik/Langesund. A note from Thomas Johannes Wiborg dated February 1926.

212 Worm-Müller (1935), p. 689; National Library. The Worm-Müller Collection III, transcribed interview with Kammerherrerinde Egeberg, born Parr (daughter of Søren Parr) (23 May 1935); Egeberg (1957), p. 34.

213 *Morgenbladet* (23 July 1865). Chartering of ships for ice transport.

but these were partly owned by a member of the family, Hans Henry Parr, who was not directly involved in the ice export trade. Furthermore, most of the vessels owned by Søren Parr were not of a suitable size for ice transport.<sup>214</sup> If we also take into account the amount of sailing ships from the southern part of Denmark that participated in the Norwegian ice trade,<sup>215</sup> this shows that others in addition to Wiborg chartered Danish ships, and we can conclude that carrying ice on ships was a part of the international shipping market.

### *Ice export and production*

Wiborg's business plan gradually took shape during the 1870s. The aim to fully enter the ice trade can be seen in his correspondence with shipbrokers. In the early 1870s, he contacted UK brokers with whom he wanted to do business. An example is Turnbull, Salvesen & Co. in Leith in Scotland, with whom he entered into business. As with many of the foreign players Wiborg did business with, the company had a Norwegian partner, Christian Salvesen, originally from Mandal. The following year in 1872, Salvesen withdrew from the firm and established his own company, Chr. Salvesen & Co. With this company, Wiborg continued a relationship that lasted for about 30 years.<sup>216</sup>

In April 1872, the company placed four advertisements in two Danish newspapers (*Berlingske Tidende* and *Dagbladet*), specifically aimed at Danish customers.<sup>217</sup> A draft of one of the advertisements (see Picture 3-1) reads:

Ice.

Fresh-water ice blocks from 12 inches thick and upwards, freely delivered in good Danish ports at 16/- per English ton 2000 lb. For cargoes from 30 tons and upwards, contact Wiborg Jnr Brevik Norway.

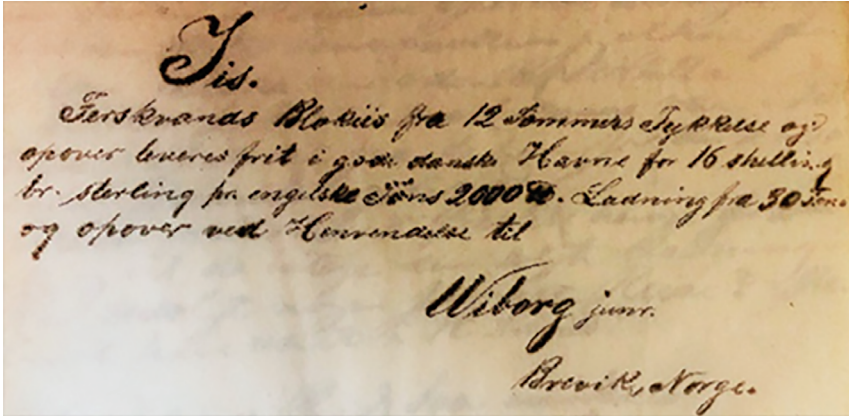
214 Ibid. Søren Parr began chartering ships for ice transport because of the decline in the shipping market in the 1870s and 1880s, after finding that its margins were higher if the tonnage was chartered, according to Worm-Müller. Worm-Müller (1935), p. 690; Egeberg (1957), p. 34.

215 Hermansen (2008), p. 88; Holm-Petersen & Rosendahl (1951), pp. 239–240.

216 Thos. J. Wiborg Archive. Copy book (1871–1873). Letter to Turnbull, Salvesen & Co., Glasgow (24 August 1871).

217 Thos. J. Wiborg Archive. Copy book Wiborg Jnr (1871–1873). Letters to the Copenhagen newspapers *Berlingske Tidende* and *Dagbladet* (18 April 1872).

The advertisements certainly appear to have had the desired effect, given that the company received several orders from Danish buyers in the months that followed.<sup>218</sup>



**Picture 3-1.** Draft advertisement for the newspapers *Berlingske Tidende* and *Dagbladet*.

Source: Thos. J. Wiborg Archive. Copy book (18 April 1872)

Wiborg started to offer ice broking to his broker connections in the timber trade, often in the form of identical letters sent to various brokers with an offer to mediate the sale of one or more ice shipments. For example, on 19 March 1875, offers were sent to shipbrokers in three cities, all of whom had experience in both timber and ice:<sup>219</sup> H. A. Clarkson<sup>220</sup> in London; Mullock & Sons<sup>221</sup> in Limerick, Ireland; and Brodersen, Vaughan & Co. in Liverpool. In 2019, reflecting on its history, Mullock & Sons wrote the following on its website, under the headline ‘In recent Years’ (sic.): ‘*There were good times to follow. Old trades; Grain for Milling, Corn for feed, Salt Pork & Bacon and Butter, Condensed Milk and Canned Steak, and all the downstream extras of shook’s and staves for Barrels, salt for curing*

<sup>218</sup> Ibid.

<sup>219</sup> Thos. J. Wiborg Archive. Copy book (1874–1875), pp. 365–367.

<sup>220</sup> Clarkson PLC. <https://www.clarksons.com/about-us/our-history/>. Clarkson, founded in 1852, is currently (2020) one of the world’s leading shipbrokers.

<sup>221</sup> Mullock & Sons Shipbrokers Ltd. <https://www.mullocks.com/about>. Mullock & Sons was founded in 1778 and is still (in 2020) one of Ireland’s leading shipbrokers.

*and Fresh Water Ice each Spring from Norway's lakes to pack the Cold Stores in warm Summer days are gone forever ...'* (my emphasis).<sup>222</sup>

H. A. Clarkson started up in 1852 and soon became one of the most frequently used London brokers by companies in the Norwegian maritime sector in the 19th century.<sup>223</sup> It was not uncommon for Norwegian ship-owners to send their sons to H. A. Clarkson for a couple of years in order to learn the business. Brodersen, Vaughan & Co. was a shipping company and broker, established in 1873 and based in Liverpool. It specialised in the needs of the Norwegian shipping sector.<sup>224</sup> As the name indicates, one of the partners, Claus Brodersen (1844–1917), was Norwegian.<sup>225</sup> Two years after its establishment, the company was the most important shipping agency for Norwegian vessels using the Port of Liverpool and handled vessels with a total net carrying capacity of 34,690 reg. tons.<sup>226</sup> It also did business with T. J. Wiborg in 1875, in connection with timber. In February that year, it was commissioned to sell timber battens, with a mandate *'to accept the highest offer above eleven pounds ten, delivered to a good harbour in Morocco.'*<sup>227</sup> The company was given authorisation to close the transaction. In March 1875, the company received a further request to mediate the sale of ice.<sup>228</sup> This was the beginning of a long-standing collaboration which we will come back to later in the book.<sup>229</sup>

What we note is that Wiborg, by being active in the market and drawing on many contacts, was in effect building up a sizeable network that was to become a cornerstone in his ice export business. In the context of the economic downturn in the second half of the 1870s, in both shipping and timber,<sup>230</sup> he first reduced his timber trade from 1876 and concentrated fully on the ice export trade from 1878. His original business plan,

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222 <https://www.mullocks.com/about>

223 Clarkson PLC. <https://www.clarksons.com/about-us/our-history/>; Ytreberg (1951), pp. 295–320.

224 *Mandalsbladet* (15 March 1904); Merok & Ekberg (2009), p. 235.

225 *Mandalsbladet* (15 March 1904). Claus Brodersen hailed from Mandal in the southernmost part of Norway. <https://www.ancestry.com.au/genealogy/records/claus-brodersen-24-b18bm6>

226 Merok & Ekberg (2009), p. 237.

227 Thos. J. Wiborg Archive. Copy book (1874–1875), p. 310.

228 *Ibid.* p. 365.

229 *Ibid.* p. 310. See also Chapter 5 Collaboration with Brodersen, Vaughan & Co.

230 Hodne & Grytten (2000), pp. 223–236.

to act as a broker for both ice and timber, was abandoned within 10 years of its conception. This shift to ice export is illustrated in Table 3-3 below.

**Table 3-3.** Agency and export<sup>231</sup>

T. J. Wiborg Jnr (1872–1878), Wiborg & Somerville (1878–1879)

Year	Shiploads of ice			Shiploads of timber			Ice/timber
	Own	As agent	Total	Own	As agent	Total	Total
1872	2	27	29	1	54	55	84
1873		9	9	5	28	33	42
1874		4	4		21	21	25
1875	12	5	17	1	13	14	31
1876	35	21	56				56
1877	36	26	62				62
1878	38	5	43				43
1879	13		13				13
<b>Total</b>	<b>136</b>	<b>97</b>	<b>233</b>	<b>7</b>	<b>116</b>	<b>123</b>	<b>356</b>

Source: Compiled on the basis of the Thos. J. Wiborg Archive, Chartering journal (1872–1879).

This was a fortunate decision, as the ice market was the only market that exhibited any growth in the late 1870s. If Wiborg had remained merely a broker and agent, he would have had only very limited opportunities to increase his revenues.

An ice exporter obtained ice from owned or leased production facilities, or by buying it from others. In 1872, the first production facility is mentioned in T. J. Wiborg's chartering journal, namely the Elvik ice plant located by Åby Fjord outside Brevik (see Picture 3-2).<sup>232</sup> In the same year, his brother Ludvig was listed as the exporter of a total of four shiploads of ice and the firm of T. J. Wiborg Jnr was also listed as an exporter. From 1878 until the mid-1920s, the firm of T. J. Wiborg leased land for an ice house connected to the ice plant at Elvik.<sup>233</sup>

<sup>231</sup> T. J. Wiborg Jnr (1872–1876), T. J. Wiborg (1876–1878) and Wiborg & Somerville (1878–1879).

<sup>232</sup> Thos. J. Wiborg Archive. Chartering Journal (1872).

<sup>233</sup> The Telemark Museum Archive. TMUA BH-A-1051, *Isforretninger: Elvik Isforretning Åbyfjorden*. Thos. J. Wiborg Archive. Chartering journals (1872 – 1920). Copy books (1871–1920). Diary for ice (1925); Fleischer (1925), p. 50; Poppe (1997), p. 33. In the available archive material, it has not been possible to find documentation for when Thomas Johannes Wiborg took over Elvik. The plant was on the balance sheet for 1892, with an ownership share of 50%. During 1894, a



**Picture 3-2.** Elvik ice house in 1923; the schooner 'Pampa' is loading.

Source: Courtesy of John Tore Norenberg.

In 1873, T. J. Wiborg took another step towards becoming a producer of ice, when he and his brother Ludvig bought three tracts of marshland at Høvikheia by Åby Fjord, which was to be dammed to create ice ponds.<sup>234</sup> However, this venture did not flourish and Thomas Johannes later sold his share to Ludvig.<sup>235</sup>

In 1877, Wiborg cast his eyes further, to the Kristiania Fjord area, and his company exported its first cargoes of ice from this fjord on 1 June 1877, with T. J. Wiborg as exporter (owner of the cargo).<sup>236</sup> The ice was bought from his cousin, Fritz Sophus Frølich, who had built an ice plant in Haslum in Frogn in the vicinity of Kristiania, with two ponds, ice chutes and a warehouse.<sup>237</sup> The firm T. J. Wiborg exported 13 shiploads of

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change took place and on the balance sheet for 1894, the ownership share was increased to 100%. There is no reference in the copybook for this year as to why. The last time Elvik was mentioned, was in the diary for ice in 1925.

<sup>234</sup> Zakariassen (1975), p. 681.

<sup>235</sup> Ibid.

<sup>236</sup> Thos. J. Wiborg Archive. Chartering journal (1872–1891).

<sup>237</sup> The facility was subsequently separated out and sold to F. H. Frølich & Son, a company in which Frølich, his father and his brother had interests. Information obtained from Lill Elisabeth Sinding Havstad, the current owner of Haslum ice ponds (26 March 2020). Lokalhistoriewiki.no

ice from Haslum in 1877 and 14 in 1880.<sup>238</sup> In the same year, F. H. Frølich & Son went bankrupt, and the plant was bought by the ice exporter Søren Parr. The Haslum plant is not further mentioned in the Wiborg archives.<sup>239</sup>

## Wiborg & Somerville

For Wiborg, exporting ice that he owned – whether produced or bought – had proved possible but difficult. Buying ice was sometimes problematic in a volatile market where firms failed as well as succeeded. In 1878, Wiborg entered into a partnership with his brother-in-law Thomas Townsend Somerville and established the company Wiborg & Somerville.<sup>240</sup> The aim was to produce and sell ice. The company became insolvent during the year,<sup>241</sup> and this bankruptcy may help to explain why Wiborg & Somerville moved to Kristiania in 1879. Only 13 shiploads of ice were listed in the company's chartering journal that year.<sup>242</sup> These ice consignments were not labelled as 'closed' transactions, which means that they were probably never shipped. This is supported by the company's invoice book, in which no transactions are listed that year.<sup>243</sup>

Throughout the invoice book, all of Wiborg's different companies' business activities were characterised by long-term connections and customer relationships, where the same brokers and ice importers recurred year after year.<sup>244</sup> Below is the story of two companies that imported ice from Wiborg, which illustrates the long-term relationships between Thomas Johannes Wiborg and his customers abroad that started in the 1870s.

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Haslum (Frogn) [https://lokalhistoriewiki.no/wiki/Haslum\\_\(Frogn\)](https://lokalhistoriewiki.no/wiki/Haslum_(Frogn)); Fleischer (1925), pp. 160–168, 171–172.

238 Thos. J. Wiborg Archive. Chartering journal (1872–1891).

239 Information from Lill Elisabeth Sinding Havstad, current owner of Haslum ponds (26 March 2020). Lokalhistoriewiki.no Haslum (Frogn); Fleischer (1925), pp. 160–168, 171–172.

240 Thos. J. Wiborg Archive. Chartering journal (1872–1879).

241 Hambro (1901), p. 40, case 691.

242 Thos. J. Wiborg Archive. Chartering journal (1872–1891).

243 Thos. J. Wiborg Archive. Invoice book (1876–1890).

244 Ibid., Protocol with ice contracts (1896–1915).



### *Collaboration with Prytz & Co. in Bordeaux*

The Scandinavian firm Prytz & Co., based in Bordeaux, was one of the first companies with which T. J. Wiborg established a relationship.<sup>245</sup> The initial inquiry to sell ice to Bordeaux was made in January 1872, when Wiborg Jnr sent a request to the company Paul Benan to find out if it could sell ice for T. J. Wiborg in the Bordeaux/La Rochelle area.<sup>246</sup> Nothing came of this first contact, but in January the following year, Wiborg Jnr wrote to Messrs Prytz & Co., confirming a shipload of 400–500 or 700 tons of ice, depending on how much was sold.<sup>247</sup> In so doing, Wiborg had found a company that could sell his ice in the area, thus ushering in a customer-agent relationship that continued until 1890



**Picture 3-3.** Prytz & Co.  
Source: © Musées de Cognac

when ice exports ceased, although the friendship continued to flourish.

Demand was so great during 1873 that Wiborg Jnr had to send four shiploads of ice,<sup>248</sup> followed by three in the following year and a total of 18 in the period from 1873 to 1889.<sup>249</sup> Prytz & Co. received a commission of 5% of the gross income as payment.<sup>250</sup> The company also traded in wine and cognac, and exported to Scandinavia and as far away as the East Indies.<sup>251</sup> (See Picture 3-3). In the 1870s and 1880s, Prytz & Co. acted as forwarding agents for several Scandinavian steamship lines between Bordeaux and cities in Scandinavia, in addition to being agents for

245 The proprietor of Prytz & Co. in Bordeaux, A. M. Prytz, was from Scandinavia. But since Prytz is a common name in Scandinavia, the author has not found out whether he was from Sweden, Norway or Denmark.

246 Thos. J. Wiborg Archive. Copy book (1871–1873), Letter to Paul Benan (22 January 1872).

247 Ibid., Letter to Prytz & Co. (15 January 1873).

248 Thos. J. Wiborg Archive. Copy book (1873–1874). Telegram and letter to Prytz & Co. (spring 1873).

249 Thos. J. Wiborg Archive. Chartering journal (1872–1891), Copy book (1874–1875), Invoice book (1876–1890).

250 Thos. J. Wiborg Archive. Invoice book (1876–1890).

251 Musées de Cognac. Billboard Prytz & Co. *Stockholms Dagblad* (15 December 1886). Wine from Prytz & Co. for sale.

importing ice to the city.<sup>252</sup> The depth of the friendship between T. J. Wiborg and A. M. Prytz is evident when in 1891, Wiborg wanted to send his 16-year-old daughter Justine to Bordeaux to learn French.<sup>253</sup> He then contacted A. M. Prytz to find a suitable place for her to live and a suitable school for her to attend. Justine lived with the Prytz family, who looked after her after she arrived in the city in January 1892,<sup>254</sup> and the friends maintained a close correspondence on Justine's stay in the winter and spring of the year. This correspondence is also interesting in the context of the ice trade. In one letter to A. M. Prytz, T. J. Wiborg writes about why the sale of ice to Bordeaux had stopped, saying, '*It is unfortunate that the ice factory can thus undersell us.*'<sup>255</sup> In other words, he was complaining that the production of local factory-made ice was outcompeting him. Wiborg wondered whether they could find a 'speculator' who might try to sell Norwegian natural ice on the local market and wrote that if this was the case, he would be able to sell the ice very cheaply. However, at the end of the letter he concluded that he understood that it was the large loss of ice through melting and the high labour costs in Bordeaux that made it difficult for Norwegian ice to compete with factory-made ice in the city.<sup>256</sup> However, T. J. Wiborg maintained contact with A. M. Prytz right up to the 1920s and imported wine from Prytz throughout the period.<sup>257</sup>

### *Collaboration with Josias Pernis in Cagliari, Sardinia*

The Wiborg companies also enjoyed a long-term relationship with the company Josias Pernis in Cagliari, Sardinia, where ice exports continued for a period of 30 years.<sup>258</sup> Josias Pernis was a Swiss national who had fled

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252 *Morgenbladet* (7 December 1873). Start-up of regular steamship line in March 1874 (Swedish Lloyds) Bordeaux, Gothenburg, Kristiania. *Romsdals Amtstidende* (4 April 1878). Sailings Chr.sund-Bergen-Havre-Bordeaux.

253 Thos. J. Wiborg Archive. Copy book (1888–1892). Letters (27 October 1891–27 May 1892), pp. 451–500.

254 *Ibid.*

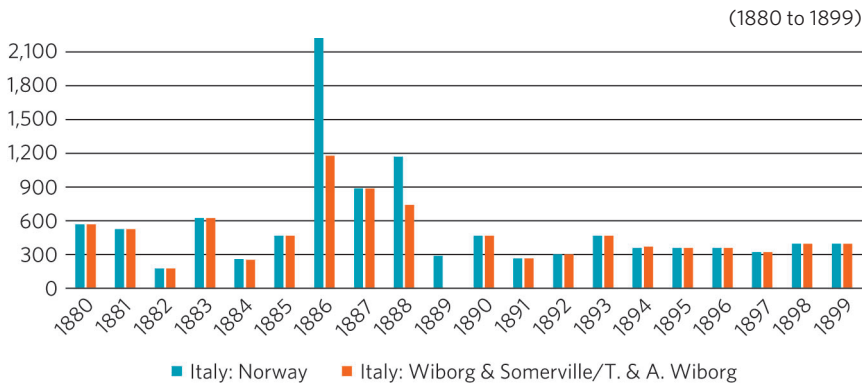
255 Thos. J. Wiborg Archive. Copy book (1888–1892), p. 500. Letter of 27 May 1892.

256 *Ibid.*

257 Thos. J. Wiborg Archive. Copy book (1917–27 December 1920), p. 443. Letter of 24 April 1920. Request regarding wine sent by steamship.

258 Thos. J. Wiborg Archive. Invoice book (1876–1890), Chartering journals (1872–1891; 1892–1905; 1906–1920), Protocol with ice contracts (1904–1909).

from Napoleon and, by chance, ended up in Cagliari, where he settled and founded a large trading house, exporting wine and salt and importing Scandinavian timber and Norwegian ice.<sup>259</sup> The company was one of the largest in Cagliari and received the Italian Ministry of Agriculture's gold medal for the best vineyard in Italy in 1898.<sup>260</sup> Between 1878 and 1908, the company purchased a shipload of ice annually from Wiborg's various companies.<sup>261</sup> The ice was stored in natural limestone caves on Pernis' property.<sup>262</sup> During much of this period, this ice cargo represented the only direct shipping connection between Norway and Italy. A consulate report for Cagliari from 1893 described how the company's supply of ice had become integral to annual shipping activities linked to the city: *'As usual, a cargo of about 450 tons of ice was imported directly from Norway.'*<sup>263</sup> Figure 3-2 shows a comparison of total Norwegian exports to Italy in the 1880s and 1890s with the Wiborg companies' exports of ice to Josias Pernis, and displays the unique situation by which a single company accounted for most of the Norwegian ice export over an extended period.



**Figure 3-2.** Ice export to Italy, Wiborg companies and total Norwegian exports.<sup>264</sup>

Sources: Compiled on the basis of the Thos. J. Wiborg Archive. Invoice book (1880-1889), Chartering journal (1890-1899); Statistics Norway. Historical statistics of external trade (1880-1899).

259 Zanda (2013), p. 195. More information about Josias Pernis can be found in English at: Pernis Josias – Cimitero Monumentale di Bonaria Comune – Cagliari: <https://www.cimiterobonaria.it/scheda/booo34/>

260 *Bingia Pernis: la storia*: [http://web.tiscali.it/bellezza\\_service/index.html](http://web.tiscali.it/bellezza_service/index.html)

261 Between 300 and 500 tons of ice.

262 Zanda (2013), p. 196.

263 Statistics Norway. Consulate reports from the consuls of Sweden/Norway (1893), p. 569.

264 Ibid.

For example, the consulate report for Cagliari in 1898 records that a single 393-ton ship arrived from Norway, containing about 500 tons of ice.<sup>265</sup> In T. & A. Wiborg's charter journal for 1898 we find that in February 1898, the 393-ton barque *Fanny* shipped about 500 tons of ice from the lake Bondivannet outside Kristiania to Cagliari.<sup>266</sup> In other words, we have independent records of the same ship carrying the same cargo. The Consul at this time was Pietro Pernis, Josias Pernis' eldest son.<sup>267</sup> In 1904, we begin to see signs that the business was coming to an end when Pernis asked Wiborg to try to arrange the cheapest shipping terms possible and also to reduce the price. The reason for this was that the competition with artificial factory made ice was '*becoming almost unbearable*'.<sup>268</sup> Four years later, in 1908, we see the last ice shipment bound for Cagliari.<sup>269</sup> After 30 years, Wiborg's ice export activities to Cagliari in Sardinia were over, outcompeted by factory-made ice.

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Ice was Norway's fastest-growing export industry measured in tons in the 1870s. The most important importing country was the UK, where over 85% of Norwegian ice was exported. T. J. Wiborg established his own business under the name Thos. J. Wiborg Jnr in 1870. During the 1870s, the business developed from being an agent for timber and ice to being an ice exporter. Wiborg experienced problems in the start-up phase and, after going bankrupt in 1878, he established the company of Wiborg & Somerville with his brother-in-law Thomas Townsend Somerville and moved the business to Kristiania. The company did not own any ships and chartered ships for transporting the ice. As charterer, the Wiborg firms were closely linked to the international shipping market.

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265 Statistics Norway. Reports on trade and shipping (1898), pp. 566–568.

266 Thos. J. Wiborg Archive. Chartering journal (1892–1905), p. 55.

267 Statistics Norway. Reports on trade and shipping (1898).

268 Thos. J. Wiborg Archive. Protocol with ice contracts (1904–1909); Letter from Josias Pernis (4 October 1904).

269 Thos. J. Wiborg Archive. Chartering journal (1906–1920).



## CHAPTER 4

# Progress (1880-1889)

## Market conditions and Norwegian ice exports

During the 1880s, the price of timber and shipping freight rates continued to fall.<sup>270</sup> In the timber industry, this decline was resolved in part by innovations in wood processing and a boom in the manufacture of mechanical pulp.<sup>271</sup> In the shipping sector, Norwegian companies continued to invest in labour-intensive wooden sailing ships. These ships were rapidly developing into a second-rate technology in the face of competition from the growing use of steamships. Although sailing ships continued to be profitable, the industry was finding that its vessels were being outcompeted in a growing number of 'trades' by the more efficient steamships.<sup>272</sup> However, the trade in timber and ice constituted niches in which the use of sailing ships continued to be profitable during the 1880s.

As in the 1870s, ice continued to dominate over other export industries.<sup>273</sup> In the 1880s, exports increased by 1.2 million register tons compared to the previous decade, although the value per register ton decreased by NOK 0.82 compared to the 1870s. The total volume of exported ice was 2.6 million register tons, amounting to a total value of NOK 12 million (1865 = 100). The UK received more than 76% of Norwegian ice exports. (See Table 4-1).

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270 Hodne & Grytten (2000), p. 275.

271 Hodne (1981), p. 87. Mechanical pulp is timber that is ground into fibre and used as a raw material for newsprint.

272 Hodne (1981), p. 150.

273 Hodne & Grytten (2000), p. 275.

**Table 4-1.** Norwegian ice exports distributed by country (1880-1889)

(Register tons)

	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	Total	In %
<b>UK and Ireland</b>	133,008	154,900	165,474	177,216	210,312	199,986	221,075	234,540	214,650	250,115	<b>1,961,276</b>	<b>76.66%</b>
<b>Sweden</b>	130	60	5,287	158	3,596	534	484	1,645	916	958	<b>13,768</b>	<b>0.54%</b>
<b>Denmark</b>	671		14,108	58	29,843	650	135	524	220	1,681	<b>47,890</b>	<b>1.87%</b>
<b>Germany</b>	145		10,269	73	152,913		817	88		3,589	<b>167,894</b>	<b>6.56%</b>
<b>France</b>	6,259	8,229	9,007	23,115	28,032	12,354	13,554	13,561	11,430	19,936	<b>145,477</b>	<b>5.69%</b>
<b>The Netherlands</b>	4,980	11,472	15,054	6,845	35,687	6,504	4,185	6,283	3,213	4,077	<b>98,300</b>	<b>3.84%</b>
<b>Belgium</b>	2,577	3,031	4,884	7,592	25,235	3,830	6,610	7,005	6,299	7,193	<b>74,256</b>	<b>2.90%</b>
<b>Spain</b>	644	1,632	916	974	357	163	648	217	1,568	274	<b>7,393</b>	<b>0.29%</b>
<b>Italy</b>		523	173	360	258	466	2,227	884	1,170	285	<b>6,346</b>	<b>0.25%</b>
<b>Portugal</b>				358	422	344	457	445	863	624	<b>3,513</b>	<b>0.14%</b>
<b>US</b>	14,117				301		1,186				<b>15,604</b>	<b>0.61%</b>
<b>Africa</b>					2,135	2,702	2,444	1,085	2,733	2,904	<b>14,003</b>	<b>0.55%</b>
<b>Turkey</b>						303	657				<b>960</b>	<b>0.04%</b>
<b>Other countries</b>	709				879						<b>1,588</b>	<b>0.06%</b>
<b>Total</b>	<b>163,240</b>	<b>179,847</b>	<b>225,172</b>	<b>216,749</b>	<b>489,970</b>	<b>227,836</b>	<b>254,479</b>	<b>266,277</b>	<b>243,062</b>	<b>291,636</b>	<b>2,558,268</b>	<b>100.00%</b>

Source: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1880-1889).

The next largest importing countries were Germany and France, with 6.6% and 5.7% respectively. For a period of three years during the 1880s, ice was also exported to the US: in the peak year of 1880, 19 sailing ships arrived in New York carrying 14,117 register tons of Norwegian ice.<sup>274</sup> The reason for this export was that New York had a mild winter in 1880, with an average temperature of 3.2°C, and the US was unable to produce enough ice to meet the demand.<sup>275</sup> Prices rose by 300%, making it

274 Statistics Norway. Historical statistics of external trade (1880); Ouren (1991), p. 30. Ouren described exports to the US, but it is possible that ice was also transported to other countries and/or cities; Statistics Norway. Excerpts from annual reports from the consuls of Sweden/Norway (1880), p. 141.

275 Clayton et al. (1927), p. 892. Compiled on the basis of temperatures recorded in December, January and February. Temperatures have been converted from Fahrenheit to Celsius.

profitable to ship ice all the way from Norway.<sup>276</sup> The variations reflected changes in supply and demand often caused by variations in temperatures, as we shall see.

### *The peak years of 1882 and 1884*

There were two record years in the 1880s. Regarding value, 1882 held the record. The winter of 1881–1882 was exceptionally mild in Norway.<sup>277</sup> In December, the average temperature in Kristiania was 0.5°C; in January, it was zero, and in February, it was –1.5°C.<sup>278</sup> It was even milder along the coast and ice exports from the town of Risør were two thirds down on the previous year. No ice was exported from anywhere south of Risør in 1882.<sup>279</sup> It was also a mild winter in Germany and on the Continent in general, with an average temperature of 2.3°C in Berlin.<sup>280</sup> The warmer climate resulted in increased demand for ice, as well as a limited supply, leading to a dramatic price rise. The value of Norwegian ice rose to a record high of NOK 11.84 per register ton, which was the highest recorded value during the period covered by the scope of this book.<sup>281</sup> For those exporters that could deliver ice despite the warm winter, 1882 was a record year. But on the whole, Norwegian ice exporters were unable to deliver sufficient ice to meet customer demand in Europe, and 1882 was the only year prior to the 1920s in which significant quantities of ice were imported to the UK from countries other than Norway.<sup>282</sup>

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276 Ouren (1991), p. 30. Normally, New York obtained ice from the Hudson River and from the vicinity of Boston, Massachusetts and Kennebec, Maine.

277 Ouren (1991), p. 30.

278 Compiled on the basis of temperatures in December, January and February in the Norwegian Meteorological Institute (1958), pp. 43–44.

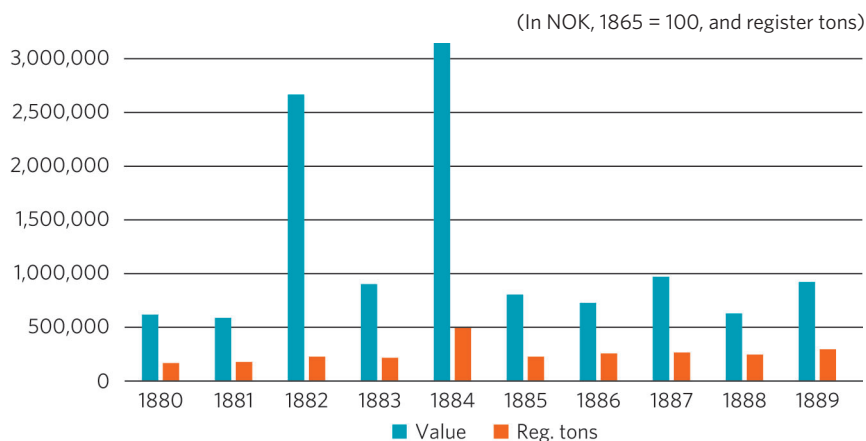
279 Statistics Norway. Historical statistics of external trade by customs office (1880–1889); Ouren (1991), p. 26.

280 Clayton et al. (1927), p. 502. Compiled on the basis of temperatures in December, January and February.

281 Compiled on the basis of Statistics Norway. Historical statistics of external trade (1870–1930). (1865 = 100).

282 Ouren (1991), p. 31.





**Figure 4-1.** Value and volume of Norwegian ice exports (1880–1889).

Sources: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1880–1889).

The other record year, 1884, was the best year for ice exports in volume during the 1880s. Norway experienced a colder winter than most of Europe, while the summer was warm in most places.<sup>283</sup> Demand for Norwegian ice rose in the UK, Germany and many other countries. In contrast to 1882, the Norwegian winter had been cold and there was no shortage of ice to export. It rose to a record of nearly 500,000 register tons and the value of the ice to NOK 6.41 per ton. That meant a total value of over NOK 3,000,000 (see Figure 4-1).<sup>284</sup> As the decade wore on, the annual volume of Norwegian ice exports remained high: between 200,000 and 300,000 register tons. But from 1884, the value decreased to a lower level.

## Wiborg & Somerville

As discussed in the previous chapter, Wiborg & Somerville moved to Kristiania in 1879. In 1880, most of the company's ice exports still came from the Brevik area while, at the same time, the company was working

283 See: Temperatures in December 1883, January and February 1884, as recorded by the Norwegian Meteorological Institute (1958), pp. 43–44. Temperatures measured in December 1883, January and February 1884, cited in Clayton et al. (1927), p. 502. The mean temperature of central England 1884, cited in Manley (1958), p. 419.

284 Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journal (1880–1889); Statistics Norway. Historical statistics of external trade (1880–1889).

to enter the market in Kristiania. To attract customers in Kristiania, the company placed advertisements. One of them invited customers to buy shiploads of ice from the Brevik area for onward export (Picture 4-1). It was placed in the Kristiania-oriented, national newspaper *Dagbladet*.



**Picture 4-1.** Advertisement for sales of shiploads of ice by Wiborg & Somerville.  
Source: The newspaper *Dagbladet* (7 January 1880).

By 1881, the company's work to enter the market in Kristiania seemed to have yielded results. A new export location close to the capital, Løkenæs Kristiania,<sup>285</sup> appeared in the chartering journal. From this site, a total of 16 shiploads of ice were exported that year. In addition, 12 more were exported from other sites in inner Kristiania Fjord.<sup>286</sup> Another 45 shiploads were sent from the southern (Larvik – Risør) region, from the Brevik area.<sup>287</sup> The northern Kristiania Fjord area had by no means supplanted the southern region, but it was growing. Wiborg & Somerville exported a total of 73 shipments of ice in 1881 (11,738 register tons at a value of NOK 38,564).<sup>288</sup> This accounted for nearly 7% of Norway's total ice exports for the year.

285 Located on the Konglungen Peninsula in Asker.

286 Thos. J. Wiborg Archive. Chartering journal (1881). From Nærnes in Røyken (8 consignments) and Flaskebæk in Nesodden (4 consignments).

287 Thos. J. Wiborg Archive. Chartering journal (1881). From Knardal by the River Porsgrunn (8 consignments); in the following locations on Frier Fjord – Havreager (4 consignments), Sortebogen (8 consignments) and Hitterøbæk (2 consignments); in the following locations by Eidanger Fjord – Ørvik (3 consignments) and Lerstang (5 consignments); Smevika by Ormer Fjord (6 consignments), Bjerke by Langesund Fjord (1 consignment), Elvik by Åby Fjord (4 consignments) and Vaag (strand) by Vågøy Fjord (4 consignments).

288 Thos. J. Wiborg Archive. Chartering journal (1881); Statistics Norway. Historical statistics of external trade (1881).

It is often held that ice exporters typically obtained ice from a single city or customs district (such as Kragerø, Brevik or Drøbak).<sup>289</sup> As we have seen, Wiborg & Somerville and the successive ‘Wiborg’ companies were different: they bought ice from several cities and districts in both of the main areas of the ice industry. We cannot understand the companies’ activities unless we take a broad perspective, beyond the local level to a much wider geographical area. The companies leased ice production facilities and bought ice wherever it was available.

A wide geographical perspective is, perhaps not surprisingly, necessary also when looking at the market that Wiborg & Somerville sold to. If we take a closer look at the company’s export destinations, we find that the number of final destinations was very large. The UK was clearly the most important market, but it was a dispersed market: in 1881, for example, the company sent consignments to 13 different destinations.<sup>290</sup> Ice was also sent to Ireland, Scotland and Wales.<sup>291</sup> A similar picture emerges in the case of France where ice was bought by importers in four cities.<sup>292</sup> In Italy, they sold two shiploads to Josias Pernis in Cagliari, Sardinia. The geographical reach of the company was broad and they sold a wide range of quantities, from one shipment upwards.

The new company – Wiborg & Sommerville – marked a turning point in T. J. Wiborg’s business career. The company moved to the capital and became more active in Kristiania and the fjord around it in which ice was produced. The sources of ice for export became both more numerous and widespread. On the other hand, sales were broadly dispersed across large areas and varied in relation to quantities sold, down to one shipment in some instances. Wiborg was seeking to export ice that he himself owned. One inroad to this was through ice production, which had been tried but failed; however, the attempts did not stop.

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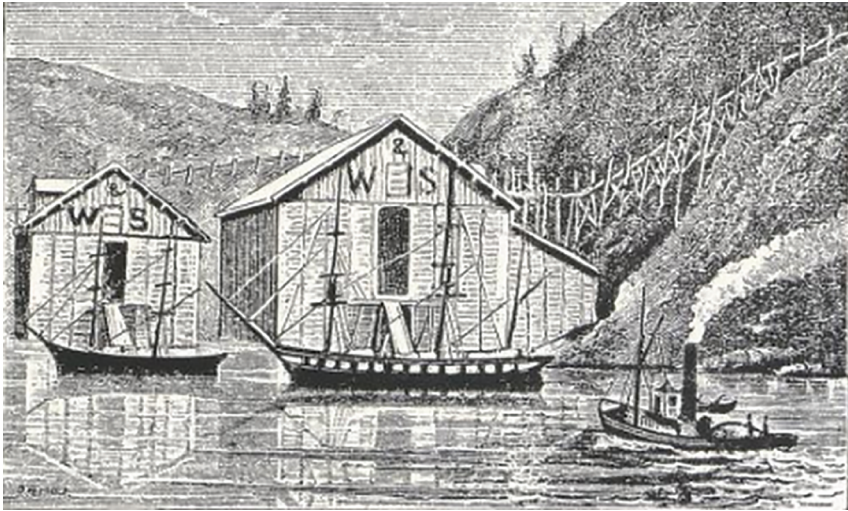
289 Holm (1996), pp. 44, 51; Pedersen (1933), pp. 39, 41; Schilbred (1946), pp. 106–114.

290 Folkstone (4 consignments), Ipswich (1 consignment), Jersey (2 consignments), King’s Lynn (3 consignments), Liverpool (9 consignments), London (3 consignments), Newcastle (2 consignments), Preston (4 consignments), Scarborough (13 consignments), Southampton (3 consignments), Stockton-on-Tees (1 consignment), Sunderland (6 consignments) and Whitby (2 consignments).

291 In Ireland, Dublin (3 consignments); in Scotland, Inverness (2 consignments), Leith (6 consignments) and Newport-on-Tay (1 consignment); and in Wales, Swansea (1 consignment).

292 Bordeaux (2 consignments), Calais (1 consignment), Rouen (1 consignment) and Trouville (1 consignment).

Soon after its establishment in Kristiania in 1879, Wiborg & Somerville decided to produce its own ice. In order to finance this enterprise, both partners took out loans – Wiborg from his family and Somerville from a Mr. W. W. Strode in London, who apparently was a friend of his.<sup>293</sup> In December 1879, the company bought the Knardal ice establishment located by the River Porsgrunn near Brevik and, in the summer of 1880, a second plant was acquired, the Vaag ice establishment in Bamble, not far from the first-mentioned location.<sup>294</sup>



**Picture 4-2.** The Høvik ice facility, displaying the Wiborg & Somerville company logo.

Source: Schilbred (1949) p. 60.<sup>295</sup>

Both of these purchases were mainly financed by a loan from W. W. Strode. However, the businesses failed to flourish as expected and full ownership of both plants was transferred to Strode, just six and twelve months respectively after having been bought. Strode then leased them to Wiborg & Somerville. In the autumn of 1881, Wiborg and Somerville broke up their partnership and the company was dissolved, after which

<sup>293</sup> Hambro (1901), pp. 38–44. Verdict of 8 June 1886.

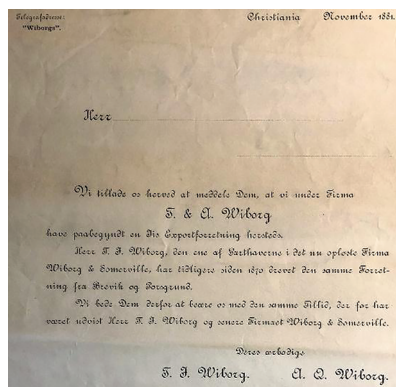
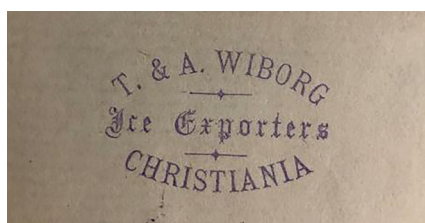
<sup>294</sup> Ibid.

<sup>295</sup> Schilbred (1949) p. 60. According to Schilbred, Wiborg & Somerville owned the facility, but as far as other sources show, the company did not own it at any time. The picture may indicate that they had such plans.

Strode demanded a payment of a little in excess of GBP 165,000, which was what he meant the company owed him. Somerville accepted and paid his half, but Wiborg refused: a year later, on 17 August 1882, Strode sued him.<sup>296</sup> Wiborg responded with a series of countersuits. It took another four years before a legal decision was handed down, but on 8 June 1886, the court found in favour of both parties' suits and countersuits. However, the claims were calculated at the same amount and the court concluded that they were thus mutually liquidated to the extent that neither party had to pay anything at all.<sup>297</sup>

## T. & A. Wiborg

After the break-up of the partnership with his brother-in-law Thomas Townsend Somerville, Wiborg established a new company with his half-brother Axel Quinsgaard Wiborg called T. & A. Wiborg on 8. November 1881. This was the beginning of a 17-year-long collaboration (it came to an end in 1898), and it proved to be successful for both parties.<sup>298</sup>



**Picture 4-3.** T. & A. Wiborg brand logo and letter confirming start-up of company.

Source: Thos. J. Wiborg Archive.

<sup>296</sup> Hambro (1901), pp. 38–44. Verdict of 8 June 1886. A full description is available at: <https://www.nb.no/items/oeee2afia228c9782ff07739925ad9b8?page=43&searchText=wiborg>

<sup>297</sup> Ibid.

<sup>298</sup> The company enjoyed steady growth throughout the period of the collaboration.

At this time, Wiborg was engaged in whaling off the northern coast of Finnmark in Norway, where he and Axel had only a few months after the T. & A. Wiborg company started co-founded a limited company called the Kiberg Whaling Company.<sup>299</sup> Wiborg acted as ‘catch manager’ for this company and spent much of the 1880s in Finnmark, while Axel managed the ice export business in southern Norway.<sup>300</sup> But this new line of business came to an end in 1888. T. J. Wiborg wrote that due a shortage of whales, they considered it right to quit the whaling and realise their assets.<sup>301</sup> An advertisement in the newspaper *Morgenbladet* of 30 January 1888<sup>302</sup> stated that the properties, assets and whaling vessels owned by the Kiberg Whaling company were to be put up for sale at a voluntary auction on 27 February 1888. Several letters sent by T. J. Wiborg to his bank N. A. Andresen & Co. from 1889 to 1891 described repeated problems linked to the payment of instalments on outstanding debts related to whaling operations in Finnmark.<sup>303</sup> Wiborg’s investments in the whaling business could hardly be described as a success, but the lessons learned may have influenced further business operations in a positive way.

T. J. Wiborg’s long absence from the ice business explains why Axel Wiborg assumed sole power of attorney for the company’s ice export business from 1884,<sup>304</sup> a position he retained throughout the entire lifetime of the company (see Picture 4-4). The reason for this must have been related to the fact that Wiborg was being sued in the previously described lawsuit and, in addition, had been unable to repay his debt on schedule after the whaling activities had ceased.<sup>305</sup> It must have been seen as likely that their ice company would fare better if he kept in the background, especially in the event that he lost the lawsuit and was liable to

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299 Thomas Johannes Wiborg, cited in Sørensen (1912), pp. 111–112. This book contains an autobiographical account of Thomas Johannes Wiborg’s whaling enterprise.

300 *Norsk Kundgjørelsestidende* (Norwegian Announcement Gazette) (16, 18 February 1884).

301 Thomas Johannes Wiborg, in Sørensen (1912), pp. 111–112.

302 *Morgenbladet* (30 January 1888).

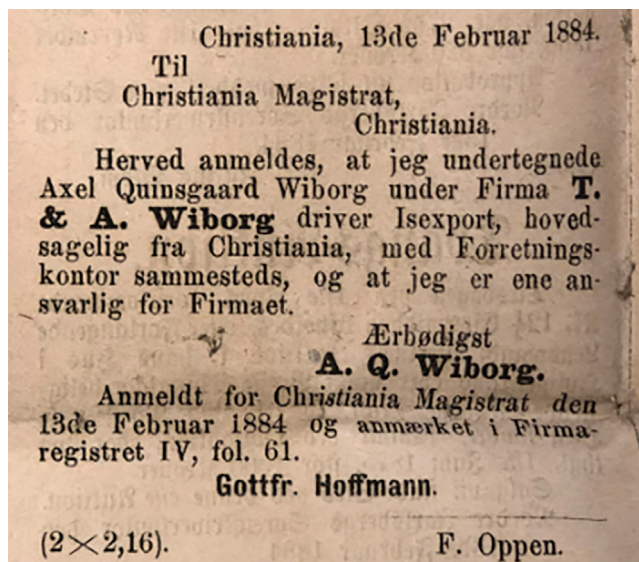
303 Thos. J. Wiborg Archive. Copy book (1888–1892); Letters to the bank N. A. Andresen & Co. (18 November 1889; 1 June 1891; 8 December 1891).

304 *Norsk Kundgjørelsestidende* (Norwegian Announcement Gazette) (16, 18 February 1884).

305 Thos. J. Wiborg Archive. Copy book (1888–1892). Letters to the bank N. A. Andresen & Co. (18 November 1889; 1 June 1891; 8 December 1891).

debt collection. Nevertheless, T. & A. Wiborg remained a joint company throughout its existence.<sup>306</sup>

On 1 November 1884, the company acquired the Knardal ice establishment which Wiborg had given up three years previously in connection with the dissolution of the Wiborg & Somerville company.<sup>307</sup>



**Picture 4-4.** Confirmation of Axel Wiborg's sole power of attorney for T. & A. Wiborg.  
Source: *Norsk Kundgjørelsetidende* (Norwegian Announcement Gazette) (16, 18 February 1884).

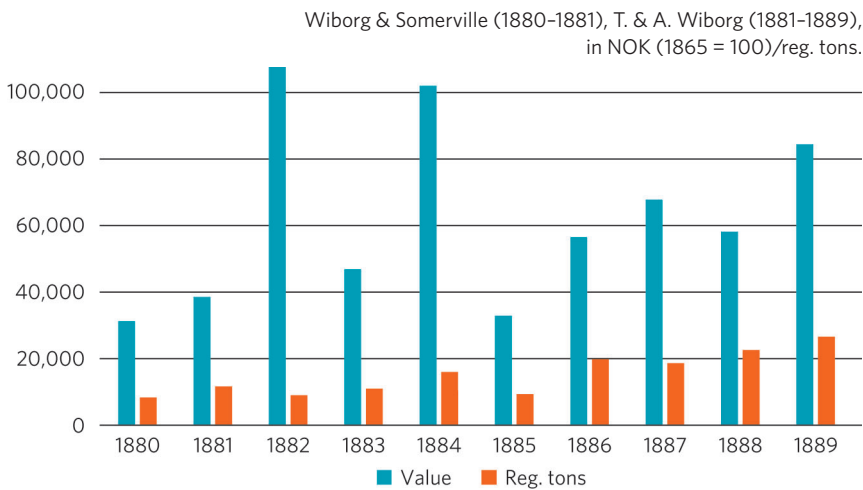
The 1880s were a period of growth for T. & A. Wiborg (see Figure 4-2). A total of 826 shiploads of ice containing over 150,000 register tons were exported, equivalent to an average of 186 tons per load.<sup>308</sup> Annual volumes varied from 8,284 register tons in 1880 to 26,796 tons in 1889. The total value of the ice amounted to NOK 624,134 and the company accounted for between 3% and 9% of Norway's total ice exports for the entire decade.

<sup>306</sup> On dissolution of the company, the company's assets, including its ice production facilities, were allocated among the former partners: 'Owners of the dissolved company T. & A. Wiborg' with both signatures below. See, for example, Thos. J. Wiborg Archive. 'Transfer of ownership of Syverstad ice plant' (23 November 1901). Furthermore, statements of profits show that these assets were distributed among the partners. Thos. J. Wiborg Archive. Copy book (1889–1898), p. 411. Settlement for 1897.

<sup>307</sup> Hambro (1901), pp. 38–44. Judgment of 8 June 1886, p. 616–618; Judgment of 11 April 1891.

<sup>308</sup> These figures include shiploads exported by the firm of Wiborg & Somerville.

Like the Norwegian ice industry as a whole, 1882 and 1884 were good years for the company. In 1882, it exported 65 shiploads containing a total of 9,087 tons of ice, with a total value of NOK 107,590. This was the highest value achieved in the 1880s. Prices continued to rise as 1882 wore on, and T. & A. Wiborg made almost three times as much profit on a delivery of ice to Scarborough in England in November 1882 as it had for a similar delivery made in February the same year.<sup>309</sup> In 1884, T. & A. Wiborg exported 96 shiploads amounting to 15,893 tons of ice, with a value of NOK 101,915.<sup>310</sup>



**Figure 4-2.** Value and volume of ice exports.

Sources: Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journal (1880-1889); Statistics Norway. Historical statistics of external trade (1880-1889).

The Wiborg companies’ joint invoice book provides a detailed summary of the company’s export performance during the 1880s.<sup>311</sup> Figure 4-3 shows that in terms of exports by country, the UK remained by far the company’s largest market, with 82.5% of sales going to the UK (60.7% to England, 21.4% to Scotland and 0.4% to Ireland). France was second with

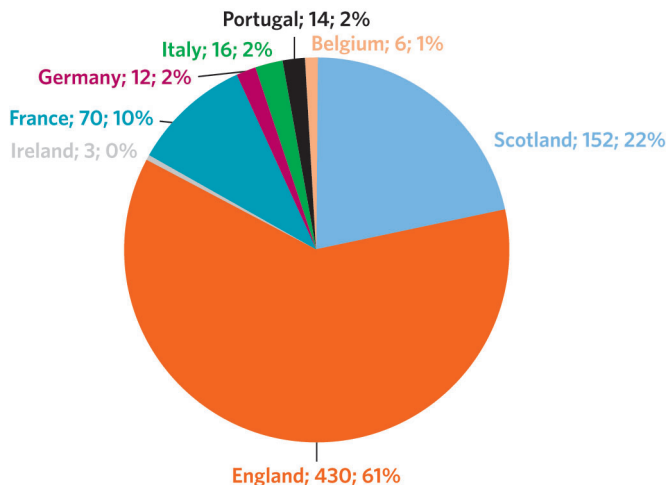
309 Thos. J. Wiborg Archive. Invoice book (1876-1890).

310 Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journal (1880-1889).

311 Thos. J. Wiborg Archive. Invoice book (1876-1890). Only records for this period are available in the archive material.



10% and Italy third with 2.3%, followed by Portugal, Germany, Belgium, Algeria and Denmark.



**Figure 4-3.** The Wiborg companies, selection of long-term customer relationships, by country (1877-1889).

Source: Thos. J. Wiborg Archive. Invoice book (1876-1890).

The invoice records also allow us to account for about 682 of the 826 shiploads of ice exported by the company during this decade. Table 4-2 illustrates the diversity of the companies that bought ice from Wiborg.

**Table 4-2.** The Wiborg companies: list of ice sales (1876-1890)

Purchasing company	Port of discharge	Shiploads of ice	First year	Last year	Number of years
John Anderson & Sons	Edinburgh / Leith	61	1876	1885	10
Peacock Brothers	Sunderland	22	1876	1881	6
Charles Freeman	Inverness	12	1877	1890	14
Prytz & Co.	Bordeaux	11	1877	1889	13
H. P. Robinson	Newcastle	29	1878	1886	9
W. B. Whall Esq.	King's Lynn	19	1878	1890	13
Josias Pernis	Cagliari	13	1878	1888	11
C. C. J. North & Co.	London	4	1878	1885	8
James Sellers & Wyrill	Scarborough	68	1880	1886	7
Charles Muirhead	Edinburgh	19	1880	1887	8
Thos. Browne	Newcastle	16	1880	1890	11
Süter & Co	Liverpool	15	1880	1887	8
H. J. Ropes	Liverpool	13	1880	1890	11
John Hillidge	Preston	12	1880	1890	11
Div	Penzance	5	1880	1890	11

Purchasing company	Port of discharge	Shiploads of ice	First year	Last year	Number of years
Div	Tralee	2	1880	1890	11
John Miller	Whitby	10	1881	1887	7
A. Pain	Rouen	9	1881	1887	7
Kenny & Co.	Southampton	7	1881	1885	5
Brodersen, Vaughan & Co.	Liverpool	6	1881	1889	9
Charles Muirhead	Leith	7	1882	1884	3
John Wotherspoon	Glasgow	6	1882	1888	7
Smack ice owner	Ramsgate	3	1882	1890	9
A. Hercier	St. Nazaire	14	1883	1890	8
G. W. Jones, Heard & Co.	Newcastle	9	1883	1889	7
G. Krokisiūs	Stettin	5	1884	1884	1
Holsterbro Svineslagteri	Struer	3	1884	1885	2
John Goodchild & Co.	London	25	1885	1890	6
Peter Johnstone	Aberdeen	16	1885	1889	5
Domingos, Moreira, Garcia & Co.	Lisbon	14	1885	1890	6
Alec. Sandison	Uyeasound & Baltasound	6	1885	1890	6
George Robertson	Kirkwall	5	1885	1890	6
H. H. Playford	London	4	1885	1887	3
Scarborough Smack Owners Ice Co.	Scarborough	52	1886	1889	4
Haagensen & Co.	Grimsby	24	1886	1890	5
H. Fourny Cheri	Boulogne	6	1886	1886	1
H. Casteels de Coene	Ostende	6	1886	1888	3
Messrs Hay & Co.	Lerwick	5	1886	1888	3
Le Corre Freres	Loctudy	5	1886	1890	5
Brasserie & Maltherie Algerienne	Algiers	3	1886	1886	1
Domenico Toscano	Messina	3	1886	1888	3
Carlo Gatti	London	1	1886	1886	1
J. Muland	Calais	11	1887	1890	4
A. Bryford & Co.	Liverpool	11	1887	1890	4
The North Eastern Ice Co.	Newcastle	11	1887	1889	3
Others	Lerwick	5	1887	1890	4
J. M. Combie & Co.	Peterhead	5	1887	1890	4
Chr. Salvesen & Co.	Leith	1	1887	1887	1
Knutsen & Montgomery	Sunderland	11	1888	1890	3
Colgate & Grey	Newhaven	9	1888	1890	3
Isle of Thannet Ice Co.	Ramsgate	8	1888	1890	3
Duus Browne	London	7	1888	1890	3
J. B. Delfierre & Co.	Boulogne	6	1888	1890	3
Lütke & Co.	Glasgow	4	1888	1890	3
W. B. Harrison	Sunderland	4	1888	1890	3
Blichfeld & Co.	London	7	1889	1890	2
Schwoon & Co.	Bremerhaven	4	1889	1890	2
Pierre Lequelléc	Quiberon	3	1889	1889	1
<b>Total number of cargoes</b>		<b>682</b>			

Source: Thos. J. Wiborg Archive. Invoice book (1876-1890).

The export destinations covered a broad geographical area. T. & A. Wiborg exported ice to locations from the Shetland Islands in the north to Algiers in North Africa in the south; to large cities such as London, Lisbon and Stettin, and to smaller settlements such as Uyeasound and Baltasound in the Shetland Islands, Struer in Denmark and Fenit, one of the westernmost ports in Ireland. The companies that bought the ice, as well as the number of ice cargoes and the years in which the companies bought ice are covered by the invoice book. There were large variations in the number of cargoes purchased by individual importers and also in the duration of their business relationships with T. & A. Wiborg. For example, one company purchased just two cargoes over a period of ten years, while two other companies, described below, together bought a total of 120 cargoes over a ten-year period. Although some connections were short-lived, T. & A. Wiborg established many connections that endured far beyond the period covered by the invoice records.<sup>312</sup> In other words, the company succeeded in establishing many new and durable business relationships, involving regular trade transactions. As we will see, these regular customers were important to the company and enabled it to survive when the market was in decline, as it was during the second half of the 1890s up until 1898.

### *Ice transport and the chartering of ships*

A total of 826 shiploads of ice was exported by T. & A. Wiborg in the 1880s, all by chartered vessels. There is no detailed information about how this chartering took place, but according to the company protocols, ships were chartered through both Norwegian and foreign shipbrokers. Brokers would contact T. & A. Wiborg when they had a suitable ship available for an ice cargo, and the company would contact brokers when they needed a ship for ice transport. The origin of the vessel was probably irrelevant provided that the price was low and the crew had experience

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<sup>312</sup> We refer, for example, to protocols with ice contracts, chartering journals and copy books in the Thos. J. Wiborg Archive.

in shipping ice. According to Professor Worm-Müller, this was the usual approach to chartering ships at the time.<sup>313</sup> The shipbrokers were the best judges of which ships were suitable for carrying ice and were aware of key factors such as the quality of the ship and whether or not it was insured.<sup>314</sup> T. & A. Wiborg and the other ice exporters relied greatly on the brokers' expertise in such matters.

Of the 826 ships that carried ice for T. & A. Wiborg in the 1880s, 34% were foreign.<sup>315</sup> (See Table 4-3). Foreign vessels were chartered in the same way as Norwegian ships and sailed for the most part from Norway to a country other than the vessel's country of origin, as was common practice, known as 'third country shipping'.

The shipping market was clearly international and also linked to the transition from sails to steam, where many shipowners had switched from sails to the new technology. However, there were shipping companies based in many European countries that had not yet made the change and continued to invest in the wooden sailing ship sector, and ice transport from Norway was a potential market for them.

At the same time, steamships had also started transporting ice, and the first steamships to carry ice for T. & A. Wiborg appeared in the 1880s (their activities are summarised in Table 4-3.). The first steamship was the SS *Victoria* of Kristiania, which transported a cargo of 350 tons of ice to Aarhus in Denmark in May 1882,<sup>316</sup> while the second, SS *Sandra*, was Scottish and transported 210 tons of ice to Glasgow in July the same year.<sup>317</sup> This vessel was owned by the Glasgow ice importer John Wotherspoon and the cargo was sold 'free on board' (FOB); in other words, Wotherspoon was to pick up the cargo in the Norwegian port and take over responsibility for the ice from there. From 1882 until 1916, some ice from Wiborg was transported by steamship every year with

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313 Worm-Müller (1950), pp. 436-441.

314 Ibid.

315 Thos. J. Wiborg Archive. Chartering journals (1872-1891).

316 Thos. J. Wiborg Archive. Invoice book (1876-1890), p. 148.

317 Ibid, p. 150.

**Table 4-3.** Nationality, number and types of ships used to transport ice

Chartered by Wiborg &amp; Somerville (1880–1881) and T. &amp; A. Wiborg (1882–1889)

Year	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	Total
Denmark	13	29	18	7	34	12	11	13	3	23	163
Sweden		1	4		5	4		1	2	5	22
Finland					1						1
England	4	9	5		5	1	2	2	5	17	50
Scotland		1	2	2			1	1		1	8
Ireland	1			1							2
Germany	5			1	5	3	6	1		1	22
France		1								6	7
The Netherlands		1	2								3
<b>Total foreign</b>	<b>23</b>	<b>42</b>	<b>31</b>	<b>11</b>	<b>50</b>	<b>20</b>	<b>20</b>	<b>18</b>	<b>10</b>	<b>53</b>	<b>278</b>
<b>Total Norwegian</b>	<b>36</b>	<b>31</b>	<b>34</b>	<b>50</b>	<b>46</b>	<b>38</b>	<b>72</b>	<b>71</b>	<b>90</b>	<b>80</b>	<b>548</b>
<b>Total ships</b>	<b>59</b>	<b>73</b>	<b>65</b>	<b>61</b>	<b>96</b>	<b>58</b>	<b>92</b>	<b>89</b>	<b>100</b>	<b>133</b>	<b>826</b>
<b>Foreign in %</b>	39%	58%	48%	18%	52%	34%	22%	20%	10%	40%	34%
<b>Norwegian in %</b>	61%	42%	52%	82%	48%	66%	78%	80%	90%	60%	66%
<b>Steamships</b>	0	0	2	1	12	0	10	5	2	7	39
<b>Steamships in %</b>	0%	0%	3%	2%	13%	0%	11%	6%	2%	5%	5%

Sources: Compiled on the basis of Thos. J. Wiborg Archive. Chartering journal (1872–1891).

the exception of 1885. It was clear that this new technology had made its entrance into the ice trade. We will return to this in the chapter dealing with the 1890s.

### *Exporting ice to Scarborough*

The ice export trade was very much dependent on the fisheries sector, which purchased large quantities of ice in order to cool catches during transport to the urban centres. One important fishing port was Scarborough in Yorkshire, England. In the 1880s, three trawler companies from Scarborough purchased a total of 120 shiploads of ice from T. & A. Wiborg. Messrs Sellers & Wyrill purchased a total of 68 shiploads in the period from 1880 to 1886, and the Scarborough Smack Owners Ice Co. purchased 52 shiploads in the period from 1886 to 1889.<sup>318</sup>

<sup>318</sup> Ibid.

Although this ice was destined primarily for the fishing sector, it was also made available to local households and the town's various hotels and tourist spas. James Sellers and Henry Wyrill worked closely together and were major players in Scarborough's trawling sector, owning a number of sailing trawlers or smacks.<sup>319</sup> In addition to owning boats, they invested in others and were also involved in the sale of fish. This led them to start importing natural ice.<sup>320</sup> In the 1880s, however, a crisis developed in the British sail trawling sector due to overfishing in the North Sea. This had a major negative impact on Scarborough's fishing industry, leading to several bankruptcies, including that of Henry Wyrill, whose business went under in 1885. James Sellers died two years later.<sup>321</sup>

Despite all this, T. & A. Wiborg continued to export ice to Scarborough and, in 1886, Scarborough Smack Owners Ice Co. began to purchase ice from the company.<sup>322</sup> However, Scarborough's days as a fishing port were coming to an end, largely due to its sailing trawlers becoming unprofitable in the face of competition from the new steam trawlers, which could fish at greater distances from ports. As a fishing port, Scarborough was too small to accommodate a large steam trawler fleet,<sup>323</sup> and the newer steam trawlers came to be centralised in the larger east coast ports, such as Hull, Grimsby and North Shields, which had the capacity to accommodate the fleet.<sup>324</sup> These developments may help to explain why T. & A. Wiborg, after selling 120 shiploads of ice to Scarborough during the 1880s, ceased exporting to the town.<sup>325</sup>

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319 E-mail from Dr Robb Robinson, Blaydes Maritime Centre, University of Hull (19 June 2020).

320 Ibid.

321 Ibid.

322 Thos. J. Wiborg Archive. Invoice book (1876-1890).

323 The city had its spa tourism to fall back on and in fact went on to expand this sector. The town continues to be known for its spa. <https://www.scarboroughspa.co.uk/>

324 E-mail from Dr Robb Robinson, Blaydes Maritime Centre, University of Hull (19 June 2020).

325 No sales of ice to Scarborough were registered in the Thos. J. Wiborg Archive after 1889.

### *Exporting ice to Portugal*

From 1885, T. & A. Wiborg played a key role in supplying ice to Portugal. Ice had been exported sporadically to the country since the 1840s.<sup>326</sup> During the 1880s, exports grew because ice was needed to facilitate storage and processing in the fisheries and brewery sectors.

Ice exports to Portugal in the 1880s started up in 1883, as we can see from the consular reports from Lisbon.<sup>327</sup> The consulate recorded the arrival of two small shipments of ice.<sup>328</sup> A couple of years later, from 1885, T. & A. Wiborg took over much of the export trade to the city and over the next six years sold a total of 14 shiploads to the Domingos, Moreira, Garcia & Co., and one shipment to Companhia Uniao Industrial Lisbonense (see Figure 4-4). These transactions established the company as the dominant ice exporter to Portugal during the 1880s.<sup>329</sup> The consul expressed great faith in the profitability of exporting ice to Lisbon, but not to the city of Porto, where he argued that the climate was too cold to make the trade profitable, not least because the ice that was collected from the nearby mountains in winter was sufficient to meet the city's needs.<sup>330</sup>

Thomas Johannes and Axel Wiborg had brothers who were twins, Trygve and Bjarne. The twins settled in Lisbon in 1889 and 1890 respectively, and established a business for the production and trade of cork bark in 1900.<sup>331</sup> In 1889, Wiborg asked in a letter to Trygve if he could sell ice for T. & A. Wiborg in Lisbon, but there is no further record of this, so it is unlikely that it ever took place.<sup>332</sup>

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<sup>326</sup> Olsen (1981), p. 14, cited in Norseng (2019).

<sup>327</sup> Norway was in a union with Sweden and had no consuls of its own to represent Norwegian interests abroad. The economic effects this had, especially on exports, resulted in a demand for independent Norwegian consuls. This actually became a central theme in the struggle for separation from Sweden in this period, which ended with the dissolution of the union in 1905.

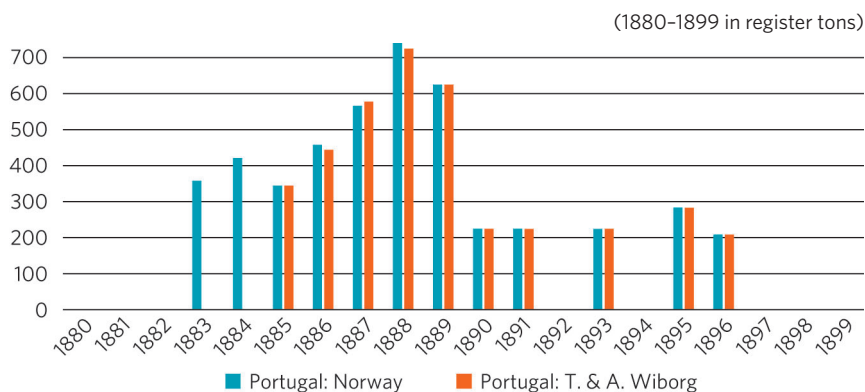
<sup>328</sup> Statistics Norway. Excerpts from annual reports from the consuls of Sweden/Norway (1883), p. 116.

<sup>329</sup> Thos. J. Wiborg Archive. Invoice book (1876–1890).

<sup>330</sup> *Ibid.*

<sup>331</sup> Fleischer (1925), p. 63.

<sup>332</sup> Thos. J. Wiborg Archive. Copy book (1889). Letter to Trygve Wiborg (11 December 1889).



**Figure 4-4.** Exports of ice to Portugal: T. & A. Wiborg and Norwegian ice exports.

Sources: Compiled on the basis of the Thos. J. Wiborg Archive. Invoice book (1880-1889), Chartering journal (1890-1899); Statistics Norway. Historical statistics of external trade (1880-1899).<sup>333</sup>

In 1896, T. & A. Wiborg's and, in effect, all of Norway's exports of ice to Portugal came to an end. The main reason for this was that in 1891, Portugal introduced a six-fold increase in its tariff on Norwegian ice in order to protect its domestic ice factories.<sup>334</sup> Subsequently, only a single brewery in Lisbon continued to receive imports from Norway.<sup>335</sup> In 1894, a newspaper article was published claiming that natural ice was unhygienic and this was the reason, according to the consul, why the brewery cancelled its order for that year.<sup>336</sup> Deliveries were resumed to the brewery in 1895 and 1896, but the trade was coming to an end. The consul reported in 1898 that 1896 was in fact the last year in which ice was imported and that imports had ceased altogether.<sup>337</sup> The ice factories had succeeded in removing their competitor.

333 There is probably a displacement of the records of Norwegian ice exports for the years 1887 and 1888. It is likely that the total is correct, but with an erroneous annual distribution. The consular accounts for 1887 state that more ice was imported than is indicated in the historical statistics. Unfortunately, there is no consular report for 1888. Norwegian exports in 1887 and 1888 are thus based on the consular report for 1887 and the Thos. J. Wiborg Archive. Invoice book (1887-1888), Chartering journal (1887-1888).

334 Statistics Norway. Consulate reports from the consuls of Sweden/Norway (1891), p. 466.

335 (The name is not mentioned). Statistics Norway. Consulate reports from the consuls of Sweden/Norway (1893), p. 633.

336 Statistics Norway. Consulate reports from the consuls of Sweden/Norway (1894), p. 563.

337 Statistics Norway. Consulate reports from the consuls of Sweden/Norway (1898), p. 853.



### *Ice exports to Algeria and the sale of ice to warmer climes*

In the period 1884 to 1886, T. & A. Wiborg exported four shiploads of ice to Algeria. This trade serves very well to highlight the problems associated with selling ice to warmer regions. The first ice exported to North Africa in the 1880s was to Algeria in 1884.<sup>338</sup> According to the consular report, a brewery called Brasserie Malterie Algerienne received all Norwegian exports of ice in this year, a total of 2,212 tons. The ice was partly for use in the brewing industry and partly for local resale.<sup>339</sup> The report states that the ice came from the Kragerø district and was transported to Algeria in five separate steamship cargoes.<sup>340</sup> It is not entirely correct that all the ice came from around Kragerø, as one of the shipments was sold by T. & A. Wiborg and came from Løkenæs in Asker, just outside Kristiania. The ice was transported by the SS *Norden*, which left Norway on 11 September carrying 497 register tons of ice for delivery to F. M. Bürke Esq. in Algeria.<sup>341</sup>

The consul was unsure as to whether ice imports from Norway would be successful, emphasising that factory-made ice had been produced in the city for several years using state-of-the-art equipment.<sup>342</sup> However, it was added that ice imports would succeed provided that an ice house was built in the city, which could be used as a base for transporting the commodity both inland and along the coast. The consul went on to encourage larger Norwegian ice exporters to take an interest in the ice house company to give it greater weight.<sup>343</sup>

In 1886, T. & A. Wiborg sold three sailing ship cargoes of ice, totalling 1,565 register tons, to the Brasserie Malterie Algerienne.<sup>344</sup> The barque *Cito*

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338 Statistics Norway. Historical statistics of external trade by country (1880–1889); Excerpts from annual reports from the consuls of Sweden/Norway (1884).

339 Statistics Norway. Excerpts from annual reports from the consuls of Sweden/Norway (1884), p. 341.

340 Statistics Norway. Excerpts from annual reports from the consuls of Sweden/Norway (1885), p. 315.

341 Thos. J. Wiborg Archive. Invoice book (1884); Chartering journal (1884).

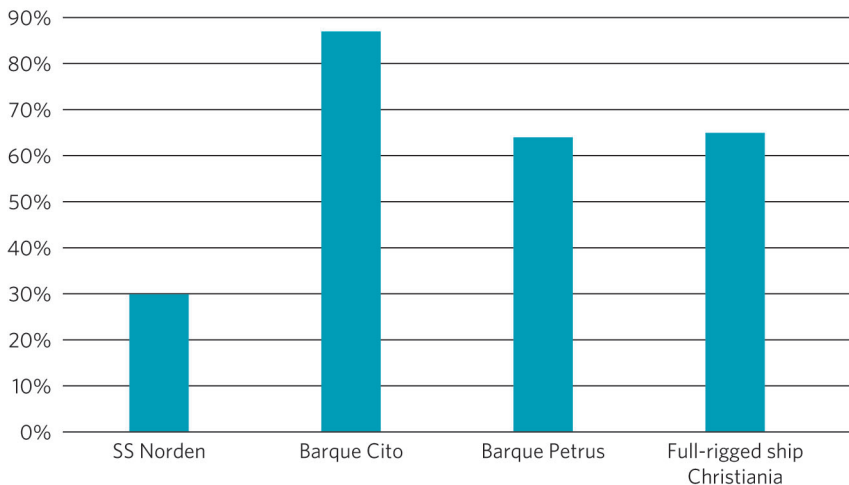
342 Statistics Norway. Excerpts from annual reports from the consuls of Sweden/Norway (1884), p. 341.

343 Ibid.

344 Thos. J. Wiborg Archive. Invoice book (1884, 1886), Chartering journal (1884, 1886).

left Bjerkås in Asker outside Kristiania on 11 February carrying 517 register tons and arrived in Algeria on 16 March. Subsequently, on 21 June, the barque *Petrus* left Knardal in Porsgrunn loaded with 540 register tons, arriving in Algeria on 27 July, and the full-rigged ship *Christiania* left Sjøstrand<sup>345</sup> in Asker outside Kristiania on 11 September with a cargo of 508 register tons of ice, arriving in Algeria on 18 October.<sup>346</sup>

Sales of ice to Algeria<sup>347</sup> illustrate the problems encountered by companies attempting to export ice to warmer regions. Under ideal conditions, a standard steamship was expected to unload twice as much ice in weight (metric tons) as its registered tonnage. The corresponding figure for sailing ships was 1.5 times as much.<sup>348</sup>



**Figure 4-5.** Percentages of ice arriving in Algeria on four vessels sent by T. & A. Wiborg.

Source: Thos. J. Wiborg Archive. Invoice book (1884, 1886), Chartering journal (1884, 1886).

345 Lokalhistoriewiki.no Sjøstrand (Asker) [https://lokalhistoriewiki.no/wiki/Sj%C3%B8strand\\_\(Asker\)](https://lokalhistoriewiki.no/wiki/Sj%C3%B8strand_(Asker)).

346 Thos. J. Wiborg Archive. Invoice book (1884, 1886), Chartering journal (1884, 1886).

347 Surland (2021) sheds some light on the ice trade with Algeria.

348 Den Norske Sagførerforening (1902), pp. 511–512. Some types of steamships were built so that they could load more ice than a so-called ‘standard’ steamship, although constructed to the same rating in terms of register tons. So-called ‘Glasgow’ type steamships could carry so much ice that they were able to unload as much as 3.5 times their register ton rating. Such ships were purpose-built to carry large bulk cargoes and, according to this reference, were not commonly used for the transport of ice. Some ice export contracts banned the use of such ships for ‘free on board’ transport.

Figure 4-5 presents a summary of the percentages of ice remaining when the vessels unloaded their cargoes in Algeria: SS *Norden* in 1884 and the *Cito*, *Petrus* and *Christiania* in 1886. The steamship *Norden* unloaded with only 30% of its cargo remaining, while the *Cito*, *Petrus* and *Christiania* unloaded 87%, 64% and 65%, respectively. The figures for the wooden sailing ships were much as expected. In the case of the *Cito*, which departed in February and arrived in March, only 13% of its ice melted, probably due to the fact that it completed its journey in winter and that the crew had expertise in the transport of ice. In the case of the *Petrus*, only 36% of the cargo was lost, which was a good performance considering that the journey took place in the middle of summer. This was probably a reflection of the skill of an experienced crew. In the case of the *Christiania*, which departed on 11 September and arrived in Algeria on 18 October, 35% of the cargo melted, probably due to the fact that the voyage was completed across the Mediterranean in warm, late-summer temperatures. This was the only voyage made by this vessel for T. & A. Wiborg. It was otherwise engaged primarily in the overseas timber trade.<sup>349</sup>

The question remains as to why so much ice melted on board the SS *Norden*, which being a steamship should have been able to transport its cargo much faster than the sailing ships. One problem is that since we lack information about the date of arrival, we cannot determine whether the vessel was in some way delayed. It was fully loaded and departed from Løkenæs on 11 September, so temperatures during the voyage should have been favourable. It had previously carried wine from France and Spain, so the crew ought to have been familiar with Mediterranean trade.<sup>350</sup> However, the ship was built of iron and had to have a garnishing of planks before the ship could load ice. As such, it was not ideally suited to ice transport and it was, in fact, one of the first steamships used by T. & A. Wiborg for this purpose. It is possible that the crew was not experienced in ice transport and that melting was the result of poor management and handling, causing the cargo to melt by contact with the iron hull or

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349 Norwegian Maritime Museum. The Petter Malmstein Sailing Ship Register. Including Canada's east coast and from the White Sea.

350 Andersen (1978), p. 59.

engine-room bulkheads. The fact that this voyage was the only one made by the SS *Norden* for T. & A. Wiborg may lend support to this idea.<sup>351</sup>

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The volume of ice exports increased during the 1880s. The two best years were 1882, a mild year with a shortage of ice and rising prices, and 1884, the peak year of the 1880s with both a good supply and demand and a record year for the Norwegian ice industry.

In the autumn of 1881, Wiborg and Somerville broke up and the company was dissolved. A new company, T. & A. Wiborg, was established by T. J. Wiborg together with his half-brother Axel Quinsgaard Wiborg. The transport of ice continued exclusively with chartered ships, and the company's ice was transported by both foreign and Norwegian vessels. The decade also represented the start of the company's shipping of ice by steamships.

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351 Thos. J. Wiborg Archive. Chartering journal (1872-1891).



## CHAPTER 5

# Approaching the peak (1890-1899)

## Market conditions and Norwegian ice exports

In the 1890s, ice exports increased in volume but declined in value. As in the 1870s and 1880s, the export of natural ice was, measured in tons, the fastest growing Norwegian export industry.<sup>352</sup> Exports had increased from just under 1.4 million tons in the 1870s to just over 2.5 million in the 1880s, but now reached slightly more than 3.7 million register tons.<sup>353</sup> (See Table 5-1). In terms of weight, the 1890s came to represent the peak of Norwegian exports of natural ice.<sup>354</sup> However, the value of the ice did not exhibit the same trend: the average value fell from NOK 4.89 per register ton (1865 = 100) in the 1870s to NOK 4.67 in the 1880s and by the 1890s, it had declined even further to NOK 4.04. The bottom was reached in 1892, when NOK 2.01 per register ton was recorded. The peak year of the decade was 1898, when the value reached NOK 8.97 per register ton and the total value of Norwegian ice exports was almost NOK 5 million (see Figure 5-1).

This was the second highest value for the entire period of 1870 to 1930. Only in 1882 was the value higher. Huge quantities of ice were exported, but the year-to-year variation in the value as well as export tonnage was considerable during the decade, and market instability was further exacerbated by the rise in less expensive, large-scale, factory-produced ice.<sup>355</sup> (See also refrigeration and industrialised production of ice in Chapter 1).

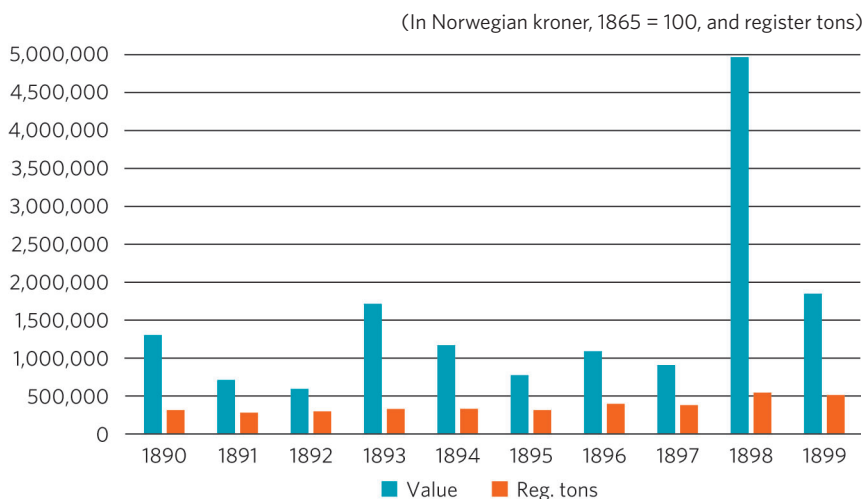
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352 Hodne & Grytten (2000), p. 275.

353 Statistics Norway. Historical statistics of external trade (1847-1930).

354 Ibid.

355 Idsø (2014).



**Figure 5-1.** Value and volume of Norwegian ice exports (1890-1899).

Sources: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1890-1899).

The export pattern for Norwegian ice remained fairly stable during the 1890s, albeit with year-to-year variations as noted above.<sup>356</sup> Table 5-1 shows that over 78% of exports found their way to the UK. The next most important markets were Germany and France, which received 8.5% and 6.5% of Norwegian exports respectively.<sup>357</sup>

The decade opened with a climatically normal year in Europe, with adequate cool weather in Norway to maintain production levels combined with stable demand from both the UK and the Continent. However, as mentioned earlier in the book, winter 1890 was warm in New York and no ice whatsoever was stored in the ice houses on the Hudson River.<sup>358</sup> Prices rose, making it profitable for Norwegian ice exporters to ship ice to the city.<sup>359</sup> One of the companies that sent ice to New York in 1890 was T. & A. Wiborg. We will return later to the profitability of the three shipments sent by the company.

<sup>356</sup> Statistics Norway. Historical statistics of external trade by country (1870-1899).

<sup>357</sup> Ibid.

<sup>358</sup> Temperatures compiled on the basis of measurements recorded in December, January and February. In Clayton et al. (1927), p. 892. Temperatures are converted from Fahrenheit to Celsius; Parker (1981), p. 3.

<sup>359</sup> Statistics Norway. Consulate reports from the consuls of Sweden/Norway (1890), p. 82; Historical statistics of external trade (1890).

**Table 5-1.** Norwegian ice exports distributed by country (1890-1899)

(Register tons)

	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	Total	In %
<b>UK and Ireland</b>	264,974	252,042	260,505	301,058	279,316	288,978	322,856	314,192	305,026	342,714	<b>2,931,661</b>	<b>78.26%</b>
<b>Sweden</b>	1,530	1,645	2,517	2,873	6,392	2,070	3,595	1,586	1,504	2,947	<b>26,659</b>	<b>0.71%</b>
<b>Denmark</b>	1,783	405	135		1,452	85	4,229	1,528	22,887	9,600	<b>42,104</b>	<b>1.12%</b>
<b>Germany</b>	5,160	31		812	4,105	1,529	25,358	2,272	180,821	96,487	<b>316,575</b>	<b>8.45%</b>
<b>France</b>	14,544	12,700	18,245	20,018	20,037	18,188	28,445	43,954	22,514	42,296	<b>240,941</b>	<b>6.43%</b>
<b>The Netherlands</b>	2,762	1,998	3,348	3,523	2,302	3,064	5,627	5,665	6,407	3,584	<b>38,280</b>	<b>1.02%</b>
<b>Belgium</b>	9,127	7,471	7,074	7,859	9,453	8,137	12,835	12,949	12,325	12,074	<b>99,304</b>	<b>2.65%</b>
<b>Spain</b>			1,044	451	837	827	511	959		381	<b>5,010</b>	<b>0.13%</b>
<b>Italy</b>	466		301	466	357	357	358	320	393	393	<b>3,411</b>	<b>0.09%</b>
<b>Portugal</b>	225	501		225		283	208				<b>1,442</b>	<b>0.04%</b>
<b>US</b>	14,239		67		3,187			561			<b>18,054</b>	<b>0.48%</b>
<b>Iceland</b>				20		35	541	33			<b>629</b>	<b>0.02%</b>
<b>Algeria</b>	2,674	2,722	3,035	2,199	1,251	1,430	1,914	1,113	1,224	363	<b>17,925</b>	<b>0.48%</b>
<b>Rest of Africa</b>	311	281		198			1,504	424	546	729	<b>3,993</b>	<b>0.11%</b>
<b>Other countries</b>					39		148			13	<b>200</b>	<b>0.01%</b>
<b>Total</b>	<b>317,795</b>	<b>279,796</b>	<b>296,271</b>	<b>339,702</b>	<b>328,728</b>	<b>324,983</b>	<b>408,129</b>	<b>385,556</b>	<b>553,647</b>	<b>511,581</b>	<b>3,746,188</b>	<b>100.00%</b>

Source: Compiled on the basis of Statistics Norway. Historical statistics of external trade by country (1890-1899).

In November 1891, the periodical *Farmand* reported on the major problems encountered by the ice export industry. Low prices, combined with ‘fierce and merciless competition’ among the exporters, caused prices to plummet even further, and exporters were accepting ‘the lowest prices imaginable’.<sup>360</sup> The prospect for the following year was no better. *Farmand* pointed out that large volumes of ice had been sold in the autumn of 1891 for delivery the following year at these very low prices.<sup>361</sup> Such pessimism was partly justified. In 1892, the value sank to the bottom, fetching just NOK 2.01 per register ton. The Consulate-General in London argued that this decline was caused by the level of supply being too high in relation to demand.<sup>362</sup> This accords with *Farmand*’s earlier report on the ‘senseless’

<sup>360</sup> *Farmand* (28 November 1891).

<sup>361</sup> *Ibid.*

<sup>362</sup> *Ibid.* p. 291.



competition existing between the ice exporters who, in order to secure available contracts, were accepting prices for their ice that scarcely enabled them to cover the costs of production.<sup>363</sup> However, in 1893, value more than doubled to NOK 5.09 per register ton as demand rose in the UK, which was enjoying a hot summer.<sup>364</sup>

### *Calls for collaboration in the face of depressed prices: the Norwegian Ice Exporters' Association*

Although prices were good in 1893, initiative was taken to form the Norwegian Ice Exporters' Association in an attempt to counteract the trading advantage obtained by UK importers in particular. The prime mover behind the initiative was A. E. Olsen (from Lyngør). Olsen proposed, despite previous unsuccessful attempts to bring the exporters together, to form a 'joint company' which would assume responsibility for all of the Norwegian commercial ice facilities. The company was to have its head office in Kristiania and branch offices in the six main exporting districts.<sup>365</sup> *Farmand* reported that there was general agreement about the purpose behind this initiative, but that many exporters were looking for a less-challenging form of collaboration. Nevertheless, an ice industry association, to be led by an employed general secretary, was established.<sup>366</sup> It was formally founded at a meeting in Drøbak in July, at which it was decided that '*... Mutual envy and foolish competition to the detriment of all parties ...*' should give way '*... to a feeling of solidarity ...*'.<sup>367</sup>

About six months later, on 23 January 1894, the association held a meeting in Brevik, attended by about 40 ice exporters.<sup>368</sup> The appointed chairman, Consul Larsen from Kragerø, stated that the association was now receiving weekly consular reports on the import of ice to London, Grimsby and Hull, UK import statistics every fortnight and was soon to receive monthly import lists from ports in Britain and Ireland, as well as from the European coastline from Ouessant Island (near Brest

363 *Farmand* (4 June 1892).

364 Beamon & Roaf (1990), p. 146; Manley (1958), p. 419.

365 *Farmand* (25 March 1893).

366 *Ibid.*

367 *Farmand* (8 July 1893).

368 *Morgenbladet* (26 January 1894).

in France) to the Hook of Holland in the Netherlands. The chairman was asked to provide weekly import lists and daily temperature statistics from London, Glasgow and Liverpool. It was also stated that minimum prices between the exporters had been negotiated, but that no binding agreements had been entered into.<sup>369</sup> In May 1894, the association reappeared in *Farmand* where its chairman Larsen refuted an article that had ruled out an increase in ice prices.<sup>370</sup> He encouraged the ice industry to withhold sales because the prospects for future price rises were looking good.<sup>371</sup>

However, as with previous attempts at collaboration, the association did not last long. In October 1894, an anonymous ice exporter wrote a letter pointing out the problems the association was experiencing.<sup>372</sup> He argued that since the English importers were controlling the market, the exporters had no choice but to follow in their wake.<sup>373</sup> He pointed out that in spite of the poor terms that the exporters were being offered, they were fighting with each other over contracts instead of adopting a wait-and-see attitude. He stressed that being the first to get the ice shipped overseas was essential and that sales had to be completed at all costs. Furthermore, it was the fear of competition from factory-produced ice that made some ice exporters accept low prices. Finally, he concluded that the ice association experiment had not been a success, despite the fact that only a very limited agreement and a little goodwill would have brought them a long way.<sup>374</sup>

Starting in 1894, the price of ice fell once again and remained low up to and including 1897. Very little ice was exported to Germany in 1895 and 1897, and despite the fact that over 25,000 register tons were exported in 1896, this did little to improve prices.<sup>375</sup> The winters in Norway were cold and levels of production were high,<sup>376</sup> but this only served to

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369 *Morgenbladet* (26 January 1894).

370 *Farmand* (12 May 1894).

371 *Ibid.*

372 *Farmand* (20 October 1894).

373 *Ibid.*

374 *Ibid.*

375 Statistics Norway. Historical statistics of external trade by country (1890-1899).

376 Thos. J. Wiborg Archive. Copy book (1889-1898), p. 400.

encourage more competition between the Norwegian exporters, who continued to undercut each other in order to achieve sales.<sup>377</sup> Foreign importers continued to exert a downward pressure on prices and to draft contracts with delivery and cancellation terms that were highly unfavourable to the exporters.<sup>378</sup> During the trough in 1897, there were reports of very low prices for large stocks of ice, causing many exporters to make significant losses.<sup>379</sup>

In brief, during the 1890s the industry faced a combination of problems. Prices were low, stocks of ice were large and there was a total lack of cooperation between the exporters. As *Farmand* had predicted, contracts for future deliveries of ice had been entered into at prices that were 'extremely low'.<sup>380</sup> The trade periodical *Norges Sjøfartstidende* offered two reasons for this situation.<sup>381</sup> First, the competition between the Norwegian ice exporters, who were undercutting each other in order to win contracts, and second, the actions of the foreign importers, who were pressing prices down and drafting contracts with delivery and cancellation terms that were highly unfavourable to the Norwegian exporters. There was a great need for a good year, but when it arrived in 1898, it proved to be a most problematic record year when exporters experienced only very fine margins between success and financial ruin.

### *Export of ice to Iceland*

Perhaps the most surprising country to which ice was transported in the 1890s was Iceland. Small volumes were exported there for several years, with the largest shipments made in 1896.<sup>382</sup> This ice was probably intended for use in connection with the fishing sector and fish exports from the country. Norwegian companies were engaged in fishing in Icelandic waters and Norwegian steamships were used to export the fish.<sup>383</sup> The involvement of Norwegian steamships in the Icelandic export trade was

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377 *Norges Sjøfartstidende* (3 January 1899).

378 *Norges Sjøfartstidende* (3 January 1899).

379 *Ibid.*

380 *Farmand* (16 January 1897).

381 *Norges Sjøfartstidende* (3 January 1899).

382 Statistics Norway. Historical statistics of external trade by country (1896).

383 Hovland (1980), p. 113.

discussed in the consular report of 1893, where it was stated that between 2,000 and 3,000 tons of fresh herring were packed in ice and exported from Iceland to Britain.<sup>384</sup>

According to the consul, the Icelanders entertained high hopes for the shipping of fresh fish packed in ice.<sup>385</sup> Norwegian companies were contracted to build ice cellars and ice houses in Iceland in the beginning of the 1890s for the storage of frozen herring as bait and ice for the transport of fresh herring.<sup>386</sup> The ice used in these facilities was produced locally, which the consular report for 1900 suggests: it confirmed that the company *Gardar*, based in Seyðisfjörður, was in the process of building ice houses to accommodate approximately 7,000 tons of ice.<sup>387</sup> The plan was for *Gardar* to harvest the ice from a river that had an outlet outside Seyðisfjörður, as well as from basins in which a finer quality of ice was to be frozen.

Much of the foreign fishing activity off Iceland was seen as unsustainable, and terms such as ‘over-consumption’ were commonly used about the conduct of the foreign companies. In 1897, the consulate’s annual report wrote about what we today probably would describe as environmental crime:

The cod are moving further from land and many no longer enter the fjords. This is largely due to the activities of the large foreign fisheries outside the fjords, because the cod, due to the large amount of waste thrown into the sea and a mass of lines stretched like a net across the mouths of the fjords, are drawn into the deeper shallows and prevented from entering the fjords. Whatever the cause, neither cod nor herring have entered the fjords in 1897, even though large volumes of fish have been observed at the mouths of the fjords.<sup>388</sup>

### *Future prospects of natural ice*

At the beginning of this chapter, we came to the conclusion that although trade volumes increased in the 1890s, there was a fall in the value of exports per register ton. It remains to explore the reasons for this trend.

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384 Statistics Norway. Consulate reports from the consuls of Sweden/Norway (1893), p. 216.

385 Ibid.

386 Hovland (1980), p. 113.

387 Statistics Norway. Consulate reports from the consuls of Sweden/Norway (1900), p. 197.

388 Statistics Norway. Consulate reports from the consuls of Sweden/Norway (1897), p. 108.

The 1891 reports from the Consulate General in London shed some light on these issues.

In 1891, many of the consulates located in the UK were discussing the relative benefits of natural and artificial ice, and came to some conclusions regarding the future of natural ice produced in Norway.<sup>389</sup> The Consul General in London wrote:

Among the Norwegian products or commodities imported into Britain, ice closely follows forestry and fisheries products and is only slightly behind agricultural products in terms of its export value. It is thus of great importance, and competition is virtually lacking in terms of the import trade. It is an essential commodity that will always be in demand, no matter how much one seeks to meet domestic demand with artificial ice, which so far at least, has not been found to compare with natural ice, either in terms of wholesomeness or affordability.<sup>390</sup>

In other words, Norwegian natural ice was essential since artificial ice was too expensive and of inferior quality.<sup>391</sup> It was, it seemed, essential to the UK as well as to Norway. But a change was on the way. Other consulates reported that artificial ice was beginning to gain a grip on the market elsewhere in the UK. In Cork, Ireland, for example, imports of ice were declining, and artificial ice production was starting to dominate the market.<sup>392</sup>

In contrast, a report from Grimsby in England concluded that the production of artificial ice would not significantly affect natural ice imports from Norway.<sup>393</sup> A report from Limerick in Ireland also referred to the issue, but in a slightly different setting. Here, it was not the production of artificial ice, but innovations in refrigeration technology, that were about to outcompete Norwegian natural ice imports.<sup>394</sup> The consul wrote:

The import of ice has almost completely ceased, after all the largest pig slaughterhouses have been supplied with refrigerators, and in 1891 only 801 tons were imported.<sup>395</sup>

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389 Statistics Norway. Consulate reports from the consuls of Sweden/Norway (1891), pp. 295–296.

390 *Ibid.*

391 *Ibid.*

392 *Ibid.* p. 305.

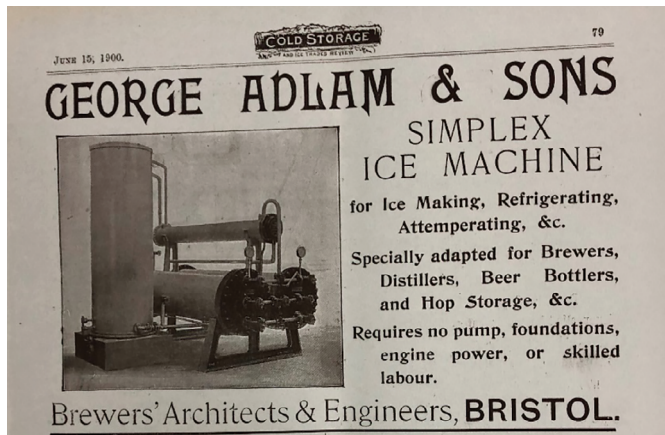
393 *Ibid.* p. 305–306.

394 *Ibid.* p. 309.

395 *Ibid.* p. 309.

In Milford Haven in Wales, they expected a short-term increase in imports of Norwegian natural ice for use in the new steam trawlers, but only for a limited period according to the consul, because ‘... a factory for the manufacture of ice will probably soon be set up here’.<sup>396</sup> Other reports from several consulates in 1891 also highlighted the decline in natural ice imports due to local production of artificial ice.

The key factors shaping this trend were the innovations in refrigeration and freezing technology that made it possible to refrigerate food and produce artificial ice in factories in the UK and on the Continent, much closer to the end user than ice produced in Norway. (See Picture 5-1 and refrigeration and industrialised production of ice in Chapter 1). Artificial ice was less expensive and regarded as of higher quality than imported natural ice, because it was possible to control the purity of the water used. It was only a matter of time before artificial ice would be competing with Norwegian ice in terms of both quality and price. Prices would fall since the quality advantage enjoyed by natural ice was disappearing and price was becoming the decisive factor.



**Picture 5-1.** Advertisement for the Simplex Ice Machine.

Source: *Cold Storage and Ice Trades Review* (June 15, 1900).

396 Ibid. p. 310.

These events can be characterised as a real technological shift in ice production, involving a transition from the traditional production of natural ice from ponds in winter to the all-year-round manufacture of artificial ice closer to the sites where it was needed.

Norwegian exporters were now offering the market ice produced with what was becoming 'second best' technology. However, ice continued to be produced despite the fall in its value, because the export trade remained profitable for some time yet.

However, after the turn of the century, the ice exporters experienced that their market was shrinking. They were investing in a trade that was still profitable, but where competitive advantage could only be achieved by selling their commodity at very low prices.<sup>397</sup> At the same time, the value of Norwegian ice production facilities was also in decline. The plants could still produce ice and continued to do so until it was no longer viable, either because they became unprofitable or so dilapidated that they had to be demolished. In the *Cold Storage and Ice Trades Review* it was reported in 1907 that 'many' Norwegian production facilities had been closed down and that infrastructure such as ice houses, ice chutes and harbour facilities had been demolished.<sup>398</sup>

## T. & A. Wiborg

After its beginnings in 1882, T. & A. Wiborg grew throughout the 1880s and was by 1890 a significant player in the ice export industry. During the 1890s, the company accounted annually for between 6% and 14% of total Norwegian ice exports. The company exported a total of 1,231 shiploads of ice during this decade (see Table 5-2). However, the 1890s were not without challenges, not least in the period leading up to the peak year of 1898.

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<sup>397</sup> Grytten (1991), p. 10. It was not unlike the transition from sails to steamships in the shipping sector. Grytten deals with this transition in shipping during which investment continued to be made in a shrinking market simply because it remained profitable.

<sup>398</sup> *Cold Storage and Ice Trades Review* (21 March 1907).

### *Ice harvesting and ice production*

As we have seen, the various Wiborg companies were engaged in ice harvesting and production from the close of the 1870s.<sup>399</sup> However, in order to provide some detail about the organisation and infrastructure of the facilities that T. & A. Wiborg leased, we have to move to 1889, which is the first year the Thos. J. Wiborg Archives record contracts for ice facilities.<sup>400</sup> These records makes it possible to go beyond our discussion of ice production and shed more light on the organisation and infrastructure both of the complex facilities (with different types of warehouses, ice chutes and other infrastructure where ice was produced) and of the simpler facilities where ice was harvested without building a complex plant (see discussion in Chapter 1).

On 15 February 1889, T. & A. Wiborg entered into a contract for the lease of the Syverstad ice facility in Asker outside Kristiania, which was comprised of two landscaped ponds, an ice house, an ice stack and an ice chute that led down to Kristiania Fjord (to Presteskjæret in Holmenbukta).<sup>401</sup>



**Picture 5-2.** Schooner loading ice at Presteskjæret at the end of the ice chute (c. 1890).

Source: Photographer Hjalmar Kierulf. Courtesy of Asker Libraries.

399 Hambro (1901), pp. 38–44. Judgment of 8 June 1886, pp. 616–618, Judgment of 11 April 1891.

400 Thos. J. Wiborg Archive. Agreement, 23 November 1901 between Thomas Johannes and Axel Wiborg concerning a contract, 15 February 1889 and registered on 6 September 1889 between Erik Syversted and T. & A. Wiborg for the leasing of the Syversted ice facility.

401 Ibid.; Lokalhistoriewiki.no Syverstaddammene. <https://lokalhistoriewiki.no/wiki/Syverstaddammene>. Thomas Møller Wiborg (an ice exporter in Kragerø) is commonly misattributed as the one who leased the Syverstad ice plant. We have documented in this book that in fact Thomas Johanns Wiborg was the Wiborg active in the ice export trade in Asker.



In connection with an assessment for fire insurance a few years later, in January 1893, this was valued at NOK 9,500. A second valuation was carried out on 12 October 1893 to include a recently constructed combined workers' accommodation and warehouse building, valued at NOK 1,300. By this time, the establishment consisted of:

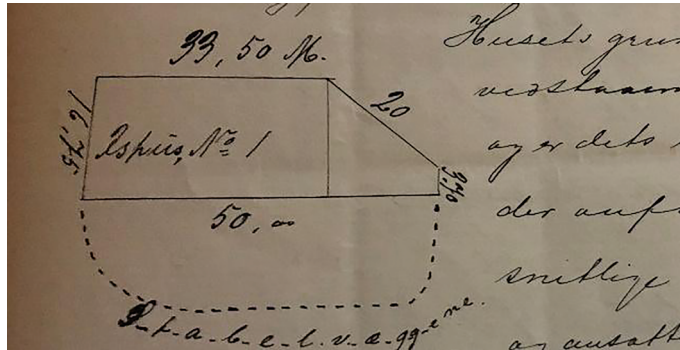
1. **The ice house** (a warehouse), which was a half-timbered building with interior and exterior boards. The gap between the two sets of boards was filled with sawdust for insulation. The roof, which was also filled with sawdust, was supported by 64 poles arranged in three rows. The height was about 6.3 meters. The floor plan is shown in Picture 5-3. The value was set at NOK 4,600.
2. **The ice stack**<sup>402</sup> (a warehouse without a roof), which was set against the ice house, was 116 metres long and 50 metres wide, with an average height of 5.5 metres. It was also half-timbered with interior and exterior boards, and also insulated with sawdust. A layer of sawdust was put on top, to insulate the ice. It was valued at NOK 1,400.
3. **The ice chute** was supported by poles and had two runs of sleepers with inverted bottom rafters.<sup>403</sup> It was 331 metres long, 2.2 metres wide and valued at NOK 3,500.
4. **The combined workers' accommodation and warehouse building** was constructed eight metres from the ice chute. It was built on a foundation and constructed of logs and timber. The roof was covered with slates mounted on boards. It was 11.3 metres long, 5.8 metres wide and 2.65 metres high. It had three rooms and was equipped with a chimney and two stoves, one of which was tiled. It was valued at NOK 1,300.

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402 In practice, an ice stack is an unroofed ice house in which a layer of sawdust is used to insulate the ice.

403 A rafter is defined here as a slanted bearing joint installed in a roof structure. These often occur in pairs, i.e., in two runs. <https://no.wikipedia.org/wiki/Sperre>, <https://snl.no/raft>. In this case, the rafters are installed upside-down to form a support structure for the ice chute. Another interpretation of the archive material is that the chute was built with a double channel (i.e., two runs).

The estimated total value of the plant in October 1893 was NOK 10,800.



**Picture 5-3.** Ground plan of the ice house at Syverstad in 1893.

Source: Thos. J. Wiborg Archive. Folder for 'Ice facilities' marked Syverstad.

T. & A. Wiborg leased the Syverstad plant initially for 15 years, and then for a further ten. The operations actually lasted until the end of 1913, when the plant was returned to its owners.<sup>404</sup> As stated in the agreement, 'From today, the owners of Syverstad will assume responsibility for the Syverstad ice facility in its entirety, including stacks, chutes, etc. and any other equipment.'<sup>405</sup> Thos. J. Wiborg received remuneration totalling NOK 1,500 for the investments that his companies had made over the years.<sup>406</sup>

The right to harvest ice was also leased in 1890. On 1 February, T. & A. Wiborg entered into an agreement with brothers Hans Olsen Kullebund and Martin Olsen,<sup>407</sup> to lease their right to harvest ice on the lake

<sup>404</sup> Thos. J. Wiborg Archive Folder for 'Ice facilities' marked Syverstad, Svestad and Bondivannet. Agreement, 4 November 1913 entered into between the the owners of Syverstad Farm (Chr. and Joh. Thorsrud) and Thos J. Wiborg & Son. Agreement, 23 November 1901. T. & A. Wiborg was dissolved in 1899 and in accordance with the agreement, Thos. J. Wiborg took over the lease.

<sup>405</sup> Thos. J. Wiborg Archive. Folder for 'Ice facilities' marked Syverstad, Svestad and Bondivannet. Agreement, 4 November 1913 entered into between the the owners of Syverstad Farm (Chr. and Joh. Thorsrud) and Thos J. Wiborg & Son.

<sup>406</sup> Ibid.

<sup>407</sup> More information about the brothers can be found at: Lokalhistoriewiki. Kølabbonn (Asker gnr. 6/2) [https://lokalhistoriewiki.no/wiki/K%C3%B8labonn\\_\(Asker\\_gnr.\\_6/2\)](https://lokalhistoriewiki.no/wiki/K%C3%B8labonn_(Asker_gnr._6/2))

Bondivannet, not far from Kristiania,<sup>408</sup> for the purposes of ‘*harvesting ice on our parts of the lake Bondivannet in Asker*’.

Comparing the leases for the Syverstad and the lake Bondivannet facilities highlights the differences between ice harvesting and ice production. At Syverstad, T. & A. Wiborg was leasing a permanent, comprehensive ice facility where ice was produced.<sup>409</sup> At the lake Bondivannet, the company was leasing harvesting rights to an ice sheet where there was no permanent infrastructure. Picture 5-4 shows views of the Bondivannet site that illustrate the ice-harvesting principle. Snow was cleared from the ice only in the areas where ice was to be cut. In some of the places where T. & A. Wiborg leased harvesting rights, questions arose as to whether it would be profitable to shovel the ice clear of snow or to leave it untouched for another year, given the market conditions at the time.<sup>410</sup>



**Picture 5-4.** Cutting and transport of ice at the lake Bondivannet in 1925.

Source: Courtesy of Asker Libraries.

The ice from Bondivannet was transported by horse and sleigh four kilometres to the Kristiania Fjord where it was stored prior to export. T. & A. Wiborg entered into an agreement with Erik Blakstad on 1 February 1890 to lease an area at Blakstad Farm for storage and loading space for shipping of ice.<sup>411</sup> The lease was for 15 years and utilised by T. & A. Wiborg and

408 Thos. J. Wiborg Archive. Folder for ‘Ice facilities’. Contracts, 1 February 1890 between T. & A. Wiborg and Hans Olsen Kulbund, and Martin Olsen, respectively.

409 Thos. J. Wiborg Archive. Folder for ‘Ice facilities’. Agreement, 4 November 1913 between the owners of Syverstad Farm (Chr. and Joh. Thorsrud) and Thos. J. Wiborg & Son.

410 Thos. J. Wiborg Archive. Diary for ice (1899–1929).

411 Thos. J. Wiborg Archive. Folder for ‘Ice facilities’. Contract, 1 February 1890 between Erik Blakstad and T. & A. Wiborg.

its successor, Thos. J. Wiborg, until 1908. It had previously been leased by the ice exporter Søren Parr for the same purposes. The terms of the contract stated that T. & A. Wiborg had to use the same road from the lake Bondivannet to the storage area on the farm that Parr had used,<sup>412</sup> but no further mention is made about buildings or equipment.

T. & A. Wiborg continued to lease ice facilities during the 1890s. In 1893, the company leased the Svestad ice plants not far from Kristiania (at Svestad and Rogneskjær near Nesodden).<sup>413</sup> These included five ice ponds and the lake Svestadtjernet, in addition to ice houses, ice stacks, chutes, planks, sawdust stocks, stables, tool sheds and water pipes, as well as essential land and shoreline rights, and unhindered access for shipping. T. & A. Wiborg was also given the right to erect other facilities that the company considered necessary. The company had the option after five years to terminate the lease with five years' notice, but the agreement lasted 30 years.

On June 7, 1899, a fire assessment was carried out for the parts of the plant located at Rogneskjær and Eng (in Svestad), and this gives us an impression of the size, complexity and value of the facilities.<sup>414</sup>

The plant at Rogneskjær included the following:

- **Ice stack 1:** This stack was 32.5 metres long, 29 metres wide and 7.5 metres high. It was divided into two rooms. The exterior walls were half-timbered with double boards that were filled in between with sawdust for insulation. The stack was built on a foundation and was roofless. A layer of 30 centimetres of sawdust was laid on top to insulate the ice. The stack was valued at NOK 3,500 and the sawdust at NOK 1,500, making a total of NOK 5,000.

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412 Ibid. Parr had also previously leased Blakstad's right to harvest ice from the lake Bondivannet.

413 Thos. J. Wiborg Archive. Folder for 'Ice facilities'. Contract between Carl Svestad and T. & A. Wiborg for the property 'GN 20 BN 1,2,3,4' at Svestad and 'GN 26 BN 6' at Rogneskjær. Svestad later corrected this to 'BN 1,2,3,6' (not 4) on the grounds that these were the properties on which the ice plants were located; Thos. J. Wiborg Archive. Folder for 'Ice facilities'. Fire rating 1899 and registration, 15 January 1902.

414 Thos. J. Wiborg Archive. Svestad folder. Print-out of the fire assessment report issued by the Nesodden police. The assessment was carried out on the property 'GN 26 BN 6 Rogneskjær' on 7 June 1899, and on the 'GN 20 BN 6 Eng' property in Svestad on the same day.

- **Ice stack 2:** This stack was 28 metres long, 20 metres wide and 5 metres high, comprising a single room. The exterior walls were half-timbered with single boards. It was built on rocky ground and was roofless. A layer of 30 centimetres of sawdust was used to insulate the ice. The stack and the sawdust stocks were each valued at NOK 400, making a total of NOK 800.
- **A double ice chute** was built leading from the west side of stack number 1. It was 30 metres in length and built of poles and boards. It was valued at NOK 400.
- **A double ice chute** was also built from the east side of stack number 1. It was also 30 metres in length and built of poles and planks. It was valued at NOK 300.
- **A single ice chute** was installed at the base of the overlying chutes. It was built of poles and planks. It was partly connected to and partly by-passed ice stack no. 2 before continuing to the Kristiania Fjord. It was 200 metres long and valued at NOK 1,000.

According to the assessment, the total value of the Rogneskjær facility was NOK 7,500.

The plant at Eng consisted of:

- **A single ice stack** that was 24.5 metres long, 19 metres wide and 5 metres high, comprising a single room. The exterior walls were half-timbered with single boards. The stack was built without a foundation and was roofless. A layer of 30 centimetres of sawdust was used to insulate the ice. The stack was valued at NOK 600 and the sawdust at NOK 800, amounting to a total value of NOK 1,400.

### *Ice exports in the 1890s*

In the 1890s, the UK continued to be the most important export market for the Norwegian ice export trade, followed by France and Germany. The T. & A. Wiborg export pattern was only slightly different: the UK received a smaller share of the company's exports than the share of all Norwegian ice exports going to the UK (66% and 78% respectively), France a larger share (17% to 6.5%) and similar relative percentages were sent to Germany. The

company also exported a larger share to Denmark than Norway as a whole did (5.5% to 1%). T. & A. Wiborg retained its niche markets in Italy and Portugal and exported a relatively large share of its ice to Ireland (5.7%). The trade with Ireland will be discussed in more detail below. (See Table 5-2 for a detailed overview of the Wiborg companies' exports during the decade: T. & A. Wiborg for the first nine years of the decade and, after its closure in 1898, Thos. J. Wiborg in 1899). T. & A. Wiborg also sold ice on Norway's domestic market, mainly in small volumes (between 25 and 40 register tons), which were transported from ice facilities in the inner Kristiania Fjord area to companies in and around the capital.<sup>415</sup>

**Table 5-2.** Ice sales by country (1890-1899)

	T. & A. Wiborg (1890-1898), Thos. J. Wiborg (1899) (Number of cargoes)											
	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	Total	In %
<b>England</b>	37	76	55	63	73	48	59	53	59	15	<b>538</b>	<b>43.7%</b>
<b>Scotland</b>	10	24	30	9	23	13	18	13	19	10	<b>169</b>	<b>13.7%</b>
<b>Wales</b>	4		2	7	14	5	3	2	1	1	<b>39</b>	<b>3.2%</b>
<b>Ireland</b>	13	11	4	5	8	5	11	5	6	2	<b>70</b>	<b>5.7%</b>
<b>Sweden</b>	1									5	<b>6</b>	<b>0.5%</b>
<b>Denmark</b>	7	4			1	3	15	1	21	16	<b>68</b>	<b>5.5%</b>
<b>Germany</b>	3				2		9		51	20	<b>85</b>	<b>6.9%</b>
<b>France</b>	28	37	34	32	12	13	21	24	8	4	<b>213</b>	<b>17.3%</b>
<b>The Netherlands</b>								1	4	1	<b>6</b>	<b>0.5%</b>
<b>Belgium</b>							2	3			<b>5</b>	<b>0.4%</b>
<b>Spain</b>					1						<b>1</b>	<b>0.1%</b>
<b>Italy</b>	1	1	1	1	1	1	1	1	1	1	<b>10</b>	<b>0.8%</b>
<b>Portugal</b>	1	1		1		1	1				<b>5</b>	<b>0.4%</b>
<b>US</b>	3										<b>3</b>	<b>0.2%</b>
<b>Norway</b>		8	1		3				1		<b>13</b>	<b>1.1%</b>
<b>Total</b>	<b>108</b>	<b>162</b>	<b>127</b>	<b>118</b>	<b>138</b>	<b>89</b>	<b>140</b>	<b>103</b>	<b>171</b>	<b>75</b>	<b>1,231</b>	<b>100.0%</b>

Source: Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journal (1890-1899).

### *Economics and long-term connections*

As we have seen, the 1890s were characterised by low prices, competition between Norwegian exporters and pressure from foreign importers to lower prices and enforce contract terms that were unfavourable to the

415 Thos. J. Wiborg Archive. Chartering journal (1890-1899).

Norwegian exporters. In addition, T. & A. Wiborg had financial problems in the years before 1898, and the bank had postponed payments on loans.<sup>416</sup> The company struggled in the face of major competition, especially from exporters in Kragerø. T. & A. Wiborg claimed that ice from Kragerø was being dumped on the market and that exporters from the town were delivering ice at very low prices,<sup>417</sup> which meant that Wiborg and other exporters were forced to sell ice only to their established customers.<sup>418</sup>

One of T. & A. Wiborg's long-standing connections was Robert Halls in Colchester, England, who sent a handwritten note requesting delivery of a shipment of ice at about the same time and of about the same weight as a previous consignment, at a slightly lower price if possible (See Picture 5-5). Halls' note, written in October 1897, was filed as an ice contract.

Colchester Oct 22<sup>nd</sup> 1897.  
 Gentlemen,  
 Please send cargo  
 of Ice. about the same time  
 and weight as before. at  
 a little lower price if you  
 can  
 Yours truly  
 Robert Halls  
 160-150 Fans

**Picture 5-5.** Note from Robert Halls, requesting ice from T. & A. Wiborg.

Source: Thos. J. Wiborg Archive. Protocol with ice contracts (1897-1898).

<sup>416</sup> Thos. J. Wiborg Archive. Copy book (1889-1898), p. 400. Letter to Thos. Joh. Heftye & Son, 10 January 1898.

<sup>417</sup> Ibid.

<sup>418</sup> Ibid.

### *Contracts for future delivery and risk management*

T. & A. Wiborg often entered into contracts for future delivery,<sup>419</sup> as was the case in 1897, 1898 and 1899.<sup>420</sup> For 1897, contracts had been signed in September and October 1896, all at prices that were approximately one British shilling per ton below the prices on contracts signed in 1897.<sup>421</sup> In the peak year of 1898, contracts that had been entered into in autumn the year before fetched approximately only half the price that it was possible to achieve in the spring and summer of 1898. In contrast, contracts for delivery in 1899, entered into in the autumn of 1898, generated more revenue than those entered into in the spring and summer of 1899. Over time, these relative gains and losses were evened out and enabled T. & A. Wiborg to continue operations at a profit. For example, in 1897 the company wrote letters to its bank stating that prices were such that it was approaching the break-even point.<sup>422</sup> As it turned out, the company achieved a total result just over NOK 20,000 (about NOK 1.6 million in 2020).<sup>423</sup> Most of it was shared between the partners, with dividends of NOK 8,500 and NOK 8,000 paid respectively to T. J. and Axel Wiborg.<sup>424</sup>

A total of 1,239 shiploads of ice was exported by T. & A. Wiborg in the 1890s. As in the previous decades, a significant proportion of the ice was sent via the international shipping market, and 340 of the 1,239 ships (27%) that transported ice for T. & A. Wiborg were foreign.<sup>425</sup> (See Table 5-3).

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419 The company entered into agreements in the autumn of one year for delivery in the spring of the following year. Such contracts were (as described in Chapter 2) considered as a way to reduce risk, both for the shipper and the recipient.

420 Thos. J. Wiborg Archive. Protocol with ice contracts (1896–1899).

421 Ibid.

422 Thos. J. Wiborg Archive. Copy book (1889–1898), p. 400.

423 Thos. J. Wiborg Archive. Copy book (1889–1898), p. 411. Settlement for 1897, 18 January 1898.

424 Ibid.

425 Thos. J. Wiborg Archive. Chartering journal (1872–1891). For the most part, the foreign vessels used by T. & A. Wiborg were chartered by the company. However, there were also cases of ‘free on board’ (FOB) contracts under which the buyer either owned or had chartered the vessel.



**Table 5-3.** Nationality, number and types of ships that transported ice in the period (1890–1899)

Chartered by T. &amp; A. Wiborg (1890–1898), Thos. J. Wiborg (1899)

Year	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	Total
Denmark	29	14	25	16	21	8	41	15	37	15	221
Sweden	4	1	2	2	1	2	4		2	12	30
Russia			1				2		1	1	5
England	3	16	12	10	8		1	14	6		70
Germany	2	1	1	1	2		1		3	1	12
France		1					1				2
<b>Total foreign</b>	<b>38</b>	<b>33</b>	<b>41</b>	<b>29</b>	<b>32</b>	<b>11</b>	<b>49</b>	<b>29</b>	<b>49</b>	<b>29</b>	<b>340</b>
<b>Total Norwegian</b>	<b>70</b>	<b>135</b>	<b>86</b>	<b>89</b>	<b>106</b>	<b>78</b>	<b>91</b>	<b>74</b>	<b>122</b>	<b>48</b>	<b>899</b>
<b>Total ships</b>	<b>108</b>	<b>168</b>	<b>127</b>	<b>118</b>	<b>138</b>	<b>89</b>	<b>140</b>	<b>103</b>	<b>171</b>	<b>77</b>	<b>1,239</b>
<b>Foreign in %</b>	35%	20%	32%	25%	23%	12%	35%	28%	29%	38%	27%
<b>Norwegian in %</b>	65%	80%	68%	75%	77%	88%	65%	72%	71%	62%	73%
<b>Steamships</b>	12	10	33	34	40	33	41	33	51	43	330
<b>Steamships in %</b>	11%	6%	26%	29%	29%	37%	29%	32%	30%	56%	27%

Sources: Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journal (1872–1891, 1892–1905).

The ice trade was still important for Danish sailing ships, which carried 221 of T. & A. Wiborg's ice shipments. Many Danish shipping companies had not changed to steamships, as in the town of Marstal on the island of Ærø in the far south of Denmark, where the sailing ship trade was key right up until the First World War.<sup>426</sup> The Marstal sailing ships were most often smaller ships, schooners, which were well-suited to ice transport.<sup>427</sup> In 1893, the Marstal fleet totalled 332 ships, of which only two were steamships.<sup>428</sup> This was similar to the situation in the Aust-Agder region in the southern part of Norway in 1890,<sup>429</sup> with the difference that many of the southern Norwegian wooden sailing ships were larger barques and full-rigged ships.<sup>430</sup>

However, steamship technology was on the march and 330 of T. & A. Wiborg's shiploads were transported by steamships. The use of steamships had started somewhat cautiously during the previous decade but

426 Hermansen (2008), p. 88; Hanisch (1983), p. 119.

427 E-mail from Berit Eide Johnsen (April 2023).

428 Hermansen (2008), p. 88.

429 Hermansen (2008), p. 88; Hanisch (1983), p. 119; Johnsen & Sætra (2016), p. 143.

430 Johnsen & Sætra (2016), p. 150.

rose to around 30% of ice shipments in the 1890s. Norway was not the only country in which shipping companies owned steamships suitable for the transport of ice. Most of the Swedish ships that carried ice for T. & A. Wiborg in the 1890s were steamships: a total of 30 cargoes were shipped, of which only seven were by sailing ship. In addition, the company used one German, one Danish and one Russian steamship.

In most of the contracts for ice export accessible in the Thos. J. Wiborg Archive, it is stipulated whether the ice is to be transported by steamship or sailing ship.<sup>431</sup> In some contracts, however, we find that the buyer, and in other contracts the vendor, can decide whether a sailing ship or steamship is to be used, in both cases without affecting the rate.<sup>432</sup> According to the charter journals and protocols with ice contracts in the Thos. J. Wiborg Archive, sailing vessels and steamships were also generally paid corresponding rates for transporting ice.<sup>433</sup>

Given that the rates were equal, steamships were still more profitable as they were more efficient for the following reasons:<sup>434</sup>

- A steamship could load more ice than a sailing vessel of the same size (register tonnage) and was thus more profitable at a given rate per unloaded ton CIF (cost, insurance and freight), than a sailing ship of the same tonnage.
- Steamships were more effective at loading and unloading because they could use their steam-driven winches and derricks to hoist the ice from the quay onto the ship and down into the cargo hold (see also Picture 5-6).
- Steamships made faster deliveries than sailing ships because their passage was not dependent on wind conditions.
- Steamships enjoyed priority unloading in ports. According to T. & A. Wiborg's contracts, a steamship carrying ice was to be unloaded twice as fast as a sailing ship.

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431 Thos. J. Wiborg Archive. Chartering journal (1872–1891), Protocols with ice contracts (1872–1891).

432 A rate can be explained as the amount of money a shipowner is paid for one metric ton of cargo transported to the unloading port.

433 Thos. J. Wiborg Archive. Chartering journals (1872–1920), Protocols with ice contracts (1896–1915).

434 See also Weyergang-Nielsen (1994), p. 83.

All in all, steamships generated more revenue for a given voyage and could make more voyages than a sailing ship in any given period.

Whether the ice was sent by sailing ship or steamship could depend on factors such as the availability of ships and the delivery time: if an importer wanted the ice quickly, a steamship would be chosen and conversely, if the shipment was not required quickly, a sailing vessel would be chosen. Some importers may have intended to use the sailing vessel for storage in port prior to unloading. This practice was in use, as evidenced by the wording in T. & A. Wiborg's standard ice contracts, in which, in addition to demurrage,<sup>435</sup> 'compensation for wastage' was included, by which payment for cargo that melted while the vessel was in port was charged.<sup>436</sup>

(Bjerkåsholmen in 1902)



**Picture 5-6.** Wooden steamship loading ice using steam winches and derricks.

Sources: Courtesy of Asker Libraries.

### *The English schooner Luz*

T. & A. Wiborg had collaborated with Ramsgate Smackowners Ice Co. Ltd. since 1882, and in October 1897 an FOB contract was signed between

<sup>435</sup> de Kerchove (1961), p. 212. Demurrage is a fixed sum, per day, agreed to be paid for the detention of a vessel under charter at the expiration of lay days.

<sup>436</sup> Thos. J. Wiborg Archive. Protocol with ice contracts (1897).

the two parties concerning delivery of ice in the following year.<sup>437</sup> The delivery was for ‘2,500 tons of ice collected by the purchaser between 1 April and 30 November 1898 at Knardal by Porsgrund’.<sup>438</sup> This was one of several contracts between the two parties in the 1890s, and the ship that was sent to carry the ice was a three-masted wooden schooner, *Luz*, owned by the English company. The vessel had been built in Dartmouth, England, in 1869, and was well suited for transporting ice, having a cargo capacity of 186 register tons.



**Map 5-1.** The route from Telemark to Ramsgate.

437 Thos. J. Wiborg Archive. Protocol with ice contracts (1897-1898). Contract between T. & A. Wiborg and Ramsgate Smackowners Ice Co. Ltd., 12 October and countersigned on 20 October 1897.

438 Thos. J. Wiborg Archive. Protocol with ice contracts.

T. & A. Wiborg's chartering journal records numerous round trips between Norway and England over a six-year period (see Map 5-1 and Table 5-4). It traces the movements of the ship, from the time it was fully loaded on the Telemark coast and ready to depart for Ramsgate, when it arrived in England and when it was ready again to depart from Telemark, thus telling us something about how long a sailing ship spent on such voyages. Naturally, as a sailing ship, the *Luz* was completely reliant on wind for its propulsion and, as we know, sometimes the wind blows in the wrong direction, while at others it does not blow at all.

**Table 5-4.** The schooner *Luz*: departure dates from Telemark during the 1890s

1891	1892	1893	1894	1897	1898
				29 Mar.	
25 Apr.	20 Apr.	19 Apr.	02 Apr.	26 Apr.	
22 May	18 May	25 May	01 May	29 May	12 May
22 Jun.	22 Jun.		27 Jun.	26 Jun.	
21 Jul.	04 Aug.	19 Jul.	26 Jul.	27 Jul.	04. Jul.
20 Aug.	31 Aug.	18 Aug.	21 Aug.	24 Aug.	09 Aug.
16 Sep.	30 Sep.	19 Sep.	22 Sep.	29 Sep.	15 Sep.
12 Oct.	29 Oct.	29 Oct.	20 Oct.	23 Oct.	
12 Nov.			20 Nov.		02 Nov.
15 Dec.	02 Dec.			02 Dec.	

Sources: Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journal (1872-1891, 1892-1905).

As illustrated in Table 5-4, the *Luz* spent an average of one month on such a roundtrip. The vessel was fully loaded and made ready to depart at monthly intervals regardless of the time of year. There may be several explanations for why the sailing ship operated with such regularity. The first is that one month was a reasonable estimate of this round trip for a sailing vessel, although we know of several instances where sailing ships made faster passages on a regular basis.<sup>439</sup> Although it was possible to sail faster, it may be that the importer, who also owned the ship, preferred the regularity of a monthly delivery. For example, the company may have been able to save on storage costs under such an arrangement. It is also

<sup>439</sup> Worm-Müller (1935), pp. 688-705.

possible that the vessel may have been carrying a return cargo, such as coal, from England. Our best explanation of the regularity of departures from Telemark is simply that it probably best suited the importer's logistics arrangements.

### *Shipment of ice to the west coast of Ireland*

During the 1890s, T. & A. Wiborg transported a total of 70 shiploads of ice to Ireland. These shipments were exported via British agents, mostly to companies with interests in fishing off the west and southwest coast.<sup>440</sup> One such company was the Peel Fishing (I.O.M.) Company Limited,<sup>441</sup> based in Peel, the most important fishing port on the Isle of Man.<sup>442</sup> The company had been founded in 1892 and was owned by the fishermen, who elected both its management and board.<sup>443</sup> Its history goes back to the mid-19th century, when the traditional herring fishing off the south coast of Ireland expanded to include mackerel. The fish buyers established a joint company with the aim of controlling the mackerel trade, but this angered the fishermen who, among other things, submitted protests against the joint company in 1886.<sup>444</sup> The Isle of Man fishermen wanted to form their own company so that they could control fish sales without the interference of intermediaries,<sup>445</sup> and in December 1892 they founded the Peel Fishing Company. About 130 of the 215 fishing boats in the Isle of Man joined the company and started to sell their fish independently of the buyers.<sup>446</sup> The company enjoyed some success and in 1895 merged with the Port St. Mary Fishing Company, also from the Isle of Man. However, as with the rest of the fishing industry, the Peel Fishing Company was

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440 Thos. J. Wiborg Archive. Protocol with ice contracts (1896–1899).

441 Details of the company are based on a biographical history created by the Manx National Heritage. <https://www.imuseum.im/search/collections/archive/mnh-museum-299836.html>

442 The Isle of Man is a self-governing British Crown Dependency.

443 Manx National Heritage. <https://www.imuseum.im/search/collections/archive/mnh-museum-299836.html>

444 Manx National Heritage. *Peel City Guardian* (1 May 1886). The newspaper cited the Cork Constitution on 1 May 1886. A month later, the newspaper reported that 'Due to the failure of the fisheries here, in Ireland and the Shetland Isles, disputes arose between the fishermen and the buyers over the prices of fish.'

445 *Ibid.* (19 June 1886).

446 *Ibid.* (3 December 1892).

impacted by a major downturn towards the end of the century and, in 1899, its finances were no longer viable, and the company was dissolved.<sup>447</sup>

One objective stated in the Peel Fishing Company's Articles of Association was: '*To purchase, hire or charter steamers, hulks, boxes, ice, and all such plant and fishing gear that is necessary for the Company to conduct its business*'.<sup>448</sup> In 1897 and 1898, the company bought ice through agents from T. & A Wiborg.<sup>449</sup> It wanted ice to be delivered in the spring to one or two of four ports on the south or southwest coast of Ireland (see Map 5-2), where mackerel fishing was taking place. The request stated, '*by Steamer to Kinsale, Baltimore, Berehaven, Crookhaven or Fenit*'.<sup>450</sup>



**Map 5-2.** Ice delivery ports in southwest Ireland.

Sources: Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journal (1892-1905).

447 Manx National Heritage.

448 Ibid.<https://www.imuseum.im/search/collections/archive/mnh-museum-299836.html>

449 The ice was bought through Liverpool agents Lorentz Gjersoe in 1897 and Brodersen, Vaughan & Co. in 1898.

450 Thos. J. Wiborg Archive. Protocol with ice contracts (1896-1898), Chartering journal (1892-1905).

The contracts specified that an additional fee should be paid to T. & A. Wiborg if Fenit was to be one of the ports where ice was to be delivered,<sup>451</sup> but there is no record in the archive as to why this extra fee was necessary. Fenit Port offered a newly constructed harbour and loading quay, built in 1880, and was neither exposed nor primitive in terms of facilities. It also had a railway connection to the county town of Tralee, which had been opened in 1887.<sup>452</sup> As shown in Picture 5-7, the railway at Fenit extended onto the quay where special trains could pull up directly alongside berthed ships for loading and unloading.<sup>453</sup> It is not clear if incoming ships were levied an additional fee or a larger fee than at the other ports, or if the extra cost was levied because Fenit was more remote than the other Irish ports.<sup>454</sup> We will return to ice exports to Ireland later in the chapter.



**Picture 5-7.** Fenit's railway extending onto the loading quay.

Source: Photo © Albert Bridge (cc-by-sa / 2.0).

### *Exports of ice to the US in 1890*

As discussed in Chapter 2, ice was only exported from Norway to the US for a few years. The distances over which the transport of ice was profitable depended on the price that the ice could be sold at, set against

<sup>451</sup> Ibid.

<sup>452</sup> Today Fenit is Europe's westernmost commercial port. <https://en.wikipedia.org/wiki/Fenit>

<sup>453</sup> Tralee Fenit Greenway. <http://www.traleefenitgreenway.com/history/>

<sup>454</sup> Wikipedia. *Fenit*. <https://en.wikipedia.org/wiki/Fenit>



the costs of chartering the vessel and costs of transport. These factors were closely related to market demand and climatic temperatures. When T. & A. Wiborg exported ice to the US in 1890, the winter in New York was uncommonly mild,<sup>455</sup> leading to rising prices which made it profitable to export ice from Norway. Three shipments, carrying in all 1,674 register tons, were exported by T. & A. Wiborg<sup>456</sup> to be sold through the Norwegian<sup>457</sup> agent Carsten Boe & Co. in New York.<sup>458</sup> The first ship, a barque called *Carl*, was fully loaded at Bjerkås in Kristiania Fjord on 5 July and arrived in New York in early September, where its cargo was sold to the National Ice Co. This was followed by the barque *Preciosa*, which completed loading at Vold in Volds Fjord (Skiens Fjord) on 14 July and also arrived in early September. Its cargo was sold on arrival.



**Picture 5-8.** The barque *Preciosa*.

Source: Courtesy of the Norwegian Maritime Museum.

455 Parker (1981), p. 3; Worm-Müller (1935), p. 606.

456 Thos. J. Wiborg Archive. Chartering journal (1872–1891), p. 92, Invoice records (1876–1890), pp. 502, 503, 516.

457 Onestad (2016), p. 92. Carsten Boe was from Arendal in Norway and was established as a broker in New York.

458 Ibid.; *New York Tribune* (30 March 1887); *New York Herald* (30 January 1891).

The third consignment was shipped by the schooner *Achilles*. When the ship arrived at the loading port of Knardalsstrand in Skiens Fjord, an argument about the loading operation developed between the captain and T. & A. Wiborg. The captain wanted the ice delivered on deck, while the company insisted that it should be delivered on the quay alongside the vessel. The captain also wanted to use his own stevedores to load the ship.<sup>459</sup> As a result of the disagreements, the vessel, which had arrived on the evening of 3 July, was not ready to depart until the 21st.<sup>460</sup> Before the ship departed, the captain did not sign the loading papers drawn up by T. & A. Wiborg as was common practice, but instead returned them by post. The returned loading papers (bill of lading) contained claims for compensation for 8.5 lay days and for the hoisting of ice on board the ship. In addition, the statement on the loading papers that the ice was ‘in good and proper condition on departure, and should, after a trouble-free journey, be delivered to the recipient in the same condition’ was crossed out, presumably by the captain.<sup>461</sup> When the *Achilles* arrived in New York on 19 September, the ice remained unsold. According to the agent Boe, this was due to the fact that the captain’s annotations to the bill of lading made the ice unsaleable in a rapidly falling New York market in the autumn of 1890.<sup>462</sup> After two weeks, the captain finally managed to sell part of the unmelted ice shipment at auction for USD 2.15 per tonne,<sup>463</sup> which was probably considerably lower than could have been expected. This caused the vessel’s owners, Blakstad, Holta & Co. and N. Kittelsen, to sue T. & A. Wiborg for a little in excess of GBP 466 as compensation for lay-day expenses, hoisting costs and other shipping-related expenses.<sup>464</sup> In the court judgment of 5 December 1894, T. & A. Wiborg was acquitted, but was unsuccessful in its counterclaim for damages. In order to cover

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459 Siewers (1903), pp. 248–254; *Store Norske Leksikon* (2018). Reference to stevedores’ work with loading and unloading ships.

460 Siewers (1903), pp. 248–254 The last date of arrival at the loading location was 20 July.

461 Siewers (1903), p. 249. In Norwegian: «under hosstaaende Mærke, i god og forsvarlig Stand, for efter lykkelig fullendt Reise at levere alt i samme Tilstand».

462 Thos. J. Wiborg Archive. Copy book (1888–1892), p. 488. Letter from Carsten Boe & Co., April 1892. Boe bases his argument on the fact that no ice buyer would purchase a shipment if the loading papers indicated possible involvement in a dispute.

463 Siewers (1903), p. 254.

464 *Ibid.* The verdict in this case can be found here:

some of the vessel's expenses, the shipping company was allowed to keep the amount received by the captain for the sale of part of the remaining ice cargo in New York.

These three sales of ice in the US in the 1890s were the only ice export transactions made by T. & A. Wiborg in that country. The archives do not specify why this was the case, but it is clear that the long distance between Norway and the US played an important role. The passage to New York took about two months, compared to only one week to the UK.<sup>465</sup> The cost of chartering the vessels (GBP 20 per long ton for the *Carl* and GBP 18 for the *Preciosa*) was, naturally, significantly higher than it was between Norway and the UK (roughly GBP 10 and 11 per long ton for two similar vessels).<sup>466</sup> When the *Carl* arrived in New York, 60% of the cargo had melted during the voyage. Similarly, when the *Preciosa* berthed at New York, 43% of the cargo had melted during passage.

Exports to New York were considerably riskier than those to Europe and the same levels of profitability were difficult to achieve, even though market demand and high temperatures made prices high in the US. T. & A. Wiborg, for example, earned only half of the revenues using the *Carl* to transport ice to New York compared with what it earned on sales to the UK using similar ships due to ice melting on the longer journey, despite the fact that the selling price of ice once in port in New York was the highest of the shipments.<sup>467</sup>

### *The peak is reached: the difficult record-year of 1898*

As we have seen, 1897 was one of the worst years financially for ice exports in the 1890s.<sup>468</sup> The sector encountered problems such as large stocks, lack of cooperation among the ice exporters, downward pressure on prices and contracts that were generally unfavourable to Norwegian

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465 Thos. J. Wiborg Archive. Chartering journal (1872–1891).

466 Thos. J. Wiborg Archive. Invoice book (1876–1890).

467 Thos. J. Wiborg Archive. Chartering journal (1872–1891), p. 91–92, Invoice book (1876–1890), pp. 502–503.

468 *Farmand* (16 January 1897).

exporters. This caused many ice exporters to suffer significant losses.<sup>469</sup> In the late autumn of 1897, there was no indication that the next year would be any different. In fact, it became extremely turbulent. During the festive season, prevailing westerly winds and higher temperatures caused the weather to be more like spring than mid-winter.<sup>470</sup> The ice melted on the lakes and ponds, especially near the coast. The British trade journal *Cold Storage and Ice Trades Review* reported that Kragerø would only be able to deliver less than half of an average year's production and that the ice would be of reduced thickness.<sup>471</sup> In the northern Kristiania Fjord area, however, the ice was thicker and of better quality.<sup>472</sup> There was also increased use of lakes further inland. Altogether the result was a high volume of ice production and large quantities of ice that had to be transported long distances to the ports. The Kristiania area was in a good position to operate under these conditions as railway networks covered the area.

The winter was also mild in the UK and on the Continent, and it was impossible to produce local natural ice in either the UK or Germany.<sup>473</sup> This situation resulted in high levels of demand, especially in Germany (see Figure 5-2 and Picture 5-9), and limited supply led inevitably to higher prices. However, the terms of export contracts that had been entered into in the autumn of 1897 meant that much of the ice for delivery in 1898 was sold at the old prices. Ice exporters who had entered into such contracts thus missed out on the initial price increases in 1898.<sup>474</sup> Those with a so-called 'winter clause' (*force majeure*) in their contracts had been very prescient.<sup>475</sup>

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469 *Norges Sjøfartstidende* (3 January 1899).

470 *Ibid.*

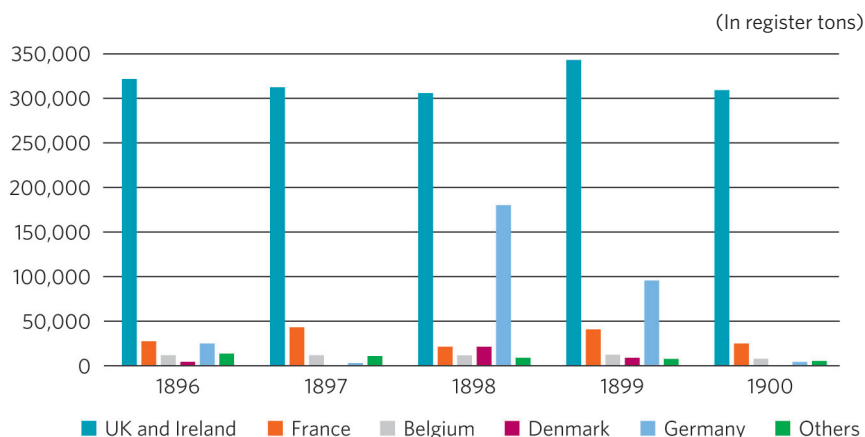
471 *Cold Storage and Ice Trades Review* (April 1898), Vol. 1, No. 1.

472 *Ibid.*

473 *Norges Sjøfartstidende* (3 January 1899); *Cold Storage and Ice Trades Review* (1898), Nos. 1 and 2.

474 *Norges Sjøfartstidende* (3 January 1899).

475 Thos. J. Wiborg Archive. Protocol with ice contracts (1897- 1898). A so-called 'winter clause' grants an exporter the right not to deliver ice previously agreed upon under certain conditions, such as in the event of mild weather, or if an ice house storing the delivery is burned down or subject to other accidents.



**Figure 5-2.** Norwegian ice exports to primary destinations (1896-1900).

Source: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1896-1900).

By the end of February 1898, the prices of ice sales to Germany had doubled, leading to a boom in the market for Norwegian ice exports.<sup>476</sup> Speculators bought up rights to ice harvesting in areas that were so far inland that the rail journey to the nearest port took more than a day.<sup>477</sup> Some travelled to Nordbotten in Sweden to obtain ice, and the fever spread to Finland and Russia, from where ice was sent to North Sea ports (the European market) for the very first time.<sup>478</sup>

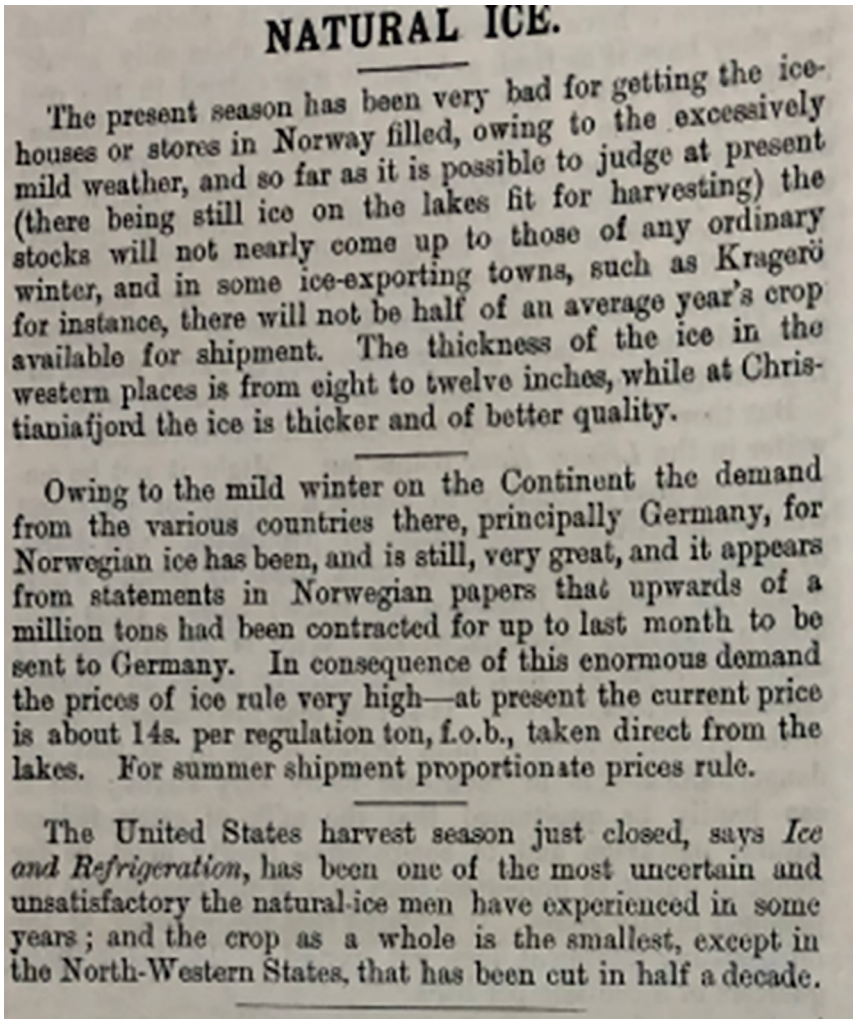
While all this was happening, ice production costs rose because workers were demanding higher wages and landowners wanted more money for leasing out their ponds, lakes and ice storage facilities.<sup>479</sup> The exporters also had to pay for rail transport. The ripple effects of the boom were enormous, and the periodical *Norges Sjøfartstidende* reported ‘Prosperity and movement on the coast’ which reminded people of the golden age of the 1870s. *Norges Sjøfartstidende* made a clear distinction between the experienced ice exporters and the speculators, emphasising that it was unusual for the former to engage in such ‘wild operations’ where record prices were required to generate profitability.

476 *Norges Sjøfartstidende* (3 January 1899); *Farmand* (5 March 1898, 12 March 1898).

477 *Norges Sjøfartstidende* (3 January 1899); *Farmand* (26 March 1898).

478 *Norges Sjøfartstidende* (3 January 1899).

479 *Ibid.*



**Picture 5-9.** Article describing the market for ice, early 1898.

Source: *Cold Storage and Ice Trades Review* (April 1898).

The market upturn did not apply to ice exports sent to the UK, with the exception of price increases for cargoes bound for fishing ports in Ireland. In the rest of the UK, contracts had been concluded the previous year and ice was sold at 1897 prices. Towards the end of March, German demand had been met and prices began to fall.<sup>480</sup> This led to panic

<sup>480</sup> *Norges Sjøfartstidende* (3 January 1899); *Cold Storage and Ice Trades Review* (1898), No. 2.

among Norwegian speculators, who had to sell to cover the costs they had incurred. This further boosted supply, demand was met and markets were saturated, leading to a rapid downward spiral in prices and major losses for many of the speculators.<sup>481</sup>

However, the established ice exporters stuck together and demanded higher prices before selling,<sup>482</sup> which resulted in price rises during June and July.<sup>483</sup> By mid-August, when temperatures rose in Europe, the market took off again. Ice stocks were exhausted both in the UK and on the Continent, but a lack of transport vessels limited exports.<sup>484</sup> In spite of this, both the prices and the level of exports continued to rise and peaked as September drew to a close, before falling again and remaining low throughout October.<sup>485</sup> At the time, this sudden fall was explained by two factors. First, ice stocks in Europe had been filled to capacity and second, shipments were sent from Norway entirely speculatively, without the cargo having any purchaser.<sup>486</sup> The rest of the year continued mild and demand increased again in November. By now, however, Norwegian stocks were exhausted and only those exporters with residual ice in stock were able to benefit from the upturn.<sup>487</sup>

In December 1898, the trade journal *Farmand* concluded that the year had transformed the Norwegian ice industry.<sup>488</sup> It was pointed out that importers in London had learned how dangerous it could be during mild winters to focus on ice deliveries from a single location (in this case Kragerø). Costs and wages had risen sharply in Norway and had reached new levels. *Farmand* stressed that the industry would have to take these increases into account going forward. At the same time, they anticipated higher prices, not only in the following year, but also in the foreseeable future. According to *Farmand*, the shipping sector was benefiting from this, as shipping rates were significantly higher at the close of 1898 than

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481 *Norges Sjøfartstidende* (3 January 1899); *Farmand* (2 April, 16 April, 25 June 1898).

482 *Cold Storage and Ice Trades Review* (1898), No. 4; *Farmand* (April, May 1898).

483 *Cold Storage and Ice Trades Review* (1898), No. 4; *Farmand* (June, July 1898).

484 *Cold Storage and Ice Trades Review* (1898), No. 5; *Farmand* (20, 27 August 1898).

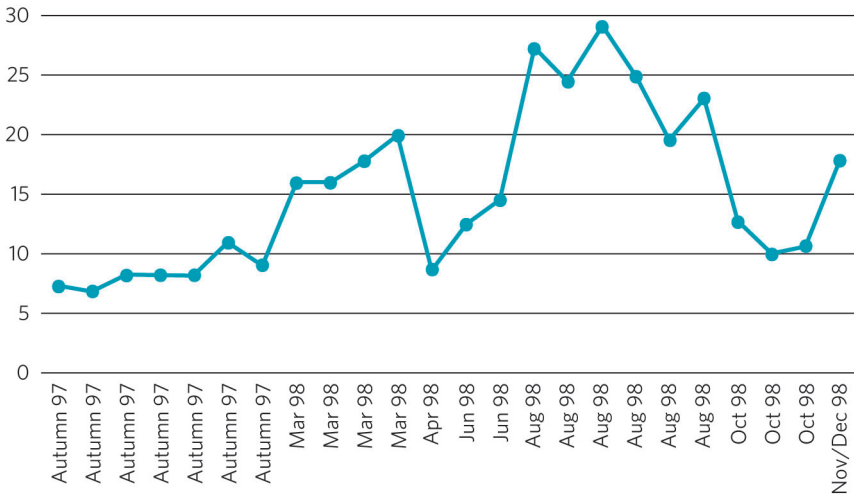
485 *Cold Storage and Ice Trades Review* (1898), No. 8; *Farmand* (September 1898).

486 *Cold Storage and Ice Trades Review* (1898), No. 8; *Farmand* (15 October 1898).

487 *Cold Storage and Ice Trades Review* (1898), No. 8; *Farmand* (5, 12 November 1898).

488 *Farmand* (17 December 1898).

they had been at the beginning of the year.<sup>489</sup> The development of price trends during 1898 is illustrated in Figure 5-3.



**Figure 5-3.** Price fluctuations in Norwegian ice during 1897 and 1898.

Source: From statistics published in the trade periodical *Norges Sjøfartstidende* (3 January 1899).

### *T. & A. Wiborg's ice production in 1898*

How did T. & A. Wiborg manage in this complex situation, characterised by so much uncertainty and scope for error, with a mix of opportunities for major gains and potential for significant losses? The company had plans to increase its ice production.

It has been emphasised that long-term customer relationships and connections were important, especially during troubled times. This is evident in the case of T. & A. Wiborg in 1898, when the firm's long-standing bank connection stepped in. In a letter to the company's bank, the banking firm Thos. Joh. Heftye & Son, 10 January 1898, T. J. Wiborg set out his analysis of the current situation.<sup>490</sup> He noted that the preceding years had been problematic for the company, which had struggled in the face of fierce competition, especially from ice

<sup>489</sup> *Farmand* (17 December 1898).

<sup>490</sup> Thos. J. Wiborg Archive. Copy book (1889-1898), p. 400. Letter to Thos. Joh. Heftye & Son, 10 January 1898.



exporters in Kragerø.<sup>491</sup> During this time, and in contrast to conditions in more normal winters, ice from the town had maintained the same quality and thickness as that from Kristiania. Moreover, Kragerø ice had been dumped in the market at prices so low that it had been almost impossible to make exports profitable.<sup>492</sup> The winters had been cold, he wrote, making many exporters so complacent that their delivery contracts contained no contingency for mild winters.<sup>493</sup> This had led them to undertake major deliveries at very low prices, which meant that competitors such as T. & A. Wiborg were only able to sell ice to their loyal and well-established customers.

The prices that the company obtained at the time were indeed low. In the ‘tough’ year of 1897, the value had been as low as NOK 2.28.<sup>494</sup> But the weather provided new opportunities. By the close of 1897, while temperatures stayed high, T. & A. Wiborg started to expand by exploiting all of the ice facilities it had at its disposal for the first time in many years. In spite of the mild weather, the ice in the company’s ponds in the inner part of Kristiania Fjord had attained a thickness of between 7 and 11 inches, and as much as 13 inches in ponds at higher altitudes. Given the weather conditions, these thicknesses were considered excellent.<sup>495</sup> On the coast further south, however, conditions were poor, with ice thicknesses in the Kragerø district between 2 and 8 inches, depending on the exposure of the ponds to the mild winds. The Kragerø companies that had previously been undercutting their competitors were now facing some major problems. They were unable to make agreed deliveries and were not protected by mild weather – *force majeure* – clauses in their contracts.

T. & A. Wiborg was in a much better position and wrote to the Thos Joh. Heftye & Son bank that it had already received requests from Denmark and Germany, and that the company saw the prospects for 1898 in a very positive light. It emphasised that the ponds it had at its

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491 Ibid.

492 Ibid.

493 Ibid.

494 Thos. J. Wiborg Archive. Chartering journal (1892–1905). Both under FOB terms and under CIF terms, less transport costs.

495 Thos. J. Wiborg Archive. Copy book (1889–1898), p. 400. Letter to Thos. Joh. Heftye & Son, 10 January 1898.

disposal were ideally suited to ice production in mild weather. The essence of the letter came next. It notified the bank that in order to reap the benefits of this major opportunity, a loan of NOK 6,000 was needed which would be used to cover salaries and other production expenses while it waited for payment from sales of ice.<sup>496</sup> Four days later, a second letter was sent, informing the bank that it had now received further inquiries from southern Sweden, Denmark and from as far away as Königsberg in East Prussia, as well as from its main markets in the UK and France.<sup>497</sup> Thos. Joh. Heftye & Son now asked for additional documentation, and on the 18 January, T. & A. Wiborg sent a list of the company's facilities both in Telemark and the inner Kristiania Fjord area, together with a list of the company's assets and liabilities and its financial results for 1897.<sup>498</sup>

*Aktiva*

<i>Syverstad Isanlæg, Asker med 2 damme, ishus og væningshus</i>	21000
<i>Bondivannet med 2 Iskædet Ishus</i>	2500
<i>Svestad Isanlæg, Nesodden med 1 Iskjern, 4 damme, ishus og væningshus</i>	14000
<i>Digerud Isanlæg, Iskædet med 1 Iskjern, 1 damme, ishus og væningshus</i>	10000
<i>Blylaget Isanlæg, Nesodden med 2 damme, ishus, isvædder etc.</i>	9500
<i>Grøstad Isanlæg, Nesodden med 1 damme, ishus og væningshus etc.</i>	8000
<i>Elvik Isanlæg, Skjensfjord med 2 damme, ishus, isvædder etc.</i>	9000
<i>Stokkevannet Isanlæg, Bamble med 1 Iskjern, 1 damme, ishus og væningshus etc.</i>	7000
<i>Sortebogen Isanlæg, Bamble med 1 Iskjern, 1 damme, ishus og væningshus etc.</i>	115500
<i>Sortebogen Sagbrug, næsten nyt</i>	2500
<i>Knardal Isanlæg, Porsgrunn med 2 damme, ishus og væningshus etc.</i>	21000
<i>Sortebogen Isanlæg, Bamble med 1 Iskjern, 1 damme, ishus og væningshus etc.</i>	23000
<i>Sic. Beholdning</i>	13000
<i>I alt</i>	<i>Nr. 156000</i>
<i>Saldo pr 1<sup>te</sup> januar 1898</i>	<i>149200</i>

<b>Ice facilities</b>	<b>Location</b>
Syverstad	Asker
Bondivannet	Asker
Svestad	Nesodden
Digerud	Frogn
Blylaget	Nesodden
Grøstad	Nesodden
Elvik	Bamble
Stokkevannet	Bamble
Sortebogen	Bamble
Knardal	Porsgrunn

**Picture 5-10.** List of ice facilities operated by T. & A. Wiborg, 1 January 1898.

Source: Thos. J. Wiborg Archive. Copy book (1889-1898), p. 405. Company assets as of 1 January 1898.

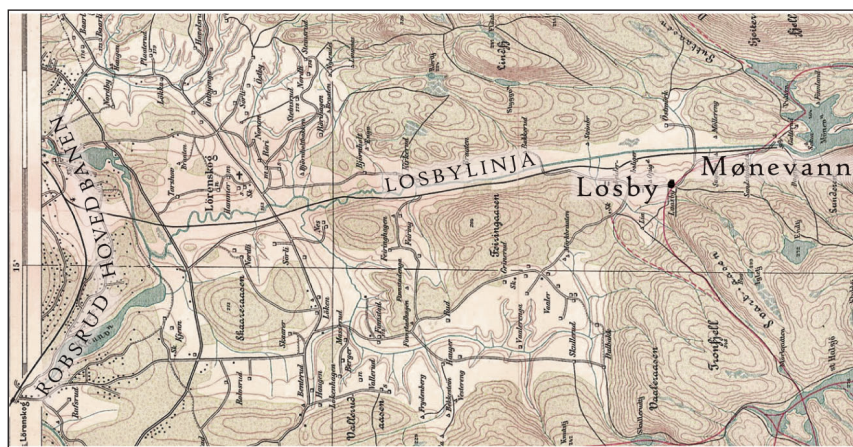
496 Ibid.

497 Ibid., p. 407. Letter to Thos. Joh. Heftye & Son, 14 January 1898. (Königsberg is now Kaliningrad, a part of Russia).

498 Ibid., p. 411. Settlement for 1897, 18 January 1898.

On 19 January 1898, Thos Joh. Heftye & Son sent confirmation that the loan was approved.<sup>499</sup> It was a short-term loan as requested, in the form of an overdraft of NOK 6,000 to be repaid in May or June when the company was due to receive payments for ice deliveries.<sup>500</sup> At the time the loan was granted, T. & A. Wiborg had ten ice facilities at its disposal (see Picture 5-10), and the ice produced at these plants was the basis for the company's potential sales volumes.

T. & A. Wiborg began by increasing production at its inland ice facilities rather than those on the coast. It also engaged in new, short-term projects, both in the Telemark area and close to Kristiania, which all profited from easy access to the railway network which linked the ice drifts to the ports where ice was shipped out. Two of the ice harvesting operations T. & A. Wiborg became involved in, in February 1898, were in Losby and Robsrud, both just north of the capital<sup>501</sup> (in today's municipality of Lørenskog). (See Map 5-3). Here, the company collaborated with William Adolph Duborgh, who was a leading figure in the Kristiania business community.<sup>502</sup>



**Map 5-3.** The Losby, Robsrud railway network.

Source: A/S Akersbanene (1928).

499 Ibid., p. 412. Letter to Thos. Joh. Heftye & Son, 21 January 1898.

500 Ibid., p. 402. Letter to Thos. Joh. Heftye, 10 January 1898.

501 Thos. J. Wiborg Archive. Folder marked 'General Ledger T. & A. Wiborg' (1898), referring to Robsrud and Losby.

502 Ibid.; Brinchmann & Hammer (1912), p. 58; *Norges Handels og Sjøfartstidende* (13 June 1929).

The agreement between them was that Duborgh received one third and T. & A. Wiborg two thirds of the ice from the harvesting. The Robsrud ice drift, at the lake Langvannet, was located close to the main railway line to Kristiania, while the Losby ice drift was on the Losby line, a side track that had been built in the 1860s to transport timber.<sup>503</sup> At Losby, harvesting took place at the lake Mønevannet. The Robsrud-Losby operation was a one-year project. It began in February, when the ice was cut and stored on-site, then transported by rail to Kristiania in May and August or September to be sold and prepared for shipment.<sup>504</sup> By the turn of the year, T. & A. Wiborg had ceased its operations in the Losby and Robsrud area.

The company also engaged in ice harvesting in Heggedal, west of Kristiania (in Asker).<sup>505</sup> The lake in Heggedal, Gjellumvannet, was a fair distance inland, but a railway station had been built just south of the lake in 1874, and ice was easily transported by train to Kristiania and exported.<sup>506</sup> However, rail freight was expensive and even though the sale of this ice generated revenues of more than NOK 35,179, the resulting profits were just above NOK 2,907.<sup>507</sup> Rail freight came to about 30% (ca. NOK 9,826) of the company's total expenditure, which was NOK 32,273. T. J. Wiborg wrote in his ice diary that *'The railway was to blame for not providing us with a far better result.'*<sup>508</sup> The Heggedal enterprise was also a one-year project and T. & A. Wiborg had ceased operations in the area by the end of the year.<sup>509</sup>

In 1898, T. & A. Wiborg also collaborated with their brother, Ludvig Wiborg, in ice harvesting operations at the lake Aaklungen (now

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503 Lokalhistoriewiki. *Losbylinja*. <https://lokalhistoriewiki.no/wiki/Losbylinja>, Wikipedia. *Losbylinja*. <https://no.wikipedia.org/wiki/Losbylinja>

504 Thos. J. Wiborg Archive. Folder marked 'General Ledger T. & A. Wiborg' (1898), Chartering journal (1892–1905).

505 Thos. J. Wiborg Archive. Folder marked 'General Ledger T. & A. Wiborg' (1898), referring to Heggedal.

506 Heggedal.no <https://iheggedal.no/heggedal-sentrum-kort-resyme-av-historien/>

507 Thos. J. Wiborg Archive. Diary for ice (1898–1929).

508 Ibid.

509 Thos. J. Wiborg Archive. Folder marked 'General Ledger, T. & A. Wiborg (1898), referring to Heggedal. The only costs involved in this plant were the transport of an ice plough and a lift wheel.

Oklungen) in Telemark.<sup>510</sup> Aaklungen was situated inland, alongside a railway line (connecting Larvik, Porsgrunn and Skien), and there was a station at the lakeside. The company built an ice stack on a plot it leased in the station area. Operations began in February, and in early March, the first six wagons with ice were sent to Skien.<sup>511</sup> More ice followed later in the year, sent by rail to both Skien and Porsgrunn for onward export. Ludvig Wiborg was responsible for activities onsite, and he had the largest stake in the operation.<sup>512</sup> A total of four companies, employing 85 men, cut ice at Aaklungen, and the Wiborg brothers succeeded in taking out the second largest volume of the four.<sup>513</sup> At the turn of the year, the equipment was transferred to the company's facilities elsewhere, at Sortebogen and Knardalstrand, and T. & A. Wiborg ceased its operations at Aaklungen.

The company also took out a temporary lease at Nettet in the innermost part of Bunne Fjord, near Kristiania, where it harvested ice, and leased the rights to some ponds, including Frogndammen<sup>514</sup> (from Jens Brandt at Froen's Farm).<sup>515</sup> In order to gain access to Nettet in mid-winter, the company chartered the icebreaker SS *Isbjørn* (see Picture 5-11) to drive a passage through the ice on the fjord so that the ice harvesting equipment could be brought in by boat.<sup>516</sup> The equipment included an ice plough, used to cut the ice after the snow on the ponds had been cleared off manually. At the end of the year, the business was closed down and all equipment transferred to the company's facility at Digerud in Nesodden. By then, T. & A. Wiborg had harvested an impressive 4,098 register tons of ice at a profit of NOK 22,587.<sup>517</sup>

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510 Ibid., referring to Aaklungen.

511 Ibid.

512 Ibid., referring to profits from Aaklungen.

513 Hals (1968), p. 139.

514 Thos. J. Wiborg Archive. Diary for ice (1899–1929), Folder marked 'General Ledger T. & A. Wiborg' (1898), referring to the ponds at Frogndammen.

515 Weydahl-Ottesen (2006), p. 21.

516 Thos. J. Wiborg Archive. Diary for ice (1899–1929), Folder marked 'General Ledger T. & A. Wiborg' (1898), referring to Frogndammen.

517 Thos. J. Wiborg Archive. Diary for ice (1899–1929).



**Picture 5-11.** The icebreaker SS *Isbjørn*.

Source: Anders Beer Wilse. Courtesy of the Norwegian Maritime Museum

Yet another pond leased by T. & A. Wiborg in 1898 was Blikslitjernet in Fjellstrand (Nesodden), where 1,271 register tons of ice were harvested and sold at a profit of a little more than NOK 4,631.<sup>518</sup> Ice was also harvested from Blikslitjernet in the next ‘good year’, namely 1904. The Nettet and Blikslitjernet operations are examples of ice ponds that were leased and held in reserve for potential harvesting in years when the market was good and extra capacity was needed.<sup>519</sup>

### *T. & A. Wiborg and ice exports in 1898*

As we have seen, T. & A. Wiborg was busy expanding its operations in 1898, having spent the early months of the year preparing and securing finance for the expansion. In terms of export markets, however, late 1897 as well as early 1898 turned out to be far from easy. The difficult

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<sup>518</sup> Ibid.

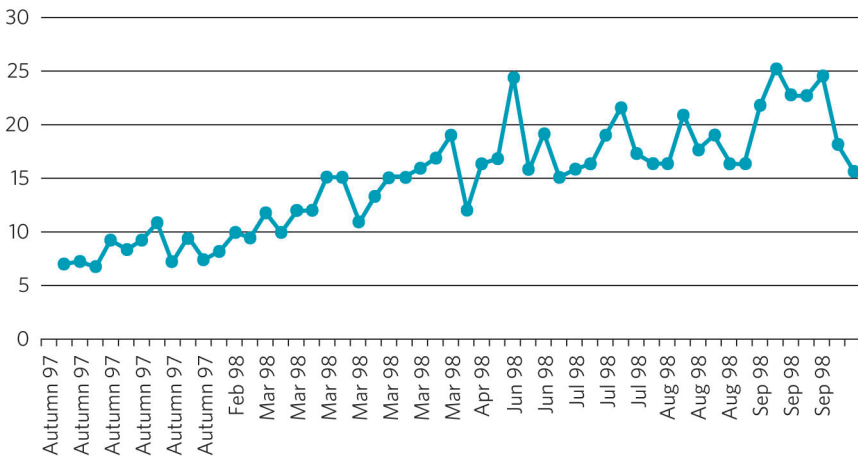
<sup>519</sup> Thos. J. Wiborg Archive. Folder marked ‘General Ledger T. & A. Wiborg’ (1898), referring to Blikslitjernet and Fjellstrand.

conditions experienced in preceding years continued. A letter to T. & A. Wiborg, sent in October 1897 by Joseph Johnston & Sons, Fish Curers, Salmon Fishers, &c., based in Montrose, Scotland, stated that:<sup>520</sup>

We shall be pleased to leave the price as you suggest in your letter of 15th. We know quite well you can have very little profit at the prices, but the Ice trade is very much cut up here as elsewhere and there are rumours of an Ice Manufactory<sup>521</sup> being started here whether it comes to anything or not.<sup>522</sup>

T. & A. Wiborg had entered into several forward contracts for 1898, all based on 1897 prices. Both T. & A. Wiborg and Joseph Johnston & Sons evidently shared the view that only ‘very little profit’ would be generated. Even though most of T. & A. Wiborg’s contracts contained a winter clause,<sup>523</sup> the company was unable to invoke *force majeure* because it was able to produce ice and was thus obliged to fulfil the contracts.

Figure 5-4 shows the development of ice prices experienced by T. & A. Wiborg in 1898, based on the contracts from the autumn of 1897 and



**Figure 5-4.** Development of ice prices experienced by T. & A. Wiborg in 1898.

Source: Compiled on the basis of the Thos. J. Wiborg Archive. Protocol with Ice contracts (1897–1898).

520 Thos. J. Wiborg Archive. Protocol with ice contracts (1897–1898). Letter/contract from Joseph Johnston & Sons, Montrose.

521 See the discussion of natural ice versus artificial ice earlier in the chapter.

522 Thos. J. Wiborg Archive. Protocol with ice contracts (1897–1898). Letter/contract from Joseph Johnston & Sons, Montrose.

523 Thos. J. Wiborg Archive. Protocol with ice contracts (1897–1898).

throughout 1898. In general terms, the prices experienced by the company followed the general trend in Norway, with the exception that Wiborg achieved better prices earlier in the summer than was the case nationally.

During the autumn of 1897 and the first few months of 1898, when prices were low, T. & A. Wiborg sold to long-established customers. The first listing in the company's chartering journal for 1898, entered in the autumn of 1897, concerned the sale of ice to Josias Pernis in Cagliari, Sardinia.<sup>524</sup> The second listing concerned sales to Trouville-sur-Mer, a town a little to the south of Le Havre in France, where T. & A. Wiborg had several connections.<sup>525</sup> Sales to established customers continued throughout January and on into February.

At the end of February, prices began to rise. Ice production in Germany had failed and customers who normally bought German ice had to look elsewhere. This resulted in a number of sales for T. & A. Wiborg, completed in March at very favourable prices. The company was now able to fully exploit the investments it had made at the turn of the year to increase ice production. Contracts were entered into for the sale of ice to importers in Denmark and Germany at higher prices than those that prevailed earlier in the year.<sup>526</sup>

The company exported less to the UK and more to ports in Denmark, such as Tuborg and Copenhagen, and in Germany to Brake, Flensburg, Kolberg and Stettin.<sup>527</sup> The company's sales of ice to Germany were concentrated in March.<sup>528</sup> These sales provide an excellent illustration of how prices rose as March progressed. Winter shipping prices of RM 12 per register ton at the beginning of the year rose to RM 19 by the end of March. Prices also increased for deliveries of ice to the fishing industry in Ireland because the season was underway and there was an urgent need to refrigerate catches. On 12 March, T. & A. Wiborg was contacted by the brokers Brodersen, Vaughan & Co. in Liverpool acting for the Peel Fishing

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524 Thos. J. Wiborg Archive. Invoice book (1876–1890).

525 Ibid.

526 Thos. J. Wiborg Archive. Protocol with ice contracts (1897–1898).

527 Thos. J. Wiborg Archive. Chartering journal (1892–1905).

528 Thos. J. Wiborg Archive. Protocol with ice contracts (1897–1898).



(I. O. M.) Co. Ltd., who requested March deliveries of ice to four ports on the southwest coast of Ireland for the third year running, to be shipped by steamer: *‘By Steamer to Kinsale, Baltimore, Berehaven, Crookhaven or Fenit. One harbour 20 /, two harbours 21 /, and if Fenit 6 p extra.’*<sup>529</sup> These prices were more than double those quoted for similar deliveries made in 1896 and 1897. On the whole, a number of customers wanted ice and T. & A. Wiborg achieved, as illustrated in Table 5-5, high prices both during the spring and summer of 1898, before prices increased further in the autumn.

### *Transport of ice and chartering of ships*

T. & A. Wiborg’s exports in 1898 illustrate the international character of the ice export trade. Two of the first four vessels that the company chartered were Danish, one was Russian and the fourth Norwegian. Three of the ships sailed to the UK and one to France.<sup>530</sup> They were chartered via the Norwegian brokers Camillo Eitzen & Co., N. Møller Holm, and Smith & Co., all of whom were based in Kristiania.<sup>531</sup>

At this point, it is relevant to ask whether transport also became more expensive as ice prices rose and the availability of transport was limited. According to *Farmand*, this happened during some periods in 1898: in early September, a shortage of vessels combined with an increased demand for ice caused by a major heatwave, led to an *‘almost unprecedented rise’* in the rates.<sup>532</sup> These high rates continued for a week before returning, together with the ice prices, to a more normal level.<sup>533</sup> *Farmand* also reported that even in late September, the *‘most extravagant prices’* were being paid for vacant ships, before prices and the demand for both ice and vessels fell once again.<sup>534</sup> One could argue, though, that the shipping sector benefited, just as *Farmand* had

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529 Ibid.

530 Thos. J. Wiborg archive. Chartering journal (1892–1905).

531 Ibid.

532 The rate stated here refers to that for chartering a vessel.

533 *Farmand* (3, 10 September 1898).

534 *Farmand* (1 January 1898).

predicted. However, these abrupt and short price fluctuations also serve to illustrate the difficult and volatile situation that pervaded the ice market in 1898. An ‘ice speculator’, who had purchased ice and chartered a ship at peak prices but failed to sign a sales contract before the market again declined, was in grave danger of suffering significant losses instead of gains.

As for T. & A. Wiborg, the company’s transport expenditure remained at approximately the same level throughout 1898.<sup>535</sup> Compared with a normal year, rates varied more, almost from shipload to shipload, but not dramatically. Ice was a typical bulk commodity that virtually all ships were able to carry. Many older Norwegian and foreign wooden sailing ships were no longer equipped for global trade. With price as the most important competitive advantage, they spent their last years in the North Sea trade with transport of various bulk cargoes such as ice and timber.<sup>536</sup> As *Farmand* wrote, the fact that all these were engaged at the time when the demand for ice suddenly increased caused an ‘almost unprecedented increase’ in the rates.<sup>537</sup> T. & A. Wiborg was not, according to the chartering journal, among the companies that chartered ships during these short-lived price booms.<sup>538</sup> This meant that when prices rose, the company’s profits rose correspondingly.

### *Sales prices during the record year*

The eight highest paid cargoes were sold at prices exceeding NOK 20.9 per ton. These transactions were made with importers in France, the UK, Germany and the Netherlands. High prices were achieved in several markets, with overall Norwegian ice exports peaking in September 1898. Table 5-5 lists the range of prices T. & A. Wiborg achieved, from May to September.

<sup>535</sup> Thos. J. Wiborg Archive. Chartering journal (1892-1905).

<sup>536</sup> *Norges Sjøfartstidende* (3 January 1899).

<sup>537</sup> *Farmand* (3, 10 September 1898).

<sup>538</sup> Thos. J. Wiborg Archive. Chartering journal (1898).

**Table 5-5.** The highest prices for ice received by T. & A. Wiborg in 1898

(Prices in NOK, 1898)

Listed in Charter J.	Finished loading	Exported from	Imported to	Sales price per ton	Sales price (pt) in NOK	Tons ice unloaded
28.05.1898	14.06.1898	Næset	Port Haliguen	Fr 34	24.5	97
12.07.1898	02.08.1898	Syverstad	Trouville-sur-Mer	Fr 30	21.6	223
10.08.1898	27.08.1898	Syverstad	Stettin	RM 23.5	21.4	168
29.08.1898	31.08.1898	Robsrud/Losby	Hull	24/	21.8	622
07.09.1898	09.09.1898	Robsrud/Losby	London, Surrey Docks	25/	22.7	500
06.09.1898	16.09.1898	Robsrud/Losby	IJmuiden	25/	22.7	461
03.09.1898	21.09.1898	Robsrud/Losby	Concarneau	Fr 35	25.2	134
24.09.1898	30.09.1898	Grøstad	Grimsby	27/	24.5	580

Source: Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journal (1892–1905).

The highest price was obtained on 3 September 1898, when the company entered into a contract for a shipment of ice to Concarneau in Brittany, France. This ice came from the Robsrud-Losby facilities and had been loaded onto the Danish schooner *Axel* on 21 September. At Concarneau, the ship unloaded 134 tons of ice, at Fr 35 per ton.<sup>539</sup>

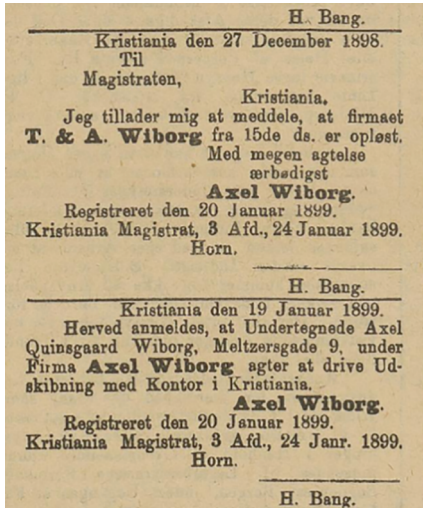
The peak of a very good business year had now been reached, and by this time T. & A. Wiborg had probably sold all the ice that the company had at its disposal. Seven shipments of ice were exported during the last three months of the year, consisting mainly of the final consignments for contracts concluded earlier in the year.<sup>540</sup>

The final shipload of ice of 1898 was loaded at Knardal (in Skiens Fjord) on the day before New Year's Eve. The Norwegian steamship *Anna* set course for Ramsgate with 401 tons of ice, sold at good prices that reflected the healthy economic climate of the year: 20 shillings and 6 pence per ton. This was about twice as much as that achieved twelve months earlier: the last shipload in 1897 was sold for 10 shillings and 3 pence per ton, when 407 tons of ice were sold to Lowestoft.

<sup>539</sup> Thos. J. Wiborg Archive. Chartering journal (1892–1905).

<sup>540</sup> Ibid.

The final shipment in 1898 concluded an excellent, in fact, record year for the company, and Wiborg made the following comment in the chartering journal, '*Shipped in 1898 – 171 ice cargoes, the largest number ever shipped by T + A W, 31/12 98 (sign,) TJW*'. He then added a final comment, '*T & A Wiborg's last year, the company dissolved.*'



**Picture 5-12.** Dissolution of T. & A. Wiborg and registration of company Axel Wiborg.

Source: *Norsk Kundgjørelsetidende* (28 January 1899).

T. & A. Wiborg was dissolved on 15 December 1898 (see Picture 5-12).<sup>541</sup> The dissolution of the company may seem surprising. T. & A. Wiborg had doubled its export volumes from 23,313 register tons in 1897 to 47,889 in 1898, and the value of ice sales had increased from NOK 55,634 to a record high of NOK 429,554 in the same period.<sup>542</sup> According to a memorandum written many years later,<sup>543</sup> at the time of the dissolution the company had revenues of NOK 580,000, costs amounting to NOK 373,000, and profits of a healthy NOK 207,000.<sup>544</sup> (About NOK 15.5 million in 2020). Although there is

541 The last act in the dissolution of the company was the sale of the Knardal ice production facility in November 1900. Most of the revenue from this sale was used to redeem the mortgage, with the remainder shared among the former partners. Thos. J. Wiborg Archive. Copy book (1900-1910), p. 14. Transfer document for the sale of the Knardal ice facility.

542 Compiled on the basis of: Thos. J. Wiborg Archive. Chartering journal (1897-1898); Statistics Norway. Historical statistics of external trade (1897-1898). Values are derived from calculations (per register ton) on the basis of Statistics Norway's Historical statistics of external trade and are then multiplied by the company's export volumes (also in register tons).

543 Thos. J. Wiborg Archive. Folder marked 'General Ledger for T. & A. Wiborg' (1898). This memorandum was written in the 1980s/1990s by Jan Wold Hansen, who was researching the archive material at this time. The ledger has since been lost.

544 Turnover is calculated by adding up the credits entered into the accounts. Entries in 1899 which apply to 1898 are also included. The costs have been calculated in the same way. The stated profit represents the amount prior to tax and allocations.

some uncertainty in these calculations, 1898 was undoubtedly a record year, with profits more than 10 times higher than in 1897.<sup>545</sup>

A pertinent question at this point is why did the brothers Thomas and Axel Wiborg end their collaboration at this particular time? In the year 1898, their joint company exported more ice and earned greater profits than in any of the preceding 16 years during which they operated the T. & A. Wiborg company together. The company exported 8.7% of the total Norwegian ice exports and was a major player in the ice export industry. It had even made a profit during the crisis of 1897 and had had the ability and finances to turn around and act quickly when necessary.

### *After the peak: the dissolution of T. & A. Wiborg and the way ahead*

There are no sources that can ascertain why the T. & A. Wiborg company was dissolved. Is it possible that one or both of the brothers thought that they could earn more money independently, or did they disagree on the way forward for their joint enterprise? While current source material does not provide any information regarding their respective motives, disagreements about the future direction of the company should not be ruled out. Here, we note that from 1899, Thomas Johannes and Axel Wiborg went their separate ways, but both of them stayed in the ice business. As we shall see, T. J. Wiborg pressed forward with ice exports as part of a new company, Thos. J. Wiborg. However, some of the customers with whom he had long-lasting relationships stopped doing business with him but did not necessarily stop buying ice. They may have continued as customers of Axel Wiborg in the years leading up to 1914, when he left the ice industry.<sup>546</sup>

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545 Thos. J. Wiborg Archive. Copy book (1889–1898), pp. 409, 411. Profit and loss account/settlement account (1897). The profit on ice in 1897 was just a little over NOK 15,879, with a total result of NOK 20,307.

546 Axel Wiborg played a key role in a major contemporary scandal. See Nasjonalbiblioteket. *Endelig medskyldig*. <https://www.nb.no/artikler/endelig-medskyldig/>

During the 1890s, ice production and export volumes increased, but viewed as a whole the value of ice and profitability were lower than in previous decades. Three causal factors were at play: (a) increased competition resulting from the emergence on the market of artificial factory ice; (b) intense competition and an absence of solidarity among Norwegian ice exporters; and (c) external pressures exerted mainly by major UK importers who used their power in the market to dictate prices and impose contractual terms that were unfavourable to Norwegian exporters. The Norwegian Ice Exporters' Association failed in its attempt to improve matters.

The demand for ice varied almost from year to year, with some years exhibiting unusually high demand, very much so when winters were mild and summers were hot. Such conditions also caused prices to rise and demand for Norwegian ice to shoot up. However, exporting ice was a difficult and risky business, and even in the very good year of 1898, the margins between success and financial ruin were often very fine.

T. & A. Wiborg exported ice across Europe and established a portfolio of loyal, long-term customers who played a key role in the company's survival in years when the market was poor. The company produced ice at large and complex industrial plants and, more sporadically when demand was great, harvested ice from lakes and ponds that they leased. As in previous decades, ice was exported by chartered vessels sourced from the international shipping market. During the peak year of 1898, T. & A. Wiborg was expanding, also through short-term leases of inland ponds (connected by railway). It was a record year for exports and for the company's profits. Even so, at the end of the year the company was dissolved, and its two owners went their separate ways.



## CHAPTER 6

# Over the top - a steady downward course (1900-1913)

### Market conditions and Norwegian ice exports

From the turn of the century until the First World War, ice exports declined both in volume and value. From 1890 to 1899, 3.7 million register tons of ice, with a value of NOK 15 million, were exported from Norway, but only 3.2 million tons, valued at NOK 7.4 million were exported from 1900 to 1909. In other words, the volume dropped by 14% and the value by 51%. This decade saw the lowest values for the entire period covered by this book, 1870 to 1930. What we see is that the ice industry had not only passed its peak but had also entered a period of steady decline. Even if 1910 was a good export year with the total value of Norwegian ice exports amounting to almost NOK 2.5 million, it did not change the conclusion for the period 1900–1913 as a whole; it was an export sector in marked decline.

Speculation was a problem. In 1906, the Norwegian newspapers reported that major London ice importers were speculating in contracts that contained both low prices and unfavourable terms by which many ice-laden Norwegian sailing vessels in practice functioned as in-port warehouses prior to unloading.<sup>547</sup> The shipping companies were not paid for the time the vessels were laid up idle in this way, nor were the Norwegian exporters paid for the ice that melted during the wait.<sup>548</sup> According to the trade journal *Cold Storage and Ice Trades Review*, in June 1901, importers in London had operated with waiting periods of up to 16 days, arguing that demand was low due to the weather, which led to

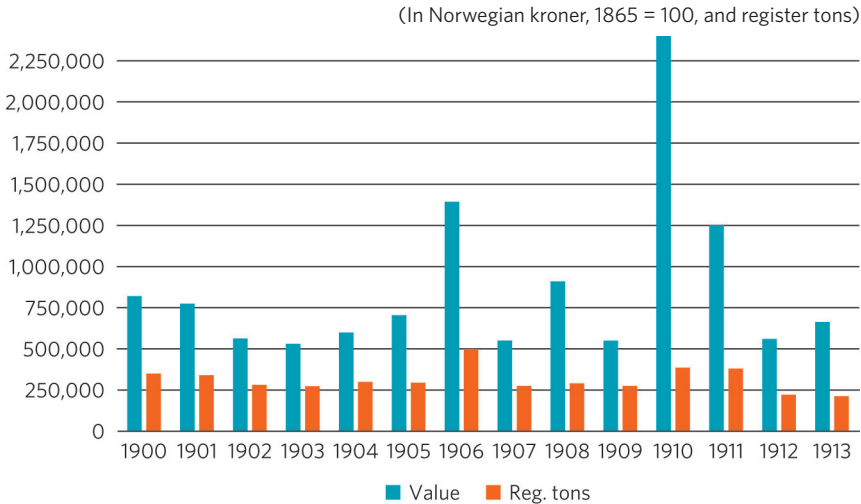
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547 *Kysten* (22 October 1906); *Norges Sjøfartstidende* (14 May 1907).

548 *Norges Sjøfartstidende* (15 August 1891, 14 May 1907).



‘the receivers having no room to put the cargo’.<sup>549</sup> At the same time, as we shall see, both Norwegian owners of wooden sailing ships and wooden steamships attempted to use their market power to obtain higher freight rates and better terms.



**Figure 6-1.** Value and volume of Norwegian ice exports (1900–1913).

Sources: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1900–1913).

There were times when prospects looked reasonably good for the ice industry. T. J. Wiborg described 1906 as ‘pretty good’.<sup>550</sup> There was virtually no frost in Germany that winter, and by March it was clear that there would be high demand for Norwegian ice on the Continent.<sup>551</sup> Exports did increase by as much as 60% compared to the years 1900–1905, but the value did not rise above NOK 2.84 per register ton, which led to a total value of NOK 1.4 million for Norwegian ice exports in 1906.<sup>552</sup> (See Figure 6-1). *Farmand* explained that the low values were a result of forward contracts for 1906, which had been agreed the previous autumn with prices so low that the exporters were forced to accept only minimal

<sup>549</sup> *Cold Storage and Ice Trades Review* (15 June 1901).

<sup>550</sup> Thos. J. Wiborg Archive. Chartering journal (1906).

<sup>551</sup> *Cold Storage and Ice Trades Review* (15 March 1906).

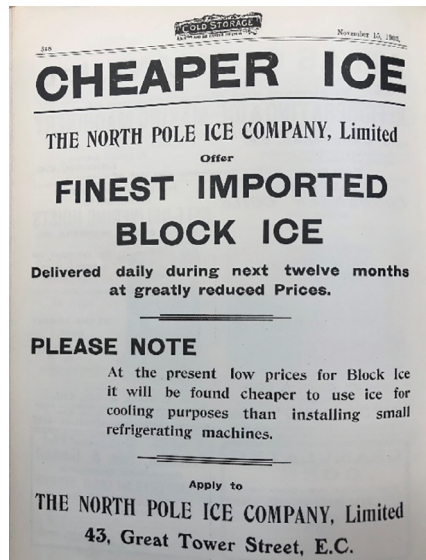
<sup>552</sup> Compiled on the basis of Statistics Norway. Historical statistics of external trade (1906).

profits.<sup>553</sup> *Cold Storage and Ice Trades Review* singled out overproduction as the reason for the low prices and, again, a lack of solidarity among Norwegian ice exporters.<sup>554</sup>

*‘This [low prices] is chiefly due to the demoralized condition into which the trade degenerated after the culminating point was reached in 1898 and 1899.’*<sup>555</sup> The consequences were serious. Jacob S. Worm-Müller referred to sources from 1903 that stated that this lack of solidarity among the exporters was exploited by associations of foreign importers, including those in London:

England’s large and well-organised capital-strong importers understand very well how to take advantage of the lack of solidarity among our many competing and relatively small exporters and enforce their unfavourable terms on them.<sup>556</sup>

As shown in Picture 6-1, the low prices were also used by London ice merchants as a selling point in advertisements for deliveries of imported ice.



**Picture 6-1.** Advertisement from the North Pole Ice Company, Ltd.

Source: *Cold Storage and Ice Trades Review* (15 November 1905).

<sup>553</sup> *Farmand* (22 December 1906).

<sup>554</sup> *Cold Storage and Ice Trades Review* (15 July 1906).

<sup>555</sup> *Cold Storage and Ice Trades Review* (15 July 1906) p. 212.

<sup>556</sup> Worm-Müller (1935), p. 696.

The market was far from stable. The best export year of the period was 1910, when the value for one register ton reached just above NOK 6, with a total value of nearly NOK 2.5 million for Norwegian ice exports. There were a number of reasons why this value was achieved. Firstly, according to *Farmand*,<sup>557</sup> since many of the previous years had been so disappointing, several ice ponds had not been prepared for harvesting. When it became clear that there would be major demand on the Continent, from Germany in particular, it was too late to prepare these ponds.<sup>558</sup> This meant that there was no overproduction of ice in Norway. Moreover, several of the largest UK ice importers had been late in entering contracts and eventually agreed to contracts for the purchase of approximately 100,000 tons of ice at 'quite respectable' prices.<sup>559</sup> The overall outcome for this year was higher prices and a good year for the ice industry. German demand continued at a high level into 1911, which explains the relatively good prices experienced in this year too,<sup>560</sup> although 1911 was not considered to be a good year for the exporters because a shortage of vessels led to high freight rates, which in some cases exceeded the sales price for the ice.<sup>561</sup>

However, the period as a whole saw a marked decline in exports. As illustrated in Table 6-1, exports to the UK, still the most important of the export markets, fell by approximately 40% in volume between 1900 and 1910, and by a further 14% in 1913. In 1911, *Cold Storage and Produce Review*<sup>562</sup> noted that the imported volumes of ice from Norway in 1910 were the lowest recorded in 25 years and values were the lowest in 38 years.<sup>563</sup>

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557 *Farmand* (23 December 1910); *Cold Storage and Ice Trades Review* (17 August 1911).

558 *Ibid.*

559 *Ibid.*

560 *Cold Storage and Produce Review* (18 May 1911).

561 *Farmand* (23 December 1911).

562 *Cold Storage and Ice Trades Review* changed its name in 1911 to *Cold Storage and Produce Review*.

563 *Cold Storage and Produce Review* (19 January 1911).

**Table 6-1.** Norwegian ice exports distributed by country (1900-1913)<sup>564</sup>

	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	Total
<b>UK and Ireland</b>	307,166	305,270	235,868	226,388	220,021	227,789	248,374								<b>1,770,874</b>
<b>UK</b>								222,385	237,048	219,010	182,834	222,421	171,550	157,526	<b>1,412,774</b>
<b>Ireland</b>								3,767	1,968	6,668	869	4,233	2,759	1,765	<b>22,029</b>
<b>Sum UK and Ire.</b>	<b>307,166</b>	<b>305,270</b>	<b>235,868</b>	<b>226,388</b>	<b>220,021</b>	<b>227,789</b>	<b>248,372</b>	<b>226,152</b>	<b>239,016</b>	<b>225,678</b>	<b>183,703</b>	<b>226,654</b>	<b>174,309</b>	<b>159,291</b>	<b>3,205,677</b>
<b>Sweden</b>	282	338	190	2,789	481	1,427	2,519	1,396	1,744	1,228	8,695	3,148	936	12,203	<b>37,376</b>
<b>Denmark</b>	493	1,396	113	171	1,208	1,538	7,843	819	2,087	883	9,367	9,844	5,816	8,464	<b>50,042</b>
<b>Germany</b>	3,418	3,747	9,854	6,547	37,394	22,459	187,437	5,476	14,110	6,237	148,775	87,796	3,756	2,665	<b>539,671</b>
<b>France</b>	25,547	20,122	20,815	23,762	25,549	23,850	23,112	23,941	28,261	23,249	24,512	35,833	28,820	26,525	<b>353,898</b>
<b>The Netherlands</b>	3,531	5,233	8,712	7,085	6,833	7,902	9,369	7,522	4,580	6,202	5,190	5,325	1,579		<b>79,063</b>
<b>Belgium</b>	8,499	8,874	8,791	9,129	11,603	13,961	16,379	12,335	11,798	12,060	14,722	17,609	14,817	13,633	<b>174,210</b>
<b>Spain</b>	653	1,014	190	412	268	195	195	633	354						<b>3,914</b>
<b>Italy</b>	404		415	444	360	173	378	267	235						<b>2,676</b>
<b>Other countries</b>	750	750			209	28	640	1,229	1,617	452				305	<b>5,980</b>
<b>Total</b>	<b>350,743</b>	<b>346,744</b>	<b>284,948</b>	<b>276,727</b>	<b>303,717</b>	<b>299,503</b>	<b>495,632</b>	<b>279,181</b>	<b>303,414</b>	<b>275,537</b>	<b>396,581</b>	<b>386,661</b>	<b>230,033</b>	<b>223,086</b>	<b>4,452,507</b>

Sources: Compiled on the basis of Statistics Norway. Historical statistics of external trade by country (1900-1913).

<sup>564</sup> Statistics Norway. Historical statistics of external trade (1907), p. 15. From 1907, following an inquiry from the British Government, Norwegian trade with Ireland was separated from the UK with its own figures.

## *An ice war*

Factory-produced ice had become a major factor. *Cold Storage Ice Trades Review* compared imports of natural ice with factory-produced ice, using data from 1907, and showed that British production of factory ice had exceeded imports of Norwegian natural ice by 250,000 tons.<sup>565</sup> This development was probably due to quality improvements and lower prices as the technology used to manufacture ice became more efficient. It was also due to strong promotion of factory-produced ice, going back to the turn of the century: in 1898, *Cold Storage and Ice Trades Review* reported that there was a ‘lively war’ between the manufacturers of factory ice and the importers of natural ice.<sup>566</sup> This was, in effect, a war of words, centred on the purity of the two products. The proponents of natural ice issued circulars claiming that factory ice contained impurities, while those in favour of the factory product drew attention to the health dangers of natural ice.<sup>567</sup> In 1898, science was brought into the debate. Those favouring natural ice relied a great deal on an American chemist, Dr T. B. Osborne, who claimed that natural ice was safer. He also made a number of criticisms about the process involved in the production of artificial ice, as shown in Picture 6-2.<sup>568</sup>

This war of words continued into the 20th century, and natural ice was losing ground in the market. For example, in January 1905, a Dr W. H. Hamer presented a report to the London County Council on the use of ice and cold storage in the city.<sup>569</sup> He had conducted a study of both natural and factory-produced ice, and claimed that natural ice, which unlike factory ice had not been made using distilled water, should not be used for human consumption or come into direct contact with food. His argument was that although natural ice was not necessarily impure or contaminated during transport by ship, it was prone to contamination after it had arrived in London, for example, during transport to the

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<sup>565</sup> *Cold Storage and Produce Review* (19 January 1911).

<sup>566</sup> *Cold Storage and Ice Trades Review* (July 1898), p. 46.

<sup>567</sup> *Ibid.*

<sup>568</sup> *Ibid.*, (November 1898), p. 96.

<sup>569</sup> *Cold Storage and Ice Trades Review* (15 January 1905), p. 4–11.

ORAGE.

NOVEMBER, 1898.

## NATURAL v. ARTIFICIAL ICE.

Extravagant claims as to the superiority of natural ice to the manufactured article are often put forth, but the following "reasons" of an American chemist, Dr. T. B. Osborne, in favour of natural ice being safer to use will be read with interest if not with conviction:—

"1. Artificial ice is liable to contain lead, zinc, and other metallic substances more or less injurious to health, which are not found in natural ice.

"2. Our total lack of knowledge of the maximum contamination, especially with metallic impurities, of the various blocks of artificial ice, renders its use much less safe than that of natural ice, which is of very uniform composition, and the quality of which can be determined by a knowledge of the character of the water from which it was frozen, and an examination of samples of the accumulated supply.

"3. The concentration of the impurities in the artificial ice in small portions of the block makes it possible to introduce a very considerable and entirely unknown amount of foreign matter into a single pitcher of water, whereas no such danger is incurred with natural ice, since all parts of the block are of uniform quality.

"4 Artificial ice, being made from day to day, is liable, especially in summer, to contamination with bacteria and germs from foreign matter falling into the tanks from the clothing and hands of the men in the factory, and from the dust of city streets, which, once in the water, will be frozen into the ice and cannot be washed off, as can be done when such substances fall on the outside of the ice.

"5. Artificial ice, being made from distilled water, is liable to contamination through leaks in the condenser pipes, whereby the cooling water becomes mixed with the distilled water. If this cooling water is derived from wells, such contamination may be of serious importance.

"6. In case of an epidemic of any disease, such as cholera, artificial ice made during the prevalence of the disease is far less safe to use than natural ice harvested at a time when such disease was known not to exist in the community."

**Picture 6-2.** Dr T. B. Osborne's objections to factory-produced ice.

Source: *Cold Storage and Ice Trades Review* (November 1898), p. 96.

warehouses.<sup>570</sup> In his conclusion, which was strongly in favour of factory ice, Dr Hamer wrote:

I quite agree with Dr Brown in thinking it undesirable to continue to repose absolute confidence in natural ice in ignorance of the conditions which exist at the harvesting grounds. The employment of distilled-water ice was recommended on the best authority in Germany twenty years ago and the use of artificial ice has steadily gained ground in the United States, and is being slowly but surely extended in this country. Having in view the nature of the risks involved in consuming natural ice, and the demonstrated insufficiency of the supposed safeguarding circumstances, the reasonable course would appear to be to abandon the use of such ice for actual consumption or for purposes in which it is brought into direct contact with foodstuffs. Under such conditions ice made from absolutely pure and preferably from distilled water should be used and strict precautions should be taken to ensure that such pure ice does not become contaminated subsequently to its manufacture.<sup>571</sup>

In the following month, *Cold Storage and Ice Trades Review* published a response to Dr Hamer's remarks, written by T. J. Wiborg's former partner, Thomas Townsend Somerville. Somerville was highly critical to any accusation that cast doubt on the purity of Norwegian natural ice. He refuted Dr Hamer's allegations, saying, '*it is not out of place to say that although it is right to exercise caution, the ice supplied by respectable shippers is of the very best purity*'. He went on to refer to a Professor Sir E. Frankland, the greatest authority on English water supplies, who had previously conducted several investigations into Norwegian ice and concluded that:

The ice is exceedingly pure and the water obtained from it on melting is clear and palatable and contains less foreign matter than any water with which I am acquainted in this country.<sup>572</sup>

Similar battles were fought in Germany, once again in favour of Dr Hamer's conclusions. Natural ice was rapidly gaining a reputation for being 'harmful to health'.<sup>573</sup> In response to this, the Norwegian Legation in

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570 Ibid., p. 9–11.

571 Ibid.

572 Ibid., (15 February 1905), p. 34.

573 *Morgenbladet* (26 November 1913), 'Our Ice Market in Germany'. From the Norwegian Ministry of Foreign Affairs.

Berlin made great efforts to make the German public aware of the differences between Norwegian and German natural ice, not least emphasising that Norwegian ice was far from being harmful to consumers' health.<sup>574</sup>

Clearly, the producers of factory ice were the main beneficiaries of the declining reputation of natural ice, and they steadily increased their market share. The Norwegian authorities and the ice industry made a robust defence of the product and continued to spread information about the high quality of Norwegian natural ice. However, attacks on the product's purity and allegations of its harmful effects did not disappear and gave fuel to the downward spiral, set in motion in the late 1890s.

## The shipping market

As with the ice industry, the beginning of the 20th century was difficult for the shipping industry. From the mid-1890s, it had enjoyed a steady upturn,<sup>575</sup> with a peak in 1900.<sup>576</sup> In January 1901, however, it went into a decline where shipping rates were halved.<sup>577</sup> Baltic Sea trade rates were low and even trade with the UK yielded only poor revenues. Many Norwegian ships, including both sailing ships and steamships, had to be laid up.<sup>578</sup> The decline extended into the years 1902–1904, and the sailing ship segment was hit particularly hard.<sup>579</sup>

Improvements came in 1906 and 1907, with better revenues in the North Sea trades. In 1908, the market declined once again and profits plunged. The shipping sector was in crisis and many vessels had to be laid up. Another bad year was experienced in 1909, but yet another upturn occurred in 1910 and conditions continued to improve into 1911, especially in the ice and Baltic Sea trades.<sup>580</sup> There was also a good year in 1912 and excellent rates persisted into the summer of 1913, before once again declining. The autumn of 1913 heralded a new crisis during which the

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574 Ibid.

575 Ytreberg (1951), p. 310.

576 Ibid., pp. 336–346.

577 Ibid.

578 Ibid., p. 337.

579 Ibid.

580 Ibid.



market declined and ships were laid up once again. By the close of the year, the industry was anticipating a protracted crisis.<sup>581</sup>

It was against this background that several organisations and associations concerned with shipping and ice exports were established. Amongst them was the Baltic and White Sea Conference, formed in 1905 with the aim of safeguarding minimum freight rates for steamships. In this they achieved considerable success, but the sailing ship segment continued to experience very poor yields.

### *Two conferences in the natural ice trade*<sup>582</sup>

A shipping conference can be understood as a cartel-like association of competing shipping companies, convened for the purpose of securing profits.<sup>583</sup> In Norway, two conferences were established within the natural ice trade. The first conference was convened in April 1905 (in Stavanger) with the aim of guaranteeing minimum shipping rates for companies that operated wooden steamships engaged in the ice trade.<sup>584</sup> The second was convened in April 1906 for companies that operated wooden sailing ships, with several aims, one of which was to establish minimum rates for ice and timber transport.<sup>585</sup>

Despite the efforts of these two conferences, minimum shipping rates were not maintained in the ice trade. The main reason was that market conditions for ice exports were so poor that transporters claiming minimum rates simply missed out. They were targeting a declining industry with poor profitability and no room for price increases, which enforcing minimum shipping rates would entail. In fact, the conferences had so little effect that it is fair to say that it was the market that exerted by far the most dominant influence on shipping rates at this time.<sup>586</sup>

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581 Ibid., p. 344.

582 For more information, see Nygaard (2022).

583 A cartel is an agreement made by independent providers to coordinate production and/or sales for the purpose of securing profits. Frihagen (1963), p. 32; McConville (1999), p. 347 in Nygaard (2011), p. 55.

584 *Stavanger Aftenblad* (12 April 1905); *Norges Sjøfartstidende* (14 April 1905); *Kysten* (15 April 1905).

585 *Kysten* (2 April 1906).

586 Nygaard (2022).

## The company Thos. J. Wiborg (1900–1913)

T. J. Wiborg had been involved in the ice industry since 1870 and had, by the early 20th century, established a large network of contacts and customers. Multi-year business transactions with long-standing customers were more the rule than the exception. Wiborg was in charge of a well-run business with an excellent reputation and enjoyed excellent goodwill from his customers. The company greatly benefited from its good name when operating in the volatile market conditions discussed earlier. His son, Thomas Johannes Wiborg Jnr (Tom Wiborg hereafter), spent 1904 to 1906 abroad learning the trade and started to work for the company when he returned.<sup>587</sup> A few years later, in 1910, he was admitted to the company<sup>588</sup> and the name of the company changed to Thos. J. Wiborg & Son.

### *Ice production versus resale*

When the company Thos. J. Wiborg started up in 1899, it leased ice facilities, as well as producing ice and selling what it produced, just as the previous firm T. & A. Wiborg had done. Both companies also supplemented the ice they produced with ice bought on the market, which they resold. The new company retained the ice facilities at Syverstad, Svestad, Elvik and Bondivannet, which the previous but now dissolved company had held. The shipping facility at Blakstad was likewise kept. These ice and shipping facilities remained in the new company into the 20th century, while new ones were added.<sup>589</sup>

However, with time, purchasing ice for resale became increasingly important. This may have been related to the problems T. J. Wiborg encountered with tax authorities around the turn of the century. In response to his tax assessment for the year 1900, he claimed that he had been overtaxed on the company's ice facilities, and in February, March and April of 1901 sent a series of complaints to the tax authorities in Nesodden, Solum, Asker and Bamble, relating to the facilities at Svestad,

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587 Thos. J. Wiborg Archive. Copy book (1900–1910). Letter to Tom, residing abroad during the period 1904 to 1906. Letter to Claus Brodersen (25 April 1906).

588 Fleischer (1925), p. 49.

589 Thos. J. Wiborg Archive. Folder marked 'General Ledger, T. & A. Wiborg' (1898). Copies of leasing contracts.

Knardal, Syverstad and Elvik, respectively.<sup>590</sup> He complained that he had been charged with tax on wealth and profits, even though the facilities had for the most part been in the red, and that he had incurred major expenses in connection with their operation.<sup>591</sup> In 1902, a lawsuit was filed regarding the taxation of the facility at Svestad.<sup>592</sup> The court upheld the assessment and also ruled that the facility was to be regarded as an industrial activity in accordance with prevailing tax legislation. As a lessee, the company also had to pay property tax. In response to the court's decision of 18 July 1902,<sup>593</sup> Wiborg ordered the immediate termination of the Svestad lease, thus breaching the lease agreement's five-year period of advance notice of termination.<sup>594</sup> He justified his actions by writing, 'according to the City Court judgment of 18 July this year, I find that the



**Picture 6-3.** Advertisement announcing the sale of the Svestad ice facility.

Source: *Aftenposten* (27 March 1901).

*Svestad facility is of no further use or value.*<sup>595</sup> Wiborg had tried to sell the lease earlier in the year, which the company was entitled to do according to the terms of the lease agreement.<sup>596</sup> Picture 6-3 shows an advertisement for the sale of the ice facility.

590 Thos. J. Wiborg Archive. Copy book (1900–1910), pp. 24–29 (Svestad), pp. 32–35, 41–45 (Knardal), pp. 46–51 (Syverstad), pp. 57–61 (Elvik). It is unclear whether the taxes in question applied to Thos. J. Wiborg (the company) or Thomas Johannes Wiborg (the person) because the letters from the tax authorities are no longer available. The responses were entered in a form and the name of the recipient was identical.

591 Ibid.

592 Thos. J. Wiborg Archive. Folder marked 'Ice facilities' for Syverstad, Svestad and Bondivannet. (1902). Letter, 1 August 1902, referring to the City Court judgment of 18 July 1902.

593 Ibid.

594 Thos. J. Wiborg Archive. Folder marked 'Ice facilities' for Syverstad, Svestad and Bondivannet. (1893). Lease contract between Carl Svestad and T. & A. Wiborg, 18 December 1893.

595 Thos. J. Wiborg Archive. Folder marked 'Ice facilities' for Syverstad, Svestad and Bondivannet. (1902). Letter of 1 August 1902.

596 Thos. J. Wiborg Archive. Copy book (1900–1910), p. 39–40. Request to the newspapers *Aftenposten* and *Morgenbladet* for the insertion of three advertisements for the sale of the Svestad ice facility. The advertisements were printed in *Morgenbladet* on 26 March 1901 and in *Aftenposten* on 27 March 1901.

On 1 August 1902 the termination was approved.<sup>597</sup> Wiborg appealed against the City Court's decision to the Norwegian Supreme Court, which found that ice ponds were not an industrial activity on 28 November 1902, a victory for Wiborg.<sup>598</sup> In the subsequent appeal case Wiborg raised on the basis of the Supreme Court decision, he lost once again.<sup>599</sup> On 6 September 1904, the City Court found that while ice ponds in isolation had been found by the Supreme Court not to constitute industrial activity, the Svestad facility as a whole, including its stacks, buildings and ice gutters, was to be regarded as industrial infrastructure. Furthermore, in accordance with the facility's fire assessments, Wiborg was to be regarded as the owner of the facility, and therefore had to pay property tax in addition to income and wealth tax.<sup>600</sup>

In November 1907, Wiborg made the following annotation in the bottom corner of an old list of ice facilities: *'Now I have Syverstad, Østenstad, Fjeldstrand, Svartlagsdammen, Kjærnes, Elvik, Bondivannet and Næset. TJJW, 24 November 1907.'*<sup>601</sup> Up until the First World War, it was the company's leased facilities at Syverstad, Elvik and a new plant at Østenstad in Asker that provided most of the exported ice.<sup>602</sup> Most of the company's leasing contracts were terminated in the period 1913 to 1915 (see Table 6-2).

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597 Thos. J. Wiborg Archive. Folder marked 'Ice facilities' for Syverstad, Svestad and Bondivannet. (1902). Proclamation of 11 August 1902 of termination, 1 August 1902.

598 Siewers (1906), p. 83. Judgment of 6 November 1904 in an appeal hearing.

599 Ibid.

600 Siewers (1906), p. 83. Judgment of 6 November 1904 in an appeal hearing.

601 Thos. J. Wiborg Archive. Copy book (1889–1898), p. 403. List of ice facilities in Kristiania Fjord and Skiens Fjord from January 1898.

602 Thos. J. Wiborg Archive. Chartering journal (1906–1921).

**Table 6-2.** Ice facilities leased by the Wiborg companies in the period (1872–1925)<sup>603</sup>

Name	Contract		
	Location	Signed	Terminated
Elvik	Bamble	1872*	1925*
Knardal	Porsgrund	1884	1902*
Syverstad	Asker	1889	1913
Bondivannet	Asker	1890	1915
Blakkstadtangen	Asker	1890	1908
Svestad	Nesodden	1893	1903
Østenstad	Asker	1900*	1925*
Bæk	Svartskog	1905	1914
Granerudtjernet	Nesodden	1906	1915
Svartlagdammen	Frogn	1905, 1908 -	1913
Kjærnes	Ås	1907	1917
Baadstø	Frogn	1909	1913
Marikova	Frogn	1909	1913
Brandts dam	Frogn	1910	1910
Fjeldstrand	Nesodden	1911	1915
Morberg	Røyken	1912	1913
Prestevig	Bamble	1912	?

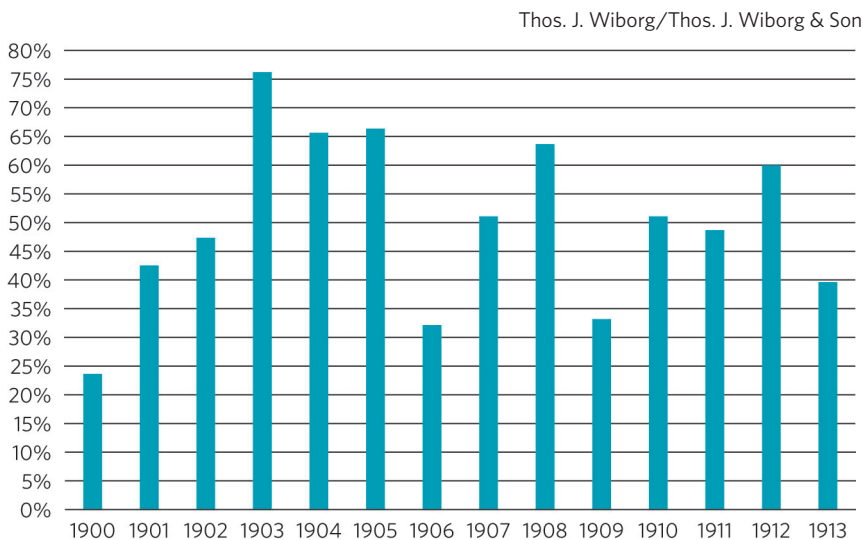
Source: Compiled on the basis of the Thos. J. Wiborg Archive. Diary for ice (1899–1929), Chartering journals (1872–1921), Folders for 'Ice facilities'.

603 Table 6-2 is based on incomplete source material. An asterisk (\*) indicates that it has not been possible to obtain contract terms data directly from the source material. In such cases, the first and last years entered in the chartering journal for the facility are used.

- **Elvik** is first mentioned in the chartering journal in 1872, but then as leased by Ludvig Wiborg. In the available archive material, it has not been possible to find documentation for when Thomas Johannes Wiborg took over the ice plant. The last time Elvik is mentioned is in the diary for ice in 1925.
- **Knardal** was taken over by T. & A. Wiborg 8 January 1885 and sold 2 November 1900, according to the Thos. J. Wiborg Archive. Copy book (1900–1910), p. 14. Transfer document.
- **Østenstad**. There is no contract for the lease, but the facility appears for the first time in the Thos. J. Wiborg Archive. Diary for ice (1899–1929) in 1900 and for the last time in 1925.
- **Prestevig**. There is a signed contract showing that Thos. J. Wiborg leased the facility in 1912. However, the chartering journal does not show any exports from the ice facility. Maybe the lease was quickly terminated, which according to the contract could be done on providing six months' notice.

In his summary of the year 1913, Wiborg wrote, ‘*Syverstad and Marikova, Svartlaget and Baadstö, as well as Morberg, have been closed because the ice is becoming too expensive to produce due to high labour costs.*’<sup>604</sup>

In most of the years in the period 1900 to 1913, the Thos. J. Wiborg company purchased a high proportion of ice from other ice exporters to be sold abroad (see Figure 6-2). The proportion of purchased ice increased in many of the years when ice had a low value, such as 1903, 1904 and 1905, the latter a year of market turbulence in which shipping conferences were established.



**Figure 6-2.** Proportions of purchased ice cargoes (1900–1913).

Sources: Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journals (1892–1905, 1906–1920).

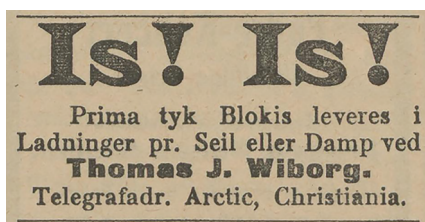
For a smaller company such as Thos. J. Wiborg, buying ice for resale probably offered an effective way of dealing with uncertainty. Purchases could more easily be aligned with demand, since the ice was bought only after the company had received an order. The system gave some flexibility and unsold stock could more easily be avoided. The company also avoided the problems with periodisation that T. & A. Wiborg had had in the 1890s, as we saw in the previous chapter.<sup>605</sup> There was thus an element

604 Thos. J. Wiborg Archive. Diary for ice (1899–1929). Summary for 1913.

605 We refer to discussions of the ‘peak’ year of 1898 in the previous chapter.

of uncertainty in that the price of ice could rise after the company had made commitments to deliver a shipload abroad, but before they had had time to buy the ice. The periodical *Farmand* highlighted this issue as a factor that could cause major losses.<sup>606</sup> The price the company paid for ice could also vary between individual purchases.<sup>607</sup>

An issue that was not discussed in the newspapers, but which was important for Thos. J. Wiborg's profitability, was that the company bought the ice FOB (free on board). Under these terms, the company paid for a shipload in accordance with the transport ship's register tonnage. When the ice was delivered to the buyer, Thos. J. Wiborg received payment for metric tons of ice which, in an ideal situation, would be 1.5 times greater for sailing ships and twice as large for steamships compared to register tons.<sup>608</sup> In other words, at the same price, the company was paid more on resale than it had paid when buying the ice in Norway. Even where the ice was purchased at a higher price per register ton than the selling price per metric ton, the company had the opportunity to make money.<sup>609</sup>



**Picture 6-4.** Advertisement for prime, thick, block ice.

Source: *Morgenbladet* (24 March 1905).

From 1899, the company operated primarily as an export business, based on established connections, agents and brokers. This allowed it, for instance, on at least one occasion, to ask one of its foreign business contacts for an advance on the following year's contracts, in order to cover current

606 *Farmand* (23 December 1905, 22 September 1906, 19 December 1908).

607 Thos. J. Wiborg Archive. Chartering journals (1900–1914). For example, in August 1911, purchase prices generally varied between NOK 2.3 and 4 per register ton, but one transaction was made for NOK 6.

608 Under ideal conditions, a standard steamship was expected to unload nearly twice as much ice in metric tons as it had loaded in register tons, and the equivalent for sailing ships was 1.5 times as much ice. *Norsk Retstidende* (1902), p. 512.

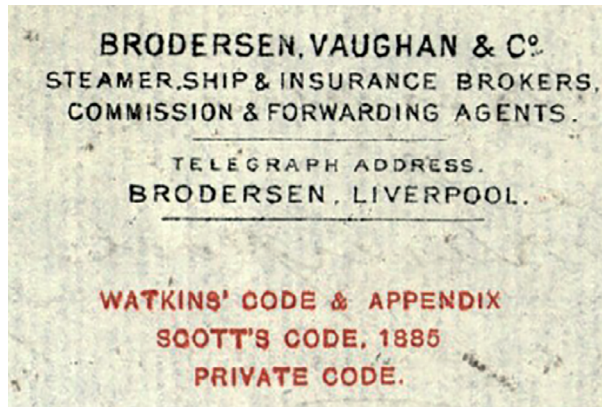
609 The quantity of ice sold was more in metric tons than the ship's registered tonnage, at which the ice had been purchased, and it was this difference that created a possible profit. For examples, see the Thos. J. Wiborg Archive. Chartering journals (1900–1914).

production costs.<sup>610</sup> However, the company was facing a reduction in turnover because not all of its previous customers had remained loyal following the dissolution of T. & A. Wiborg.<sup>611</sup> The ice export market was also undergoing dramatic changes.

The firm advertised for customers, as illustrated in Picture 6-4. It also adopted new business methods and became more closely linked with some of the larger importers through contracts where Thos. J. Wiborg supplied their entire annual consumption of ice. As we shall see, the company strengthened its links with some of the ice agents, who acted as intermediaries for a large part of the company's ice sales until the First World War.

### *Collaboration with Brodersen, Vaughan & Co.*

One of the business connections which remained loyal to Thos. J. Wiborg after the dissolution of T. & A. Wiborg was Brodersen, Vaughan & Co. in Liverpool. The company was an important business contact for T. J. Wiborg and, as we have seen, had been so since the 1870s.



**Picture 6-5.** Letterhead Brodersen, Vaughan & Co.

Source: Thos. J. Wiborg Archive. Protocols with ice contracts. Letterhead from 1888.

In the 20th century, it acted as an agent for Wiborg's ice sales, not only to Liverpool, but also to other purchasers in England, Wales, Ireland,

610 Thos. J. Wiborg Archive. Copy book (1900-1910), p. 400.

611 Thos. J. Wiborg Archive. Protocols with ice contracts (1899-1915), chartering journals (1899-1914).



Scotland and France.<sup>612</sup> In December 1903, it entered into a contract on behalf of Thos. J. Wiborg for the sale, in the following year, of 6,000 tons of ice, which represented the entire annual consumption of the Boston Deep Sea Fishing & Ice Co. Ltd.<sup>613</sup> This was one of the largest single contracts entered into by the company in its history. Out of a total of 96 ice cargoes exported in 1905, Table 6-3 shows the 21 which were sold via Brodersen, Vaughan & Co.<sup>614</sup> Half of these contracts were concluded in the autumn of 1904, presumably with the aim of reducing uncertainty and risk. Brodersen, Vaughan & Co. received 3% of the contract amount, or 3 shillings per ton, on all of these contracts, with the exception of one shipment, for which the fee was 5%. This cargo was sold at 13 shillings and ninepence per ton, which was the highest sales price achieved during 1905. In 1906, the company handled 15 of Thos. J. Wiborg's 120 ice cargoes; in 1907, the total was 15 out of 74, and in 1909, 20 out of 83.<sup>615</sup>

T. J. Wiborg and the Norwegian partner in Brodersen, Vaughan & Co., Claus Brodersen, became close friends, as we can see in a long series of letters exchanged in the years 1906 and 1907.<sup>616</sup> Wiborg described Brodersen as his '*good friend*'.<sup>617</sup> Their correspondence included discussions about Brodersen's 17 year-old son Oscar, who arrived in Kristiania in June 1906 to work in the office of the shipbrokers Winge & Co. and, not least, to improve his Norwegian.<sup>618</sup> Oscar lived with the Wiborg family during his stay. Moreover, T. J. Wiborg's 18-year-old daughter Herdiis travelled to Liverpool in October 1906 to attend school. Claus Brodersen made a number of the arrangements and Herdiis lived with the Brodersen family during her stay.<sup>619</sup>

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612 Thos. J. Wiborg Archive. Protocols with ice contracts (1904–1909, 1909–1915).

613 Thos. J. Wiborg Archive. Protocol with ice contracts (1904–1909). Contract, 28 December 1903.

614 Thos. J. Wiborg Archive. Protocol with ice contracts (1904–1909).

615 Ibid.

616 Thos. J. Wiborg Archive. Copy book (1900–1910).

617 Only Thomas Johannes Wiborg's part of the correspondence is stored in the Thos. J. Wiborg Archive.

618 Thos. J. Wiborg Archive. Copy book (1900–1910), p. 537.

619 Ibid., p. 570.

**Table 6-3.** Ice cargoes brokered by Brodersen, Vaughan & Co. for Thos. J. Wiborg in 1905<sup>620</sup>

Agent / Broker	Commission	Purchaser	Signed	Import harbour
Brodersen, Vaughan & Co.	3%		10/22/1904	Preston Dock
Brodersen, Vaughan & Co.	3%	The Eastern Counties Ice Co. Ltd. og King's Lynn	10/25/1904	Kings Lynn
Brodersen, Vaughan & Co.	3%	The Eastern Counties Ice Co. Ltd. og King's Lynn	10/25/1904	Kings Lynn
Brodersen, Vaughan & Co.	3%	Ralph Mason Esq of Burnley	10/27/1904	Preston Dock
Brodersen, Vaughan & Co.	3%	James Noblett Esq of Preston	10/27/1904	Preston Dock
Brodersen, Vaughan & Co.	3d p ton	Robert Mc Gowen & Sons Ltd. of Tralee	11/4/1904	Fennit Pier Tralee Bay
Brodersen, Vaughan & Co.	3d p ton	H.T.Ropes & Co. Ltd of Liverpool	11/10/1904	Liverpool
Brodersen, Vaughan & Co.	3d p ton	Horatio Fenner Ltd Gt. Yarmouth	11/11/1904	Fennit Pier Tralee Bay
Brodersen, Vaughan & Co.	3d p ton	Beamish & Crawford Ltd. of Cork	11/22/1904	Cork Jetties
Brodersen, Vaughan & Co.	3d p ton	Harvey & Sons of Cork	11/23/1904	Cork Quay
Brodersen, Vaughan & Co.	3%	Madam Vve Victor Fourny of Bolougne-Sur-Mer	12/21/1904	Bolougne-Sur-Mer
Brodersen, Vaughan & Co.	3%	H.T.Ropes & Co. Ltd. of Liverpool	1/28/1905	Liverpool
Brodersen, Vaughan & Co.	5%	Geo Shannon Esq. Managers of Moy Fisheries	2/10/1905	Ballina
Brodersen, Vaughan & Co.	3%	Hugh Flinn Esq, Liverpool	3/3/1905	Baltimore
Brodersen, Vaughan & Co.	3%		4/11/1905	Preston Dock
Brodersen, Vaughan & Co.	3%	Hill & Bradbury, Buttenfield of Lowestoft	5/12/1905	Kinsale and Baltimore
Brodersen, Vaughan & Co.	3%	Patilo & Co. Of Inverness	5/22/1905	Inverness
Brodersen, Vaughan & Co.	3d p ton	H.T.Ropes & Co. Ltd of Liverpool	6/22/1905	Liverpool
Brodersen, Vaughan & Co.	3%	Mr. Kinneare & Co.	7/5/1905	Dundee
Brodersen, Vaughan & Co.	3%	H.T.Ropes & Co. Ltd of Liverpool	7/25/1905	Liverpool
Brodersen, Vaughan & Co.	3%	The Eastern Counties Ice Co. Ltd. og King's Lynn	8/17/1905	Kings Lynn

Source: Compiled on the basis of the Thos. J. Wiborg Archive. Protocol with Ice contracts (1904-1909).

620 The table shows 21 of a total of 22 ice shipments handled by Brodersen, Vaughan & Co.

### *Collaboration with Henry Parr*

Another broker with whom T. J. Wiborg worked closely during this period was Henry Parr (1849–1924), the son of the Norwegian shipowner and ice exporter Søren Parr from Drøbak.<sup>621</sup> Parr was four years younger than Wiborg and had worked in his father's ice export company until 1892, before establishing himself in Southampton in about 1897 and eventually settling in Lymington just outside the city.<sup>622</sup> Parr acted as a broker and agent for Norwegian ice export and shipping companies.<sup>623</sup> He was in close contact with the shipowner Fred. Olsen who, according to Parr, sent him an offer in 1898 to become a 'co-owner' in Olsen's new company Fredriksstad Lloyd,<sup>624</sup> an offer which Parr politely declined.<sup>625</sup> He and Wiborg enjoyed an amicable correspondence, alternating between business and more personal topics.<sup>626</sup> In an exchange of letters in December 1900, they discussed business-related issues such as ice prices, competition from ice factories, business opportunities in England and Parr's father's withdrawal from the ice industry.<sup>627</sup> In November 1903, they discussed the contracts that Parr had mediated for Wiborg, and Wiborg asked Parr to help find a suitable English company where his 19-year-old son Tom might get an internship.<sup>628</sup> In November 1905, in addition to discussing business matters, T. J. Wiborg gave a detailed report to his 'good friend' about the dissolution of the union between Sweden and Norway and the news that the new royal couple, King Haakon and Queen Maud, had arrived in Kristiania.<sup>629</sup> Norwegians had been fortunate, he wrote. 'Now we have a royal house, which I and everyone else here consider to be one of the finest and best in the world – in a family with the earth's most powerful states, emperors and kings'.<sup>630</sup> Wiborg describes the King

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621 Thos. J. Wiborg Archive. Copy book (1900–1920), Protocol with ice contracts (1900–1913); Egeberg (1957).

622 Egeberg (1957), pp. 35, 45; Thos. J. Wiborg Archive. Protocol with ice contracts (1900–1913).

623 Thos. J. Wiborg Archive. Copy books (1900–1920), Protocol with ice contracts (1900–1913).

624 Fred Olsen Company Archive: Letter from Henry Parr, 19 April 1898. In Nygaard (1999), p. 88.

625 Ibid.

626 Thos. J. Wiborg Archive. Copy books (1900–1920).

627 Ibid. Letter, 9 November 1900.

628 Ibid. Letter, 19 November 1903.

629 Ibid. Letter, 29 November 1905.

630 Ibid.

as a tall, well-built man, with a strong, manly voice, adding that ‘*he is handsome and appealing*’. He describes the Queen as being very pretty, as is the Crown Prince.<sup>631</sup>

Parr handled a number of contracts and business transactions for Wiborg in the period leading up to the First World War. In 1900, Parr brokered a contract with Charles Mumby and Co. Ltd., Mineral Water Manufacturers and Foreign Ice Merchants, based in Portsmouth.<sup>632</sup> Parr received a commission of 3% for this contract, which he renewed annually for Wiborg until 1909.<sup>633</sup> Also in 1900, Parr brokered a contract with the ice wholesalers W. Smith, based in Dover and Folkstone, to supply the company’s annual consumption of between 2,000 and 3,250 tons of ice.<sup>634</sup> This contract was also renewed on an annual basis by Parr up until 1908.<sup>635</sup> In 1913, Parr arranged a three-year contract, extending to 1915, involving the delivery of 3,250 tons of ice per annum to the London company Charles Dean Ltd.<sup>636</sup> The last time that Parr appears in Wiborg’s copy books is in 1920, when the former wanted to mediate the sale of a ‘*motor vessel*’. Once again, Wiborg thanked his ‘*good friend*’, but declined the offer because the ship was too expensive and only suitable for coastal traffic.<sup>637</sup> In 1920, these two gentlemen were 71 and 75 years old, respectively, but still apparently engaged in full-time work.

### *Other ice agents and export of ice to Britain, France, Germany and Scandinavia*

Thos. J. Wiborg also conducted regular business with the London agents Blichfeldt & Co., Duus Browne & Co., G. L. Figge, and John Goodchild & Co.<sup>638</sup> These companies mediated ice contracts for exports to London, the entire south coast of England, Wales and France. The company also

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631 Ibid.

632 Thos. J. Wiborg Archive. Protocol with ice contracts (1900–1913). Contract, January 1901.

633 Ibid. Protocol with ice contracts (1900–1913). Contract, 23 October 1908.

634 Ibid. Protocol with ice contracts (1900–1913). Contract, 20 February 1901.

635 Ibid. Protocol with ice contracts (1900–1913). Contract, 12 November 1907.

636 Ibid. Protocol with ice contracts (1900–1913). Contract, 19 October 1912 (Dover), 7 February 1913 (London).

637 Ibid. Copy book (1917–1920). Letter, 5 May 1920.

638 Ibid. Protocol with ice contracts (1896–1915).

collaborated on a regular basis with ice agents in Germany. During mild winters, when Germany was in the market for ice, the company concluded several contracts using the agent and broker Gustav Metzler, which had offices in Stettin and Swinemünde. In 1905, Metzler brokered contracts for the sale of 4,000 tons of ice, and then in 1906, a record-breaking contract for 12,600 tons delivered to the Oranienburger Eiswerke in Berlin.<sup>639</sup>

Thos. J. Wiborg also sold ice to Sweden and Denmark, especially during years when the winters were mild. In 1905 and 1906, the company sold 180 tons of ice to the brewery Ceres in Aarhus in Denmark via the brokers Bergmann, Smith & Co., which was also based in Aarhus. In 1910, the company entered into a contract for the delivery of ice to four Stockholm companies (Westermalm's Isupplag, Handelsbolaget Kungsholms Isupplag, Stockholms Is AB and Agra Margarinfabrik<sup>640</sup>) totalling approximately 3,600 tons of ice, mediated by the company Fr. L. Borch, also based in Stockholm. In 1913, sales in Scandinavia started to pick up and became increasingly important to the company. In contrast to trade with the UK and continental Europe, ice to other Scandinavian countries was transported mainly in smaller sailing vessels, typically carrying between 50 and 100 tons of ice per shipment.<sup>641</sup> This trade intensified during the First World War, and we will return to this topic in the next chapter.

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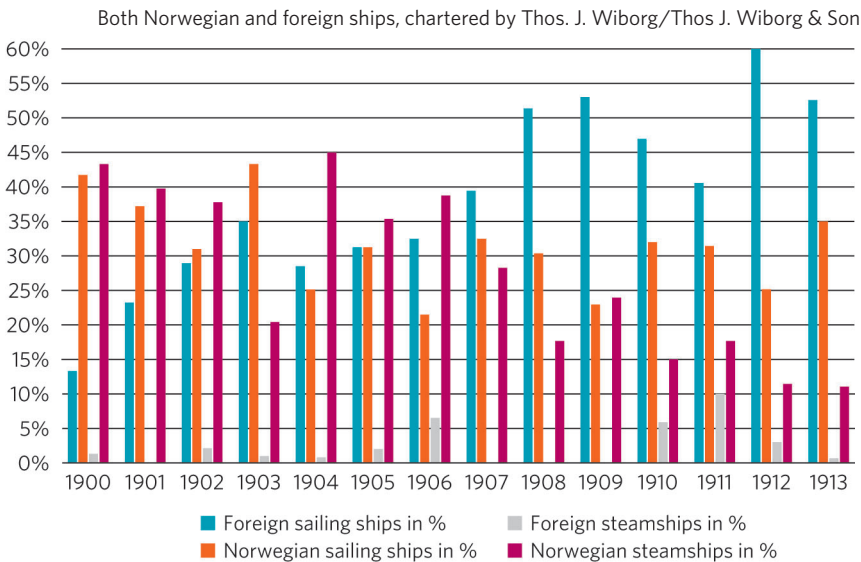
639 Ibid. Protocol with ice contracts (1905–1906), Chartering journal (1906–1920). Contracts, 31 March and 25 July 1905, and 6 February 1906. The record contract of 6 February 1906 was completed by the Norway Lake Ice Co. Ltd. (the company founded by Thomas Johannes Wiborg's deceased brother Halvor). It was signed by Thomas Johannes Wiborg's brother-in-law and former partner Thomas Townshend Somerville. We can find no explanation in the sources as to why the contract was acquired by Thomas Johannes Wiborg. It has been pasted into the archive's ice contract folder, and entries in the chartering journal show that it was fulfilled. Reference is also made to this contract in entries about some of the ice cargoes. It is likely that Thos. J. Wiborg entered into a collaboration with the Norway Lake Ice Co. Ltd. either on execution of the contract, or that the contract itself was transferred from another company.

640 Ibid. Protocol with ice contracts (1910–1915). Contracts from 1910: 1 September, 22 September, 6 October, 18 October, 24 October and 28 October.

641 Ibid. Chartering journal (1906–1920).

### Preparing for shipowning

A total of 1,500 shiploads of ice was exported by the company in the period 1900 to 1913. Table 6-4 shows that 642 of the vessels carrying ice were foreign, most of them from Denmark. As discussed in earlier chapters, certain regions and locations in Denmark, as in Norway, were major sites for the sailing ship industry in the years leading up to the First World War.<sup>642</sup> For instance, the town of Marstal, which as late as 1913 still maintained a fleet of 256 merchant sailing ships.<sup>643</sup> In Marstal, the ice trade continued to be a supplement to the transport of other bulk cargoes.<sup>644</sup> As in the period 1870–1899, the transport of ice continued to be part of an international shipping market in which Norwegian and Danish companies played an active role.



**Figure 6-3.** Sailing ships and steamships used for ice transport (1900–1913) in percentages.<sup>645</sup>

Sources: Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journals (1892–1905, 1906–1920).

From 1907 to about 1913, the proportion of ice cargoes the company transported by steamship decreased and the share shipped by sailing vessels

<sup>642</sup> Hermansen (2008), p. 88; Hanisch (1983), p. 119; Johnsen & Sætra (2016), p. 151.

<sup>643</sup> Hermansen (2008), p. 88.

<sup>644</sup> Holm-Petersen & Rosendahl (1951), pp. 239–240.

<sup>645</sup> From 1910, Thos. J. Wiborg & Son.

increased (see Figure 6-3). In the years 1912 and 1913, 85% and 88% respectively of the company's ice cargoes were transported by sailing ship, of which 60% and 53% were foreign, and 25% and 35% Norwegian. This increase was probably due to the fact that many Norwegian and foreign sailing ships were still available, and that the poor market conditions in the 1900s made it essential to reduce costs where possible.

**Table 6-4.** Nationality, number and types of ships transporting ice (1900–1913)

Chartered by Thos. J. Wiborg/Thos J. Wiborg & Son

Year	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	Total
Denmark	7	15	24	29	25	27	35	28	48	40	76	64	57	63	538
Sweden	1			1			2	1			20	20	4	5	54
Russia	1	2		3	1		1			3				1	12
United Kingdom	1	3	4	2	5	3	2					1			21
Germany					1	2	7		1	1		2		2	16
Iceland											1				1
<b>Total foreign</b>	<b>10</b>	<b>20</b>	<b>28</b>	<b>35</b>	<b>32</b>	<b>32</b>	<b>47</b>	<b>29</b>	<b>49</b>	<b>44</b>	<b>97</b>	<b>87</b>	<b>61</b>	<b>71</b>	<b>642</b>
<b>Total Norwegian</b>	<b>57</b>	<b>66</b>	<b>62</b>	<b>62</b>	<b>76</b>	<b>64</b>	<b>73</b>	<b>45</b>	<b>46</b>	<b>39</b>	<b>86</b>	<b>85</b>	<b>35</b>	<b>62</b>	<b>858</b>
<b>Total ships</b>	<b>67</b>	<b>86</b>	<b>90</b>	<b>97</b>	<b>108</b>	<b>96</b>	<b>120</b>	<b>74</b>	<b>95</b>	<b>83</b>	<b>183</b>	<b>172</b>	<b>96</b>	<b>133</b>	<b>1,500</b>
<b>Foreign in %</b>	15%	23%	31%	36%	30%	33%	39%	39%	52%	53%	53%	51%	64%	53%	43%
<b>Norwegian in %</b>	85%	77%	69%	64%	70%	67%	61%	61%	48%	47%	47%	49%	36%	47%	57%
<b>Steamships</b>	30	34	36	21	50	36	55	21	17	20	39	48	14	16	<b>437</b>
<b>Steamships in %</b>	45%	40%	40%	22%	46%	38%	46%	28%	18%	24%	21%	28%	15%	12%	29%
<b>Foreign Steamers</b>	1	2	1	1	2	8					11	17	3	1	47

Sources: Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journals (1892–1905, 1906–1920).

The company also had steamships on time charter<sup>646</sup> for several years during this period.<sup>647</sup> These vessels did not only carry ice for Thos. J. Wiborg, but also other bulk cargoes such as timber, grain and coal for other shippers. The business model can be described as ‘tramp shipping’,<sup>648</sup> and for the company, it represented the start of a learning curve

646 de Kerchove (1961), p. 838. A form of charter party issued when the vessel is chartered for an agreed period of time. It places the vessel in the possession of the charterer. The usual practice is that the owner mans the ship and is paid an agreed rate per month.

647 Thos. J. Wiborg Archive. Chartering journal (1906–1920).

648 de Kerchove (1961), p. 853. Sea trade which is not confined to any particular route or harbours, but which operates to all or any ports in the world.

within shipping operations. However, business was not always successful, and in 1906, T. J. Wiborg wrote the following:

‘I have lost about 150 kroner on the SS Valhal time charter. After this, Valhal is credited for the entire business concerning the sale of ice. My experience is that in general, time chartering is bad business. T. J. W.’<sup>649</sup>

However, this experience did not entirely deter the company. In 1910, 1912 and 1913, it chartered two steamships on time charter, and in 1914, it had a single vessel on time charter. In the next chapter, we will discuss in more detail how the company gained experience in shipping.

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The 1898 peak was followed by a period of steady decline. Production and export volumes fell, as did the prices. Price had become a major competitive factor, linked to increasing factory production of ice and technological change. Conflicts between the manufacturers of factory ice and importers of natural ice arose, also in the UK, which was still Norway’s main export market. It centred on the purity of the two products, with natural ice gradually losing out. Artificial ice production benefited greatly from the bad reputation that natural ice was acquiring, not least in the form of larger market shares. The Norwegian ice industry, backed by the Norwegian authorities, responded to the attacks, but to little effect. The ‘ice war’ undoubtedly contributed to the decline of the Norwegian ice industry after 1898.

Some of the Norwegian ice exporting areas generated large export volumes during the period, while in others, exports fell sharply. The shipping market was turbulent, and two shipping conferences were established in an attempt to achieve common minimum freight rates in the ice trade. However, little was achieved. In contrast, collaboration between ice exporters, agents and brokers helped in managing the uncertainties in the market and made it possible for relatively small companies to conduct international trade and business.

As for Thos. J. Wiborg, risks and uncertainties were alleviated by collaboration with long-standing business connections, in particular through forward contracts. The risk was also lessened by the use of

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<sup>649</sup> Thos. J. Wiborg Archive. Chartering journal (1906–1920), p. 9.



contracts committing to the delivery of entire annual consumption volumes for major wholesalers.

During this period, the company terminated most of its leasing contracts for ice facilities, in part to avoid further problems with the tax authorities. Ice was now frequently purchased from other ice exporters and then exported overseas. The ice was transported mainly in chartered ships, but some of the consignments were sold FOB and transported in ships owned by the buyer. A growing number of the ships the company used after 1907 were of foreign origin, testifying to the international character of the Norwegian ice trade. Interestingly, the use of steamships decreased, while sailing ships increased correspondingly. In the early 1900s, the poor market conditions made it imperative to reduce costs where possible, which made sailing ships attractive, and there were still many of them available.

For Thos. J. Wiborg, this period can be seen as a learning period in ship-owning. For several years, the company chartered steamships on time charters for a period of a few months, with the company responsible for procuring cargo. Knowledge about the tramp segment of the shipping sector was thus gained and accumulated. As we shall see, the purchase of ships followed.

## CHAPTER 7

# War and transformation (1914–1918)

## Market conditions during the First World War<sup>650</sup>

The first years of the war were characterised by a ‘business as usual’ approach.<sup>651</sup> Companies took the opportunities offered under a regime of strict state neutrality, with the purpose of not taking sides in the war and keeping the country out of the conflict.<sup>652</sup> Expectations were that it would be short-lived, and Norway’s economic development is described as a continuation of the peace economy.<sup>653</sup> The state remained neutral, but the industrial sector was left to itself and permitted to establish relations with both warring parties and other foreign countries.<sup>654</sup>

From 1916, the situation changed, with national authorities playing a more active role. Exports and imports became important policy areas and were considered crucial to the welfare of nations.<sup>655</sup> It also became more difficult to maintain strict neutrality as both warring parties repeatedly came up with conflicting demands. The historian Olav Riste characterises Norway’s policy of neutrality as predominantly pro-British. This was because, firstly, it secured essential imports to the country; secondly, it was undesirable to come into conflict with Britain, which was perceived as a far more intimidating

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650 The initial section draws on the chapter in my doctoral thesis, *The Scandinavian Lines og Sør-Afrikakonferansen*. An introduction to Chapter Four, Wartime and Amendments (1915–1923). Nygaard (2011), p. 109–111.

651 Keilhau (1927), p. 43; Riste (1965), p. 225.

652 Keilhau (1927), p. 39. This is particularly true for Norway. However, according to Keilhau, Norway, Sweden and Denmark developed under broadly similar lines.

653 Ibid., p. 43.

654 Ibid., p. 45; Riste (1965), pp. 60, 62, 225. The war also led Sweden, Norway and Denmark to collaborate and establish a common front in defence of the rights of neutral states. Initially, the Netherlands was also involved in discussions prior to this collaboration but was not included in the final agreement. High-level discussions led to a meeting held in Malmö in Sweden in December 1914, at which the foreign ministers and monarchs of the three countries convened to discuss the situation.

655 Riste (1965), p. 226.

counterpart than Germany; and thirdly, it was in line with public sympathies, which became increasingly pro-British as the war progressed.<sup>656</sup>

An economic boom in the Norwegian economy emerged during the war, offering many opportunities to make money. Shipping was one of the boom sectors, however, the shipping of goods overseas was becoming extremely dangerous and all ice exports to the UK, still Norway's main market, ceased.

## Market conditions and the Norwegian ice export trade

Considerable quantities of ice were exported to the UK during the early war period, after which they practically ceased, while exports to the Scandinavian countries continued throughout the war (See Table 7-1). Exports to Denmark and Sweden increased in importance after the waters outside the UK were declared a war zone in 1915, and they continued to increase throughout 1916, when the UK Government implemented a ban on imports. In the last two years of the war, Norwegian ice was exported almost exclusively to Sweden and Denmark.

The decline affected all of the production and export centres in Norway. The war, including the prohibition of imports to the UK, exerted a major negative impact on the Norwegian natural ice industry.

**Table 7-1.** Norwegian ice exports distributed by country (1914–1918)

	1914	1915	1916	1917	1918	Total	In %
<b>UK</b>	132,124	33,624	6,075	20		<b>171,843</b>	<b>60.22%</b>
<b>Ireland</b>	2,377					<b>2,377</b>	<b>0.83%</b>
<b>Sweden</b>	12,045	7,313	7,361	1,281	6,309	<b>34,309</b>	<b>12.02%</b>
<b>Denmark</b>	7,681	10,833	15,767	7,329	1,756	<b>43,366</b>	<b>15.20%</b>
<b>Germany</b>	3,685	407	625	99		<b>4,816</b>	<b>1.69%</b>
<b>France</b>	19,630	919				<b>20,549</b>	<b>7.20%</b>
<b>The Netherlands</b>		1,728				<b>1,728</b>	<b>0.61%</b>
<b>Belgium</b>	5,912					<b>5,912</b>	<b>2.07%</b>
<b>Other countries</b>	396	45				<b>441</b>	<b>0.15%</b>
<b>Total</b>	<b>183,850</b>	<b>54,869</b>	<b>29,828</b>	<b>8,709</b>	<b>8,085</b>	<b>285,341</b>	<b>100.00%</b>

Source: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1914–1918).

<sup>656</sup> Ibid.

### *Prohibition of ice imports to the UK*

Trade with the UK was further restricted on 10 May 1916, when the UK Government banned imports of ice unless the importer had a licence issued by the Board of Trade.<sup>657</sup> According to the historian Robert David, such licences do not seem to have been issued as imports ceased for the rest of the war.<sup>658</sup> Thos. J. Wiborg & Son evidently also sold ice to the UK in 1916, and four out of a total of seven ships sailed from Norway to the UK after 10 May. Why the company was able to send ice to the UK after the ban was announced is not known; it may have been that the ban initially applied to new contracts.<sup>659</sup>

The editor of the trade journal *Cold Storage and Produce Review* reacted strongly to the ban, if somewhat sarcastically, ‘*We can’t get it so we won’t have it, says the Government*’.<sup>660</sup> He went on to state that the ice trade was one of the last one would have expected to be prohibited, not least because the tonnage involved was negligible in a maritime context. He assumed that the government was acting ‘*on principle*’, adding ‘*but we do not think their move a wise one*’. He pointed to the fisheries sector, especially in Ireland, which needed Norwegian natural ice to supplement artificial supplies, particularly so in summer.

That the ban ended all imports of natural ice to Britain and Ireland for the rest of the war led, as the periodical had anticipated, to supply problems and shortages of ice since factory-produced ice was unable to replace the loss in natural ice imports.<sup>661</sup> In August 1918, the headline in *Cold Storage and Produce Review* was ‘**No Ice!**’ The shortage was keenly felt, especially in the Irish fisheries, which previously imported thousands of tons of ice from Norway and were now struggling due to the lack of ice.<sup>662</sup>

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657 David (1995), p. 66.

658 Ibid.

659 The last of the ships, the *SS Dido*, loaded with 256 tons of ice, arrived safely in Newcastle on 22 August. However, on 22 October, the *SS Dido* was captured by a German submarine and sunk on passage from Stavanger to West Hartlepool. Thos. J. Wiborg Archive. Chartering journal (1906–1920), p. 99; Uboat.net. *Ships hit during WW1 Dido*. The captain of the submarine that sank the *SS Dido* was Otto von Schrader, who later became Admiral and Commander-in-Chief of the German *Kriegsmarine* patrolling the west coast of Norway during the Second World War.

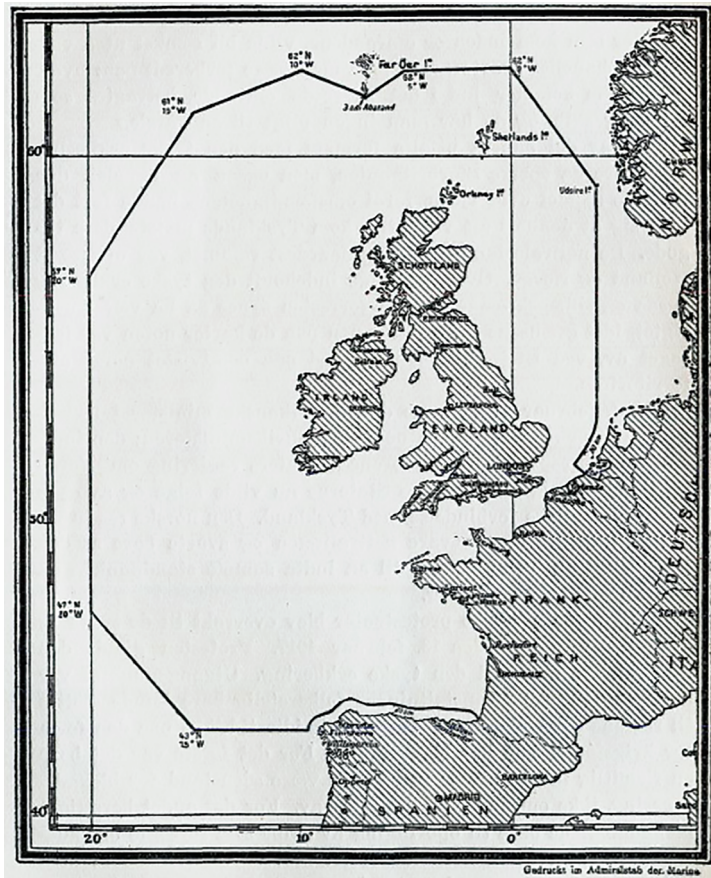
660 *Cold Storage and Produce Review*. Vol. XIV, no. 218 (18 May 1916).

661 *Cold Storage and Produce Review* (16 August 1917), p. 170, (15 August 1918), Vol. XXI, no. 215.

662 *Cold Storage and Produce Review* (15 August 1918), Vol. XXI, no. 215.

This, in turn, led to a decline in the quality of the fish, since it was not put on ice until a long time after it had been caught. The editor was in no doubt that: *'the whole national ice question is one that calls for urgent attention.'*<sup>663</sup>

At the same time as the problems with the ice supply arose, the problems for the shipping industry grew worse also, considerably so when Germany declared, on 31 January 1917, that from 4 February, all ships within delimited zones around the UK, France and around Italy would be regarded as enemy vessels and sunk without warning.<sup>664</sup> (See Map 7-1).



**Map 7-1.** The main German vessel restriction zone of 31 January 1917.

Source: Keilhau (1927), p. 183.

663 Ibid.

664 Keilhau (1927), pp. 182–184.

The UK authorities were also concerned with controlling as much Norwegian tonnage as possible. On 19 March 1917, they issued a memorandum expressing a wish to reach satisfactory arrangements for meeting Norway's need for coal and the management of the Norwegian merchant navy.<sup>665</sup> Subsequent discussions and agreements led to the creation on 23 April 1917 of a steamship convoy system, whereby North Sea trading vessels could be escorted between Bergen in Norway and Lerwick in Shetland.<sup>666</sup> Two months later, T. J. Wiborg wrote to his brother-in-law Amandus Raaum, saying that all steamships travelling between the UK and Scandinavia were joining convoys between Shetland and Bergen, escorted by English warships:

‘... there are about 10 steamships in each convoy. Warships sail tirelessly around the convoy in pairs at a speed of 60 knots, and within, destroyers sail around at the same speed. Still, it happens that a vessel is sent to the bottom, because the submarines lurk below the surface ...’<sup>667</sup>

After the system was put in place, noticeably fewer steamships were sunk. Sailing ships, which were in extensive use during the war, continued however to travel unescorted. It was impossible to sail in a convoy; their passage depended on the speed and direction of the wind, and they were unable to keep up with the steamship escorts.

## Thos. J. Wiborg & Son

### *Ice exports*

Ice exporters had a good year in 1914, not least Thos. J. Wiborg & Son which achieved its third largest export volume since it was established in 1899 (see Figure 7-1). Only two cargoes of ice were shipped to Germany: one in April, bound for Swinemünde; and one in May–June, to Sassnitz.<sup>668</sup> Initially, the company signed three large German contracts mediated by

665 Keilhau (1927), p. 191.

666 Ibid., p. 201.

667 Thos. J. Wiborg Archive. Copy book (1917–1920), p. 43. Letter of 23 June 1917.

668 Thos. J. Wiborg Archive. Chartering journal (1906–1920).

the agent W. Schumann.<sup>669</sup> None of them were completed, however, most likely because they were cancelled. According to the terms of the contracts, cancellation was permissible provided that notice was duly given on payment of a forfeit of 50 Pfennig per ton.<sup>670</sup> This marks the start of a seven-year hiatus in Thos. J. Wiborg & Son's export of ice to Germany, which continued until 1921. It is not known if exports were resumed since no chartering journal exists for the years after 1920.<sup>671</sup> Wiborg's business dealings with Germany may have ceased entirely.

Exports to the other warring parties, most notably Britain, continued throughout 1914 even after the outbreak of war, and new contracts were signed for 1915. Naturally, the war was a major topic of discussion in the company's correspondence, and Director Johnston of Joseph Johnston & Sons in Montrose addressed the issue in a letter to Wiborg in November 1914:

This war is indeed a ghastly affair and was not sought for by France, Britain or Russia, the militarism of Germany is alone to blame. We trust this will be broken once and for all although it will be difficult to do, and so allow the European races to live peaceably for many years to come.<sup>672</sup>

One change which should be noted in Thos. J. Wiborg & Son's exports is that, as can be seen in Table 7-3, the number of cargoes with purchased ice increased. While in 1913, the company produced 60% of the ice and purchased 40%, much larger quantities were purchased from other companies in the following years: 85% in both 1914 and 1915. Clearly, the company did not maintain its own production. In 1916, 82% of the cargoes carried purchased ice and in 1917 and 1918, all exported ice was purchased from other companies. Since export volumes had plummeted, from 151 cargoes in 1914 to only three in 1918, this was probably a sensible decision.

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669 Thos. J. Wiborg Archive. Protocol with ice contracts (1910–1915). Two contracts, 2 January and 6 January 1914. The first was for the transport of a shipment of between 1,000 and 2,000 tons to Bremen, and the other two were for transport to Geestmünde, with one shipment of between 3,000 and 4,000 tons, and the other of at least 1,250 tons. All three were due to be loaded in March or April, before war broke out.

670 Ibid.

671 Thos. J. Wiborg Archive. Chartering journal (1906–1920).

672 Thos. J. Wiborg Archive. Protocol with ice contracts (1910–1915). Letter of 19 November 1914 from Joseph Johnston & Sons Ltd., Montrose, Scotland.

Labour and operational costs were rising, which the company may not have been able to pay if the ice was not sold.

As already mentioned, on 1 February 1915, UK waters were declared a war zone by the German Admiralty.<sup>673</sup> This led to a sharp reduction in fisheries activities, and fishing out of ports such as Newhaven, Dover and Grangemouth virtually stopped altogether.<sup>674</sup> The result was less demand for Norwegian ice.<sup>675</sup> Nevertheless, Thos. J. Wiborg & Son continued to export ice throughout the year, although at volumes that were a third down on the previous year and only half of that in 1913.<sup>676</sup> The company doubled its share of total Norwegian ice exports from 11% in 1913 to 22% in 1915, as other exporters withdrew either entirely or in part from the trade as the war progressed. In April, T. J. Wiborg wrote about the ice situation in 1915:

It has been a miserable year for the trade so far. The war is closing everything down! Nobody wants to go to Germany, or even down the Channel. Only one or two shipments have left Kristiania all year.<sup>677</sup>

The economic historian Robert G. David describes 1915 as a year when the market for ice went into a steep decline. Demand in the fisheries sector fell by more than 5,000 tons per month.<sup>678</sup> According to the principle of supply and demand, this should have resulted in falling prices. However, this was not the case.<sup>679</sup> In fact, although the market shrank, it also remained stable, and Thos. J. Wiborg & Son maintained a healthy level of exports to the UK throughout 1915.<sup>680</sup> However, North Sea shipping was becoming increasingly dangerous, not only due to the minefields that had been laid at the start of the war, but also because of the German Navy.<sup>681</sup>

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673 Keilhau (1927), pp. 182–184

674 David (1995), p. 65.

675 Ibid.

676 Thos. J. Wiborg Archive. Chartering journal (1913–1921).

677 Thos. J. Wiborg Archive. Copy book (1911–1917), p. 662. Letter without heading, April 1915.

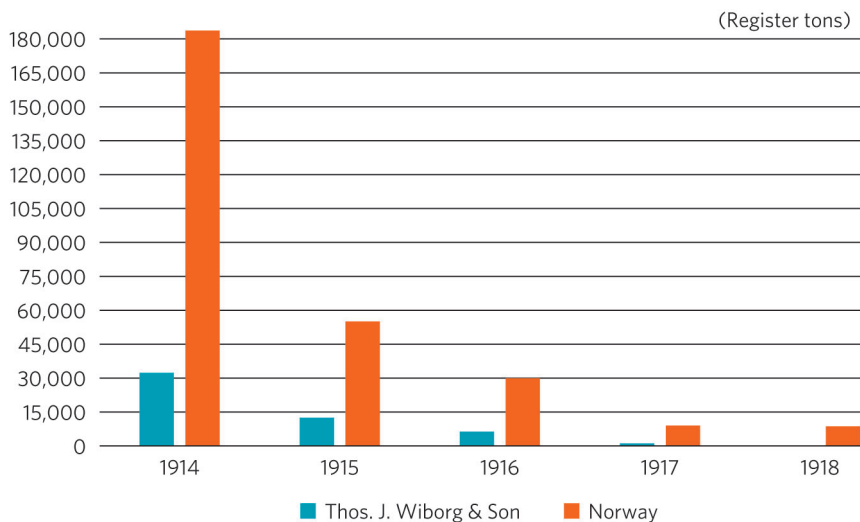
678 David (1995), p. 65.

679 Thos. J. Wiborg Archive. Chartering journal (1906–1920).

680 Ibid. Chartering journal (1906–1920), Protocol with ice contracts (1910–1915).

681 Keilhau (1927), p. 59.





**Figure 7-1.** Volumes of ice exported by Thos. J. Wiborg & Son and Norway (1914–1918).

Sources: Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journals (1914–1918); Statistics Norway. Historical statistics of external trade (1914–1918).

Thos. J. Wiborg & Son's exports to the UK continued in 1915 but in much smaller quantities. As can be seen in Table 7-1, it sold no more than just over 6,000 tons of ice to the UK. However, the company's share of all Norwegian ice exports was considerably higher than prior to the war. Ice was shipped to the east coast of Scotland and England, as well as to the southeast coast of Ireland. No ice appears to have been shipped further south on the east coast than King's Lynn in Norfolk, confirming Wiborg's assertion that it was difficult to persuade chartered ships to travel to ports located in and around the English Channel.<sup>682</sup>

Much like in previous years, sales contracts were concluded in the autumn and delivered during the following year (in this case, concluded from October 1914 to September 1915, with deliveries from February to November 1915). Much of the ice was intended for the fishing sector, and the largest customer was the Great Grimsby Ice Co. Ltd., which supplied the Grimsby fishing fleet with ice. Thos. J. Wiborg & Son sold 2,135 tons of ice to Grimsby in 1915, and this was the only Norwegian ice sold to

682 Thos. J. Wiborg Archive. Copy book (1911–1917), p. 662. Letter without heading, April 1915.

Grimsby that year.<sup>683</sup> In fact, as can be seen in Table 7-2, Thos. J. Wiborg & Son was the only Norwegian company to export ice to eight of the ten ports it exported to in the UK in 1915.

From the outbreak of the war, the value of ice started to increase; it almost doubled between 1914 and 1915, and remained high throughout 1915.<sup>684</sup> Shipping rates also rose sharply and pressures on the trade were exacerbated by the constant hazards of sailing in a war zone.<sup>685</sup> Thus, although the value of ice was higher, the company's profits did not increase correspondingly. Abrupt and unpredictable increases in the cost of chartering made it risky to enter into sales agreements on a CIF basis, since agreements of this kind included the chartering cost.<sup>686</sup> In order to address this uncertainty, Thos. J. Wiborg & Son explained the issue to its business associates and proposed to use a different type of contract.<sup>687</sup> The ice was to be offered at a fixed price, acceptable to both parties, where transport was not included.<sup>688</sup> Thos. J. Wiborg & Son would be paid on the basis of the number of long tons of ice weighed at the unloading port, and the transport was to be covered by the importer. Sales were made under these terms in Montrose, Perth and Sunderland in 1915.

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683 Comparison of the company's exports in the Thos. J. Wiborg Archive. Chartering journal (1915); total Norwegian exports published in the trade journal *Cold Storage and Produce Review* (20 January 1916).

684 Thos. J. Wiborg Archive. Chartering journal (1906-1920), Protocol with ice contracts (1910-1915).

685 Tenold (2019), p. 80; Koltveit & Bjørklund (1989), p. 177; Koltveit & Bjørklund (1990), p. 269; Johansen (1940), p. 13; Keilhau (1927), pp. 178-179; Thos. J. Wiborg Archive. Chartering journal (1906-1920). Thos. J. Wiborg & Son's profits were based on sales revenues less the purchase price of the ice and the vessel chartering cost.

686 Ibid.

687 Thos. J. Wiborg Archive. Protocol with ice contracts (1910-1915). Letter, 19 November 1914, from Joseph Johnston & Sons Ltd. The contract lay between the CIF and FOB types.

688 Ibid. Two shillings per ton applied to spring shipments, and three shillings for summer shipments.

**Table 7-2.** Ice exports to British and Irish ports by Thos. J. Wiborg & Son/Norway (1915)<sup>689</sup>

(Volumes in tons)

	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Total	Norwegian Exports
<b>Anstruther</b>			224		207						<b>431</b>	<b>435</b>
<b>Berwick</b>	227				160						<b>387</b>	<b>180</b>
<b>Grimsby</b>	542				543	788		262			<b>2,135</b>	<b>2,164</b>
<b>King's Lynn</b>				377							<b>377</b>	<b>378</b>
<b>Kirkcaldy</b>			142			132		86	135		<b>495</b>	<b>500</b>
<b>Montrose</b>		192			182		176			186	<b>736</b>	<b>744</b>
<b>Newcastle</b>			828						127		<b>955</b>	<b>3,669</b>
<b>Perth</b>				290		436					<b>726</b>	<b>720</b>
<b>Sunderland</b>				163			153				<b>316</b>	<b>1,662</b>
<b>Waterford</b>		240									<b>240</b>	<b>240</b>
<b>Total</b>	<b>542</b>	<b>659</b>	<b>1,194</b>	<b>830</b>	<b>1,092</b>	<b>1,356</b>	<b>329</b>	<b>475</b>	<b>135</b>	<b>186</b>	<b>6,798</b>	<b>10,692</b>
<b>Shiploads</b>	1	3	3	3	4	3	2	3	1	1	24	

Sources: Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journal (1915); data from *Cold Storage and Produce Review* (20 January 1916).

### *Ice transport and chartered ships*

During the First World War, Thos. J. Wiborg & Son exported 376 shiploads of ice, only two of which were not carried in chartered vessels.<sup>690</sup> (See Table 7-3). Ice was carried primarily by vessels based in Denmark (220) and Sweden (52), and a few from other countries, such as Germany (1), the Netherlands (2) and Russia (2). Exports of Norwegian ice continued to be part of the international shipping market, also during the First World War. One notable example is that of a German sailing ship which carried ice from Norway to Denmark, both of which were neutral countries, in 1915. Of the 376 vessels used to carry ice, 338 were sailing ships. Sailing ships again dominated the trade during the course of the war, because the steamships were busy with carrying more crucial war commodities.<sup>691</sup> None of the ships were sunk while chartered by Thos. J. Wiborg & Son,

689 Exports reported in the trade periodical *Cold Storage and Produce Review* refer to the town of Methil, which is in the same region as Anstruther, and to the identical volume of ice (435 tons) as stated in the Wiborg Archive relating to a shipment to Anstruther. Norwegian exports to Berwick (180 tons) reported in *Cold Storage and Produce Review* are less than exports reported in the Wiborg chartering journal (387 tons).

690 Thos. J. Wiborg Archive. Chartering journal (1914–1918). The vessel *Bethel* transported a shipment in July 1915 and the *Eglantine* did likewise in August 1916.

691 Keilhau (1927), p. 191.

presumably due to most of the ice being carried mainly to Denmark and Sweden, which were outside the war zone around the UK.

The ice cargoes the company transported to Sweden and Denmark were smaller in size than those shipped to the UK prior to the war. The reason was partly due to smaller individual sales and partly that the larger vessels were employed in transporting crucial war commodities.<sup>692</sup> Sales to Denmark and Sweden increased, but this did not compensate for the loss of the company's UK market. Both the size and the number of ice cargoes were in decline. The average weight fell from 214 register tons per cargo in 1914 to 43 in 1918, while the value per register ton remained the same.<sup>693</sup> The war thus resulted in a marked downturn in export volumes. The decline reached its lowest point in 1918, and in 1919, after the war was over, the trade began to recover.

**Table 7-3.** Nationality, number and types of ships transporting ice, together with bought ice cargoes (1914–1918)

Chartered by Thos. J. Wiborg/Thos J. Wiborg & Son						
Year	1914	1915	1916	1917	1918	Total
Denmark	60	78	65	16	1	220
Sweden	15	23	8	5	1	52
Russia	2					2
Germany		1				1
The Netherlands		1				1
<b>Total foreign</b>	<b>77</b>	<b>103</b>	<b>73</b>	<b>21</b>	<b>2</b>	<b>276</b>
<b>Total Norwegian</b>	<b>74</b>	<b>14</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>100</b>
<b>Total ships</b>	<b>151</b>	<b>117</b>	<b>83</b>	<b>22</b>	<b>3</b>	<b>376</b>
<b>Foreign in %</b>	51%	88%	88%	95%	67%	73%
<b>Norwegian in %</b>	49%	12%	12%	5%	33%	27%
<b>Steamships</b>	33	1	4			<b>38</b>
<b>Steamships in %</b>	22%	1%	5%	0%	0%	10%
Foreign St.	4	1				5
Bought ice cargoes	129	99	68	22	3	<b>321</b>
<b>Bought in %</b>	85%	85%	82%	100%	100%	85%

Sources: Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journal (1906–1920).

692 We refer to discussions that took place between Norway and the UK regarding deployment of the Norwegian Fleet.

693 102 register tons per cargo in 1915 (or 79 tons if we exclude sales to Britain), 71 in 1916 and 51 in 1917.

### *Loss of the UK market*

The war forced major changes on Thos. J. Wiborg & Son. One was the loss of the UK market. This led to a severe drop in the company's sales. In 1914, it transported 151 shiploads, and 103 in 1915 when UK waters became a war zone. Exports continued to plummet following the implementation of the ban on ice imports to the UK in May 1916. In 1917, only 22 ice cargoes were shipped. By 1918, shipments had virtually ceased; the records show that only 3 shiploads of ice were transported. The company managed to compensate for some of this by increasing exports to other Scandinavian countries. From 1915 to 1917, former large-volume contracts with UK importers were replaced by smaller agreements with companies in Sweden and Denmark. But turnover continued to decline, a trend that went on throughout the war. After peace was declared, exports to Sweden and Denmark gradually resumed (in 1919), but it was not until 1920 that trading with the UK and continental Europe started up again.<sup>694</sup>

### *Sales to Denmark: the case of Lemvig*

Thos. J. Wiborg & Son's reorientation towards Scandinavian markets can be followed via its operations in Lemvig in Denmark, from 1913 to 1920. The good catches of haddock from the Thyborøn Canal outside Lemvig attracted cutters from other ports, and from 1913, Lemvig gained increasing importance as a fishing port.<sup>695</sup> This marked the beginning of a boom from which Thos. J. Wiborg & Son was able to benefit.

Harbourmaster Andreas Johan Andersen Rønberg (1873–1939) was a leading figure in the Lemvig community. He was born in the town but pursued a career at sea in Russia.<sup>696</sup> He returned to Denmark in 1905, and in 1907 was employed as the harbourmaster at Lemvig, simultaneously founding a broking and freight-forwarding business.<sup>697</sup>

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694 Thos. J. Wiborg Archive. Chartering journal (1906–1920).

695 Damgaard (2020).

696 Lemvig Museum (1957). Letter to the museum from Johan Rønberg, son of A. Rønberg. During the Russo-Japanese War, Andreas Rønberg was stationed in Port Arthur, Manchuria, and served as a blockade runner, carrying important mail.

697 Ibid.

The following year, he co-founded and became chairperson of the Lemvig Fisheries Association.<sup>698</sup> The number of cutters fishing out of Lemvig harbour increased in 1913, from 41 in April to 63 in May.<sup>699</sup> To supply the fisheries sector with ice, the Lemvig Ice House Company was founded by the Lemvig Fisheries Association and an ice house was constructed.<sup>700</sup> Some of the ice was taken from the local Lemvig Lake, while the remainder was imported from Norway. In 1913, 282 tons were harvested from the lake and 161 tons were imported.<sup>701</sup> The Norwegian imported ice was exported by Thos. J. Wiborg & Son, which had signed a contract for the delivery of between 100 and 200 tons of ice to Lemvig on 23 October.<sup>702</sup> The ice was sold via broker Poul Lund to the Lemvig harbourmaster A. Rønberg, and on 6 November, the schooner *Jens Riis* was loaded. On arrival in Lemvig, it unloaded 159 tons of ice.<sup>703</sup>

In October 1914, Thos. J. Wiborg & Son sold yet another cargo of ice to Rønberg, mediated by the broker Poul Lund.<sup>704</sup> On 28 November, the schooner *Marie* was on its way to Lemvig carrying 204 tons of ice.<sup>705</sup> By this time, the First World War had broken out, and in the years that followed, Wiborg sold large volumes of ice to Lemvig. Soon, Wiborg and Rønberg began to conduct their business without mediation, and after May 1916, most of the vessels used for transport were chartered via Rønberg.<sup>706</sup> A large quantity of ice was sold but transported in smaller ships. In 1915, when 850 tons of ice were sold, nine shiploads were sent between August and November.<sup>707</sup>

In 1916, two new ice houses were built in Lemvig.<sup>708</sup> The first was built by the Fisheries Association next to Lemvig Lake, in addition to the ‘Skagen

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698 Lemvig Museum; Gjerløv (1983), p. 7.

699 *Dansk Fiskeritidende* (30 May 1913), p. 259. Cited in Damgaard (2020).

700 *Dansk Fiskeritidende* (1914), p. 612; Damgaard (2020). Transcriptions by Ellen Damgaard of conversations with P. Sand Bruun made in Lemvig in 1973.

701 *Ibid.*

702 Thos. J. Wiborg Archive. Protocol with Ice contracts (1913–1914). Contract of 23 October 1913.

703 *Ibid.* Chartering journal (1906–1920), p. 99.

704 *Ibid.* Protocol with Ice contracts (1913–1914). Contract of 23 October 1913.

705 *Ibid.* Chartering journal (1906–1920), p. 99.

706 Thos. J. Wiborg Archive. Chartering journal (1906–1920).

707 *Ibid.*

708 *Dansk Fiskeritidende* (31 March 1916, p. 154, 1 August 1916, p. 367). Cited in Damgaard (2020).

Ice house' where Rønberg was the director.<sup>709</sup> Naturally, ice was in high demand given that it was essential to the handling and preservation of quality of the haddock, on which a good price depended.<sup>710</sup> During this year, Thos. J. Wiborg & Son sold 2,200 tons of ice to Lemvig between April and October, distributed in 23 shiploads.<sup>711</sup>

In the winter of 1916/1917, a large ice factory was built in Lemvig by John M. Larsen, a Danish-American businessman from Chicago.<sup>712</sup> The plant had a production capacity of 25 tons of ice a day. The purpose of the factory was to be a '*means of attracting fisheries to Lemvig and securing the town a base for a lucrative sea-going fishery.*'<sup>713</sup> However, the plant could not start operations immediately because fuel oil was unobtainable.<sup>714</sup> But there was optimism in Lemvig and the new large ice factory was going to start operating as soon as fuel oil was obtained. In the meantime, ice was imported, and in 1917, Thos. J. Wiborg & Son sold 13 shiploads (800 tons) of ice to the town.<sup>715</sup>

However, 1918 marked the beginning of the end for Lemvig as a fishing port and ice importer. Thyborøn Harbour, which was further out in the fjord and closer to the fishing grounds, had been established as a fishing harbour in the years 1916 to 1918, and much of the fleet had moved from Lemvig to Thyborøn Harbour. The Lemvig Fisheries Association had built one ice house in Thyborøn in 1913 and a second followed in 1916.<sup>716</sup> The sale of natural ice to Lemvig declined and Thos. J. Wiborg & Son sold their last shipment to the town – a mere 41 tons – in May 1918.<sup>717</sup> In 1919, it sold a somewhat larger shipment, 61 tons, to the new port at Thyborøn.

The ice plant at Lemvig closed down in December 1920 and the machinery was moved to the coastal town of Esbjerg. The reason for the closure was simply that Lemvig lost in the competition with Thyborøn. Thyborøn

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709 Ibid.

710 *Dansk Fiskeritidende* (1 August 1916), p. 369. Cited in Damgaard (2020).

711 Thos. J. Wiborg Archive. Chartering journal (1916), pp. 93–100.

712 Damgaard (2020).

713 *Lemvig før og nu, i Jydske Byer og deres Mænd* (1917), p. 236ff. Cited in Damgaard (2020).

714 Ibid.

715 Thos. J. Wiborg Archive. Chartering journal (1906–1920).

716 Lemvig Museum; Gjerløv (1983), p. 8.

717 Ibid.

had taken over as the centre for the fisheries and the boom in Lemvig was over.

An ice factory was not built at Thyborøn until 1930, and the import of natural ice continued until the factory started operating.<sup>718</sup>

### *Expansion into broking and shipowning*

Another major change that occurred during the war was that the company expanded into broking and shipowning. This was a sector that Thos. J. Wiborg & Son had been considering entering for a long time and one that in many ways can be considered an expansion of the existing business rather than a transition to something new. The Wiborg family had been involved in shipping since T. J. Wiborg Snr established himself in Brevik as a timber merchant over 80 years earlier, and now that ice exports were on the decline, it seemed sensible to shift the weight over to shipping.

The ice industry had been in decline since the turn of the century and as the 20th century progressed, the company accumulated expertise in the shipping sector. As the war created a boom in shipping, the company probably considered that this was the right time to make the actual expansion.

Purchasing a vessel is not something to be done on impulse, especially if it is not intended as a short-term investment but rather as part of a long-term commitment to the shipping business. Creating a shipping business relied on acquiring a wide range of information and knowledge, spanning from pricing and technical issues to market knowledge.

Thos. J. Wiborg & Son was a 'frontline firm', directly exposed to uncertainties in the market, and had links with a number of 'supporting groups' of brokers, agents and others from which assistance could be sought.<sup>719</sup> (See also Chapter 2 Brokers and knowledge of the market). For both the ice and the shipping industries, this arrangement made it possible for relatively small companies to conduct international trade. The difference between the ice export and shipowning business was,

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<sup>718</sup> Ibid.

<sup>719</sup> Andersen (1997), p. 483.



perhaps, not so great for Thos. J. Wiborg & Son, especially in the context of the North Sea trade. The company was accustomed to dealing with brokers and agents, not only in connection with ice sales, but also in the business of chartering ships. It had been active as a charterer in the shipping sector for more than 40 years and now assumed the novel role of shipowner. It is likely that vessel purchases were made through the shipbrokers who the company had long been in contact within connection with chartering, and who were now assigned a new role. It was also through the shipbrokers that Thos. J. Wiborg & Son obtained the cargoes for the ships it would now be managing.<sup>720</sup> One difference from the ice export business was that instead of having sales mediated by agents in the UK, the cargoes were arranged mostly by Norwegian brokers. Cargoes carried to and from Denmark, Sweden and Germany were also, to some extent, mediated by brokers in these countries.<sup>721</sup> As far as we can see from the available sources, no UK brokers were directly involved in obtaining cargoes other than ice for Thos. J. Wiborg & Son.<sup>722</sup> It is possible that the UK brokers collaborated with Norwegian brokers because they had a better overview of the Norwegian shipping market, and that in such cases, the cargo was mediated by two brokers. The knowledge required for expanding business activities to include shipowning and broking was largely accessed through the company's long-standing business links, and undoubtedly through the crews and skilled people employed.

### *Preparing the ground*

As discussed in the previous chapter, Thos. J. Wiborg & Son already had extensive experience in shipping operations under time-charter terms. Since 1898, the Wiborg companies had used ships on a time-charter basis.<sup>723</sup> During the first years, the ships carried ice out and, if the ice

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<sup>720</sup> Thos. J. Wiborg Archive. Chartering journals (1872–1920).

<sup>721</sup> Ibid.

<sup>722</sup> Ibid.

<sup>723</sup> Ibid.

market did not permit the vessel to return to Norway in ballast for a new ice cargo, the vessel would carry coal imports as a means of making the best possible use of the chartered ship.<sup>724</sup> In 1898, three steamships, the SS *Björn*, SS *Italia* and SS *Valhal*, operated under time-charter terms for at least part of the year.<sup>725</sup> The main reason for this was probably to secure T. & A. Wiborg sufficient tonnage to transport the 171 shiploads of ice the company sold that year. It was only towards the end of the year, in September and October, that there are records of two returning cargoes of coal. In 1900, Thos. J. Wiborg engaged the steamship SS *A. Dekke* on time charter for parts of the year and, as in 1898, used it primarily for ice transport, although once again, at least two return cargoes of coal were transported in September and October.<sup>726</sup> The same mix appears in 1906, when SS *Valhal* was retained on time charter, also for parts of the year. Ice was primarily transported, although yet again, one return cargo of coal is recorded for September. However, as we saw in the previous chapter, T. J. Wiborg was not satisfied with the ship's earnings, and another four years went by before the company again engaged a ship on time charter. It has been impossible to ascertain how much revenue these ships yielded. Perhaps not very much, which may explain why he abandoned time chartering, or perhaps quite a great deal, which may explain why he turned towards ship ownership.<sup>727</sup> Regardless, around 1907, it seems that Wiborg was considering investing in his own ships. Invitations to invest in shipping companies are recorded in the company's archives in 1907, 1911, 1912 and 1916.<sup>728</sup> He kept himself updated in the shipping sector, and diversification into shipping may have looked like a real possibility.

The company continued to transport goods for other parties in 1910, and activities increased towards and during the First World War (see Table 7-4). All voyages up until 1915, when the company finally invested

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724 Ibid.

725 Ibid.

726 Ibid.

727 Ibid. Chartering journal (1906-1920), p. 9.

728 Thos. J. Wiborg Archive. Folder with nine investment invitations (1907-1916).

in its own ships, were carried out with tonnage on time charter. In contrast to the export of ice, which was transported from Norway to the UK or the Continent, this newer activity focused much more on return passages, crossing the North and Baltic Seas, with detours into the English Channel. The return passages often involved transporting the following cargoes: grain from German Baltic ports to destinations in Scandinavia, the UK and Belgium; coal from the UK to Belgium and Scandinavia; and timber and wood processing products from Scandinavia and the Baltic countries to the UK and the Continent. Other goods included turbine pipes, which were shipped from Rotterdam to a power plant that was under construction in Tysedal in Norway. Sacks of potatoes were shipped from Ghent in Belgium to Swansea in Wales. Norwegian ice was also a commodity among the various other commodities that Thos. J. Wiborg & Son transported on behalf of other companies.

**Table 7-4.** Cargoes transported by Thos. J. Wiborg & Son for other parties (1910-1920)

Cargo / Year	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	Sum
Coal coke cinders	7		13	12	3	4	23	11	3	13	8	<b>97</b>
Timber	1		2	4		4	24	11	2	11	7	<b>66</b>
Grain	1		5	10								<b>16</b>
Herring in barrels	1		1	1							1	<b>4</b>
Ice as carrier	2		2									<b>4</b>
Salt/ saltpeter			1	3								<b>4</b>
Wet pulp	1		1							1	1	<b>4</b>
Cement	2											<b>2</b>
Stone				1							1	<b>2</b>
Phosphate			1									<b>1</b>
Potatoes in sacks			1									<b>1</b>
Turbine pipes	1											<b>1</b>
<b>Sum bulk/timber/food</b>	<b>16</b>	<b>0</b>	<b>27</b>	<b>31</b>	<b>3</b>	<b>8</b>	<b>47</b>	<b>22</b>	<b>5</b>	<b>25</b>	<b>18</b>	<b>202</b>
Own ice	183	172	96	133	151	117	83	22	3	20	35	<b>1,015</b>
<b>Sum total</b>	<b>199</b>	<b>172</b>	<b>123</b>	<b>164</b>	<b>154</b>	<b>125</b>	<b>130</b>	<b>44</b>	<b>8</b>	<b>45</b>	<b>53</b>	<b>1,217</b>

Source: Thos. J. Wiborg Archive. Chartering journal (1906-1920).

If we ignore the ice exports, Thos. J. Wiborg & Son's company was reminiscent of a small tramp shipping company, where the ship or ships were concluded for one or more voyages with cargo before being returned to the shipowner at the final unloading port.<sup>729</sup> The company would then have to find a new cargo for the ship. The special aspect was that the company was also a significant exporter of ice.

In hindsight, the period from 1910 to the First World War can be seen as a learning, or experimental, phase during which the company gained experience in shipping operations and transport activities (by using chartered vessels), with the aim to move into ship ownership one day. Alternatively, the activities between 1910–1914 may simply have been undertaken for short-term gains. The experiment was self-financing and did not involve any major investments. As such, it could have been abandoned without the company losing large sums of money. Regardless, circumstances changed during the First World War.<sup>730</sup> In 1915, at the age of 70, Wiborg made a decision to invest in his own tonnage and, at the same time, launch a shipbroking business involving the purchase and sale of ships. A boom was underway, freight rates were increasing and there were big profits to be made in the sector.<sup>731</sup> Available sources provide no record of the shipbroking business as such, although advertisements printed in the newspaper *Norges Handels og Sjøfartstidende* in the spring of 1916 (reproduced in Picture 7-1), indicate that the company was active in the sale and purchase of ships on behalf of other parties.<sup>732</sup> It appears that the company was engaged in a traditional shipbroking business whereby it received a commission on the contract price.

Other similar advertisements printed in the same newspaper indicate that the company faced a great deal of competition in this field, which may help to explain why advertisements for shipbroking under

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729 Ansteinesson & Reiersen (1998), p. 449; Claviez (1990), p. 330; de Kerchove (1961), p. 853.

730 Tenold (2019), p. 80; Koltveit & Bjørklund (1990), p. 269; Johansen (1940), p. 13; Keilhau (1927), pp. 178–179.

731 Ibid.

732 *Norges Handels og Sjøfartstidende* (3 March, 9 March, 3 May 1916).

the direction of the company, as far as we have found, do not appear later.<sup>733</sup>

The image shows three newspaper advertisements for Thos. J. Wiborg & Son, arranged in a row. The central advertisement is the largest and features a bold headline 'Billige neutrale dampere tilsalgs:' followed by details for three ship models: Folio 56, Folio 122, and Folio 124. Below these are details for Folio 123 and a notice about selling American buildings. The left and right advertisements are smaller and feature the headline 'Billige neutrale dampere tilsalgs:' and 'Damper kjøpes.' respectively, with details for ship models and contact information for Thos. J. Wiborg & Son in Christiania.

**Billige neutrale dampere tilsalgs:**

**Folio 56.** 5400 dw. bygget 1905. 2den survey 1914. 9½ knop 18 tons Udmerket baat. Forsøker £ 14,000.—

**Folio 122.** 5000 dw., bygget 1899. 9 knop 15 tons. Reparerer nu Syd-Amerika til 1ste klasse Fransk Veritas. Levering Buenos Ayres April £ 136,000 eller U. K. Mai Juni £ 126,000.—

**Folio 124.** Ca. 5000 dw. tank damper. Bygget 1901, nye kjedler iaar. 10/11 knop. Traadløs telegraf. Levering U. S. A. April. Pris Dollars 490,000 nett.

**Folio 123.** 8100 dw., bygget 1913. Traadløs telegraf. Levering New York April. £ 96,000 nett.

Har positiv sælger 4 amerikanske nybygninger Fredriksstadtype. Levering 2 April, 1 Mai og 1 Juni 1917. Pris Dollars 325,000 pr. Styk. Nærmere meddele

**THOS. J. WIBORG & SON.**  
Telegrafadr. „Aretic” Christiania.  
(4817)

**THOS. J. WIBORG & SON.**  
Telegrafadr. „Aretic” Christiania.  
(1481)

**THOS. J. WIBORG & SON.**  
Telegrafadr. „Aretic” Christiania.  
(2468)

**Billige neutrale dampere tilsalgs:**

5400 dw. bygget 1905, survey 1914. Levering U. K. Marts. £ 142,500 nett. 3200 dw. bygget 1913. Levering New-York April. £ 96,000 nett. Hurtig bestemmelse nødvendig.

**THOS. J. WIBORG & SON.**  
Telegrafadr. „Aretic” Christiania.  
(4817)

**Damper kjøpes.**

Vi har Kjøper til Single-Decker ca. 1500—2500 Tons. Tilbud med fulde Particulars, helst Plan imetsees hurtigst.

**THOS. J. WIBORG & SON.**  
Telegrafadr. „Aretic” Christiania.  
(2468)

**Picture 7-1.** Advertisements placed by Thos. J. Wiborg & Son for buying and selling ships.<sup>734</sup>

Source: Norges Handels og Sjøfartstidende (3 March, 9 March, 3 May 1916).

## Activity as a shipping company

Towards the end of 1915, Thos. J. Wiborg & Son assumed ownership of its first two ships, the brig *Bethel* and the barque *Eglantine*. Next followed the full-rigged ship *Karmø* (see Picture 7-2) and the steamship *Renen*, both of which were taken over in 1916 and were new to the company.<sup>735</sup> All of the ships were owned through separate limited companies controlled by Thos. J. Wiborg & Son, which limited any liability to the individual company's ship. Table 7-5 shows all the ships that were owned by the company in the period 1915–1927.

<sup>733</sup> Ibid.

<sup>734</sup> Translation of the headline in the advertisements on the left and centre: 'Inexpensive neutral steamers for sale.' Translation of the headline in the advertisement on the right: 'Steamers purchased.'

<sup>735</sup> *Renen*, formerly *Prospero*, was previously used by Østlandske Lloyds Lines to Europe. Conversation with Librarian Ole Fiske at the Norwegian Maritime Museum.

**Table 7-5.** Ships owned by Thos. J. Wiborg & Son<sup>736</sup>

Type/Name	Built	Where built	Bought	Left fleet	Sold/Lost	Building material
Brig Bethel	1868	Salcombe	1915	1917	Sunk by U-boat	Wood
Barque Eglantine	1866	Quebec	1915	1918	Sunk by U-boat	Wood
Full-rigged ship Karmø	1885	Glasgow	1916	1919	Sold	Iron
SS Renen	1869	Hartlepool	1916	1920	Collided/Sunk	Iron
SS Elgen	1918	Hansweert	1918	1922	Sold	Steel
MS Tartar	1919	Greåker	1920	1926	Sold	Ferrocement
SS Knut Skaaluren	1900	Rosendal	1922	1927	Sold	Wood
SS Tromøy	1921	Sagvåg	1924	1926	Sold	Wood

Source: Compiled on the basis of the Thos. J. Wiborg Archive; Norwegian Maritime Museum. The Petter Malmstein Sailing Ship Register.

During the war, the company's own ships, except *Karmø* which was too large and was engaged in trading worldwide, were used to carry timber to the UK from the Kristiania Fjord area and Gothenburg in Sweden, carrying coal on their return voyages.<sup>737</sup> This combination was more profitable than replacing the outward cargo with ice, and chartered ships were used to carry the ice that the company continued to export.<sup>738</sup> The timber cargoes were primarily pit props, for use in coal mines to support the gallery roofs in the mine pits.<sup>739</sup> This is an example of exports of crucial war commodities from Norway as requested by the UK authorities in return for coal.

As the war progressed, both the UK and the US authorities sought to control the Norwegian fleet of large sailing ships, over 1,000 register tons.<sup>740</sup> In September 1916, a separate group was established within the Norwegian Shipowners' Association with a mandate to safeguard the interests of the 174 vessels of this tonnage category.<sup>741</sup> One of the aims was to assist in negotia-

736 Owned through separate limited companies, controlled by Thos. J. Wiborg & Son. SS = Steamship, MS = Motorship.

737 Thos. J. Wiborg Archive. Chartering journal (1906–1920). The Kristiania Fjord area referred to here is the same as that from which Thos. J. Wiborg's various companies had been exporting ice for over 40 years. The markets here were well-known to Thos. J. Wiborg and he had many connections in the broking industry.

738 Ibid. Chartering journal (1914–1918).

739 Hornby (1980), p. 634.

740 Schreiner (1963), pp. 210–220.

741 Ibid., pp. 210, 211, 215.

tions with the UK and US authorities on issues regarding destinations and the terms and conditions of passage.<sup>742</sup> Thos. J. Wiborg & Son's full-rigger *Karmø*, at 1,431 net register tons, fell within the remit of these negotiations.



**Picture 7-2.** The full-rigger ship *Karmø* during the First World War.

Source: Courtesy of Skudesneshavn Museum.

*Karmø* was by far the largest ship owned by the company.<sup>743</sup> It was taken over in Denmark (in Korsør) in July 1916. It was built of iron, was in good condition and could carry all kinds of cargo all over the world.<sup>744</sup>

Two of the company's first four ships, the two smallest sailing vessels (*Bethel* and *Eglantine*), were built in timber and were almost 50 years old and probably obsolete or about to become so when Wiborg bought them.<sup>745</sup> They were only allowed to carry the cargo that was considered the easiest to carry, such as timber, coal, grain or ice, and could only

<sup>742</sup> Ibid.

<sup>743</sup> Lloyd's Register (1916); Tandberg (1999); Røijen (1958); Sjøhistorie.no, *full-riggered ship Karmø*.

<sup>744</sup> Røijen (1958). At the outbreak of war, *Karmø* was in Chile in South America, and in 1915, it was loaded with wheat in Portland, Oregon, on the American west coast, bound for Dublin in Ireland. The vessel used 84 days to complete this voyage.

<sup>745</sup> Most of the vessels were certified following a condition status assessment and allocated a 'Class' by Det Norske Veritas, the Norwegian classification society. The *Karmø*, however, was similarly certified by the British Lloyd's Register.

carry the cargo within certain areas, mainly within Europe.<sup>746</sup> At 47 years of age, the steamship *Renen* was still in relatively good condition and could carry all kinds of cargoes to destinations throughout Europe.<sup>747</sup> The *Karmø* was too large to be used in the North Sea trades that Wiborg was familiar with. The ships were bought during the wartime boom, when it was not unusual to create and lose fortunes overnight.<sup>748</sup> The purchases have been described as boom-time speculations, and this seems plausible, given the type, age and condition of the vessels.<sup>749</sup>

The madness of the war was reflected in the fate of the *Bethel* and the *Eglantine*, as well as that of the schooner *Amanda* (a Swedish ship the company retained on time charter).<sup>750</sup> They were all sunk by German U-boat. The *Amanda* was set on fire and sank without loss of life on 16 April 1917 on a passage to West Hartlepool with a cargo of pit props. The *Bethel* suffered a similar fate on 13 October 1917, on a similar assignment. The *Eglantine* was shot at until it sank on 20 June 1918, during its voyage from West Hartlepool with a cargo of coal. Eight of its nine crew members perished.<sup>751</sup> The Thos. J. Wiborg & Son chartering journal contains an annotation related to the *Eglantine's* last voyage, in which T. J. Wiborg wrote, '*the crew shot down outside Hartl.(pool) by German pirates*'.<sup>752</sup> The steamship *Renen* was seized by the UK authorities in April 1918. It suffered a collision and sank almost immediately after it was released at the end of the war.<sup>753</sup> The total result was an almost complete cessation of the company's shipping activities in 1918.

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746 Det Norske Veritas. Ship Register (1915).

747 Ibid. (1916).

748 Kolltveit & Bjørklund (1989), p. 179.

749 Taken from an interview with Thomas Johannes Wiborg's great-grandson.

750 Thos. J. Wiborg Archive. Chartering journal (1906–1920), p. 102; E-mail from Tomas Johannesson, editor of *Båtologen*, member magazine of *Klubb Maritim Sweden* (18 November 2021).

751 Sjøfartskontoret (1918). vol. 3, pp. 167–170 (*Bethel*) and Sjøfartskontoret (1918). vol. 4, pp. 158–160 (*Eglantine*).

752 Thos. J. Wiborg Archive. Chartering journal (1906–1920), p. 106.

753 Sjøhistorie.no website



The war generated a boom in shipping with ample opportunities for financial gain. But the trading situation was complex since international transport by ship from Norway had become a very hazardous undertaking.

For the ice industry in general, and Thos. J. Wiborg & Son in particular, export volumes went into decline from an almost normal situation in 1914 to a virtual complete standstill by 1918. The first downturn arrived in 1915, when the German authorities declared UK waters to be a war zone. In the following year, exports plummeted as the UK Government banned imports of ice to Britain and Ireland. The company turned to Scandinavian customers and limited its exports of ice to Sweden and Denmark, which were outside the war zone.

Embarking on shipping required specific information and skills, which the company accessed through the captains, engineers, crews and external agents and brokers. For Thos. J. Wiborg & Son, these connections undoubtedly eased the company's expansion into shipowning.

Thos. J. Wiborg & Son expanded its shipping and shipbroking business during the war. Arguably, the first two purchases of ships were 'boom-time speculations' in sub-standard vessels. Some of the company's ships were sunk by German U-boat and eight lives were lost. By 1918, the sinking and seizure of ships had brought the company's shipping business to a virtual close.

## CHAPTER 8

# After the war – from boom to depression (1918–1930)

## Introduction

During the First World War, credit was cheap and easily available, shipping rates were rising and interest rates were extremely low. The result was a wave of speculation in shipping, which ended with a stock market crash in Norway in October 1918, as shares were sold at great losses and several private shipping companies went bankrupt. This was followed by a period of economic boom in Norway and other European countries, which lasted until the autumn of 1920.<sup>754</sup> The boom was followed by a depression; Norway was particularly hard hit, with the UK close behind. The depression in the 1920s was more serious than the depression of the 1930s in Norway.<sup>755</sup> The Norwegian Bank pursued a policy that aimed to return the Norwegian currency to pre-war gold parity.<sup>756</sup> The result was a prolonged domestic downturn, known as the ‘special Norwegian crisis’, which lasted for most of the 1920s, after which the country was plunged into the global economic crisis that started in the autumn of 1929.<sup>757</sup> This is the background to the final phase of the history of the Norwegian ice industry and the fortunes of the company Thos. J. Wiborg & Son.

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754 Hodne & Grytten (1992), p. 96; Larsson (2000), p. 27; Hope (1990), p. 350; Rübner & Scholl (2009), p. 28.

755 Ibid.

756 For a review of the Norwegian gold parity policy, we refer to Hodne & Grytten (1992), pp. 101–106.

757 Hodne & Grytten (1992), pp. 96, 106; Rübner & Scholl (2009), pp. 29–30.

## The shipping market

During the First World War and shortly after, many Norwegian shipping companies entered into new shipbuilding contracts. These contracts were often at very high prices, reflecting the high rates prevailing during the economic upturn.<sup>758</sup> Contracts were made with steel shipyards, both in Norway and abroad. Since steel was a scarce commodity, new wooden steamships were also commissioned from shipyards that had previously built sailing ships, as well as vessels built of reinforced concrete or ferrocement.<sup>759</sup> In the spring of 1918, at the height of the construction boom, there were as many as 80 shipyards building wooden vessels in operation and 11 mechanical engineering works that were building or planning to build concrete ships.<sup>760</sup> However, in the spring of 1919, the shipyards again received steel from Britain which led to the normalisation of construction activities in the summer, despite the high prices.<sup>761</sup> It also put an abrupt end to the construction of concrete ships.<sup>762</sup> Now that steel was readily available, the need for wooden and concrete vessels disappeared.<sup>763</sup> The market remained vibrant throughout 1919 and on into the autumn of 1920, when both the price of vessels and freight rates fell sharply.<sup>764</sup> Post-war demand had been saturated and inventories were full, causing production to stagnate and trade to shrink.<sup>765</sup>

Worldwide, a total of seven million tons of merchant ships was launched in 1919. In addition, the UK authorities put four million tons of used ships up for sale, consisting of a mixture of standard British ship designs built during the war and older German ships that formed part of the war settlement.<sup>766</sup> By 1921, the global merchant fleet was 30% larger

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758 Norwegian Shipowners' Association (1960), p. 21; Schreiner (1963), p. 307.

759 Schreiner (1963), p. 396; Bakka (1975), p. 11. The history of wooden steamships in the period 1900 to 1913 has previously been discussed in Chapter 2 of this book.

760 Ibid. Schreiner (1963) reports the existence of ten concrete vessel workshops, while Bakka (1975) finds a total of eleven and names them all.

761 Schreiner (1963), p. 405; Bakka (1975), p. 15.

762 Ibid.

763 Ibid.

764 Norwegian Shipowners' Association (1960), p. 22.

765 Ibid.; Hope (1990), p. 357.

766 Hope (1990), pp. 357, 358.

than in 1913. At the same time, global trade had shrunk by 20%,<sup>767</sup> and this mismatch led to a crisis in the shipping sector. Ship values and freight rates continued to fall, and a large number of ships were laid up.<sup>768</sup> In 1925, the overcapacity of ships represented probably between 23% and 26% of the world fleet.<sup>769</sup> The conditions in the tramp market in commodities such as ice, coal, grain, ore and timber, where Thos. J. Wiborg & Son was engaged, alternated between bad and worse from about 1920 and the following 15 years.<sup>770</sup> The European demand for tramp ships decreased, which led to the need for newer and larger ships to create profitability.<sup>771</sup> The crisis is clearly visible in the falling number of voyages undertaken by Norwegian ships: in 1913, Norwegian ships made a total of 20,300 voyages in the northwest Europe and Baltic trade; by 1925, this number had fallen to 12,000.<sup>772</sup> It was followed, in the autumn of 1929, by the stock market crash in New York and the Great Depression, which also affected shipping and created major overcapacity in the 1930s.<sup>773</sup> We will now turn to look at how Thos. J. Wiborg & Son ran its shipping business in these troubled times.

## Thos. J. Wiborg & Son's shipping activities

As we have seen, at the end of the war, Thos. J. Wiborg & Son owned and managed two ships through separate limited companies: the full-rigged ship *Karmø* and the steamship *Renen*.<sup>774</sup> A third ship, a steamship, was ordered in the autumn of 1917 from the Dutch shipyard NV Scheepswerf Zeeland, with delivery in 1919.<sup>775</sup> The new steamship was named *Elgen*

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767 Norwegian Shipowners' Association (1960), p. 22.

768 Ibid.; Larsson (2000), p. 27; Hope (1990), p. 357.

769 Rübner & Scholl (2009), p. 29. (Converted to a percentage by the author).

770 Norwegian Shipowners' Association (1960), p. 27.

771 Ibid.

772 Statistics Norway. Historical statistics of water transport (1925), p. 16. (This applies to both the tramp and liner trades).

773 Norwegian Shipowners' Association (1960), p. 24; Rübner & Scholl (2009), pp. 29–30.

774 The ships were owned through separate limited companies, controlled by Thomas Johannes Wiborg.

775 Thos. J. Wiborg Archive. Board protocol AS Renen (1917). From a board of representatives meeting held on 27 March 1917.

and it was owned by the limited shipping company AS Renen, where Thos. J. Wiborg & Son formed the board and management.<sup>776</sup> The *Karmø* was sold in 1919, and in January 1920, the *Renen* sank after colliding with a Swedish steamship (*Fermia*)<sup>777</sup>



**Picture 8-1.** Report of the sinking of the SS *Renen*.

Source: *Norges Handels og Sjøfartstidende* (28 January 1920).

Having lost the *Renen*, Thos. J. Wiborg & Son soon bought a replacement through AS Renen, namely the motor ship *Tartar* (see Pictures 8-2 and 8-5), which was built of reinforced concrete.<sup>778</sup> Both the *Elgen* and the *Tartar* had been acquired during the economic boom at high prices: the price for the newly built steamship *Elgen* was NOK 675,000 and for the *Tartar*, the one-year-old concrete motorship, NOK 600,000.<sup>779</sup>

AS Renen had made a profit in every year since the company was established in 1916. In 1919, it reached NOK 204,000, of which NOK 60,000 were paid out in dividends to its shareholders while the rest was kept in

<sup>776</sup> Thos. J. Wiborg & Son also formed the board of AS Renen. *Norsk Kundgjørelsestidende* (21 March 1916). A notification made by AS Renen in the companies' register.

<sup>777</sup> Thos. J. Wiborg Archive. Chartering journal (1920).

<sup>778</sup> Thos. J. Wiborg Archive. Board protocol AS Renen (1920). From the board meeting held on 4 April 1920. An offer from Thygo Sørensen AS to buy the MS *Tartar*, 2 February 1920.

<sup>779</sup> Ibid. Thos. J. Wiborg Archive. Board protocol AS Renen (1917). Board of Representatives meeting held on 27 March 1917; Bakka (1975), p. 13. MS *Tartar* was delivered by the concrete ship-builders in March 1919.

the company. In the following year, it made a profit of NOK 565,000, and once again, NOK 60,000 were paid out in dividends.<sup>780</sup>



**Picture 8-2.** The MS *Tartar* loaded with pit props.

Source: Courtesy of John Tore Norenberg.

However, at the beginning of 1921, things changed drastically for the company. As already discussed, the international shipping sector moved from its post-war boom into crisis. The first signs of problems can be seen in the minutes of an AS Renen board meeting on 22 December 1920, where it was stated that both ships were ordered to Brevik to be laid up.<sup>781</sup> Conditions in the freight market were poor, it was noted, and it was impossible to trade profitably. Indeed, according to the newspapers, both ships remained laid up until the summer of 1921.<sup>782</sup> The company was fully aware that the situation was serious and likely to persist. At its general meeting four months later, on 26 April 1921, it decided to use the previous year's profits to write down the value of its ships.<sup>783</sup> During the remainder of 1921, the board and supervisory board continued to work to save the company. In June, a request was sent to the bank *Allgemeine Groningen*

780 Thos. J. Wiborg Archive. Board protocol AS Renen (1919, 1920). Audited accounts for 1919 and 1920.

781 Ibid. Board meeting held on 22 December 1920.

782 *Norges Handels og Sjøfartstidende* (1921). Weekly alphabetical ships lists.

783 Thos. J. Wiborg Archive. Board protocol AS Renen. General meeting on 26 April 1921.

*Scheeps Hypothekbank* in the Netherlands, which was the largest creditor and mortgagee in the *SS Elgen*, for a deferral of instalment payments on the loan.<sup>784</sup> This was refused.<sup>785</sup> In October, the Central Bank of Norway, which had granted the company overdraft facilities, sent a demand for a mortgage bond in the *Tartar* as security. A first priority mortgage bond of NOK 125,000 was issued for this ship.<sup>786</sup>

And thus came the end. The accounts for the year 1921 revealed a deficit of NOK 85,000, which the company simply could not pay. In December 1921, AS Renen announced that the company was unable to pay the interest or the instalment on the mortgage on the *Elgen* when due.<sup>787</sup> The ship was transferred to the Dutch mortgagees to cover a mortgage debt of NOK 420,000.<sup>788</sup> About a month later, in January 1922, the Central Bank of Norway requested that the company pay its debts immediately or it

would seek to sell the *Tartar* at a foreclosure auction. The auction was subsequently advertised to take place on 22 April 1922 (see Picture 8-3), and the ship was sold in order to cover a mortgage bond of NOK 125,000. This sum was far from achieved. The *Tartar* was sold for NOK 52,000.<sup>789</sup> On 8 June 1922, a limited shipping company called AS Tartar was entered in the national vessels' register, with the company Thos. J. Wiborg &



**Picture 8-3.** Notice for the auction of the *MS Tartar*.

Source: *Norsk Kundgjørelsestidende* (23 March 1922), no. 73.

784 Thos. J. Wiborg Archive. Board protocol AS Renen (1921). Board of representatives meeting held on 9 June 1921.

785 Ibid.

786 Ibid. Board of representatives meeting held on 12 October 1921.

787 Ibid. Board of representatives meeting held on 3 December 1921.

788 Thos. J. Wiborg Archive. Copy book marked Østenstad Elvik (1922–1928). Letter from Thos. J. Wiborg & Son to the tax authorities in Kristiania, 16 January 1924. In order to obtain a debt-free deed, the mortgagees subsequently held a new foreclosure auction of the vessel on 9 May 1922 and sold it to Carl Mathisen's shipping company in Bergen.

789 *Norsk Kundgjørelsestidende* (23 March 1922), no. 73; Thos. J. Wiborg Archive. Copy book marked Østenstad Elvik (1922–1928). Letter from Thos. J. Wiborg & Son to the tax authorities in Kristiania, 16 January 1924.

Son declared as both board and managing directors.<sup>790</sup> In effect, the company had bought back the vessel, under the name AS Tartar.

On 26 April 1922, yet another limited shipping company, called AS Knut, was formed.<sup>791</sup> Its objective was ‘*the purchase, operation and possible sale of the steamship “Knut Skaaluren” and potentially other vessels.*’ Once again, the entry states that the board and management consisted of the company Thos. J. Wiborg & Son.<sup>792</sup>

It is clear that the company did not in fact wind up its shipping activities, but continued to make investments and acquisitions in the sector. The purchases were made at entirely different prices than those during the boom. In January 1920, Thos. J. Wiborg’s subsidiary AS Renen paid NOK 600,000 for the *Tartar*; now, almost two years later, the price for the same vessel was NOK 52,000. The wooden steamship *Knut Skaaluren*, built in 1900, sold in January 1916 for NOK 300,000, and in May 1917, it was sold again, for NOK 825,000, before being sold once more in April 1922, to Thos. J. Wiborg & Son’s subsidiary AS Knut for a fraction of the original price, namely NOK 82,500.<sup>793</sup> What we see is how the value of ships rose during the boom, only to fall dramatically during the post-war crisis of the 1920s.

About a year later, at the general meeting on 28 April 1923, it was decided to wind up the company AS Renen, with Thos. J. Wiborg & Son as appointed liquidators, a decision that was confirmed at an extraordinary general meeting held on 7 June 1923.<sup>794</sup> The company was finally wound up at a second extraordinary general meeting held two years later, on 16 May 1925.<sup>795</sup>

The bankruptcy of AS Renen also demonstrates the benefits of organising vessels as independent limited companies. If a limited company went bankrupt, it would have no impact on the managing company, which in these cases was Thos. J. Wiborg & Son. On the contrary, the company was able to rid itself of debt and reclaim previous vessels on the cheap.

790 *Norsk Kundgjørelsestidende* (30 June 1922), no. 155.

791 *Norsk Kundgjørelsestidende* (24 May 1922), no. 124.

792 *Ibid.* ‘Selskapets formaal er kjøp, drift og eventuelt salg av dampskibet «Knut Skaaluren» og mulige andre skibe.’

793 Dannevig (1981), p. 72; Thos J. Wiborg archive Copy book Letter from Thos. J. Wiborg & Son to the tax authorities in Kristiania, 16 January 1924. In January 1916 SS *Knut Skaaluren* was sold to Bernt and Hans Ramton, in May 1917, sold via Hannevig Brothers AS to AS Mai.

794 Thos. J. Wiborg Archive. Board protocol AS Renen (1923). General meeting held on 28 April, extraordinary general meeting held on 7 June 1923.

795 *Ibid.* Extraordinary general meeting held on 16 May 1925.



## The shipwreck of the MS *Tartar*

Only six months after having bought back the *Tartar*, the periodical *Norges Handels og Sjøfartstidende* reported on 27 July 1922 that the ‘*Tartar has run aground*’, and the next day’s headline read, ‘*Tartar full of water. Poor prospects for salvage.*’<sup>796</sup> (See Picture 8-4).



**Picture 8-4.** Reports of the shipwreck of the MS *Tartar*.

Source: *Norges Handels og Sjøfartstidende* (27, 28 July 1922).

MS *Tartar* had been on a voyage from London to Lysaker near Kristiania with a cargo of coke.<sup>797</sup> After passing through the Kaiser-Wilhelm Canal,<sup>798</sup> the ship continued en route from Holtenau through Storebælt, but came too close to land and ran aground on the Danish Halskov Reef.<sup>799</sup> A contract was signed with the Danish salvage company Switzer, which initially refloated the vessel. However, it had to be grounded again because it was taking in water and about to sink.<sup>800</sup> It was decided to unload the cargo and make the vessel water tight before another attempt was made to refloat it.<sup>801</sup> After first sending enquiries to shipyards in Hamburg and Moss, Thos. J. Wiborg & Son eventually had the vessel repaired at the Danish Nakskov shipyard.<sup>802</sup> It had been badly damaged and was not fully repaired and released from the dock until 13 September.<sup>803</sup> Incorrect navigation was cited as the cause of the accident, due in part to the absence of updated charts.

796 *Norges Handels og Sjøfartstidende* (27 July, 28 July, 4 August 1922); *Aftenposten* (28 July 1922).

797 Ibid.

798 Today known as the Kiel Canal.

799 *Arbeider-politikken* (30 November 1922).

800 *Aftenposten* (28 July 1922); *Norges Handels og Sjøfartstidende* (4 August 1922).

801 *Norges Handels og Sjøfartstidende* (4 August 1922).

802 Thos. J. Wiborg Archive. Copy book marked Østenstad Elvik (1922–1928), p. 2. Updated telegram regarding A. G. Weser, p. 17. Telegram, 6 September 1922 regarding the Moss shipyard.

803 Ibid. Telegram from Thomas Johannes Wiborg.

Both the captain and the vessel's first officer were fined,<sup>804</sup> the former for not updating the charts and the latter for changing the ship's log after the event.<sup>805</sup>



**Picture 8-5.** The MS *Tartar*.

Source: Courtesy of John Tore Norenberg.

The shipwreck of the *Tartar* generated financial and practical problems for Thos. J. Wiborg & Son. As the company's representative, Wiborg himself made the trip to Korsør and stayed there for more than seven weeks, from early August until the ship was finally repaired in mid-September.<sup>806</sup> His copy book contains numerous long letters about discretionary and insurance settlements, settlements with the salvage company, as well as a number of telegrams to the office in Kristiania.<sup>807</sup> Unfortunately, the poor quality of these letters has made it difficult to relate the entire story, but there is no doubt that Wiborg encountered many complex issues and difficulties while he was in Denmark. For example, in a letter to Nils Elvik, the foreman at the Elvik ice facility, he began by saying that he was still in Denmark due to the '*damned accident of Tartar. [...] ... there are so many difficulties here of all kinds that they defy description ...*'<sup>808</sup> One of the problems was that the *Tartar* was not insured for total shipwreck.

804 *Arbeider-politikken* (30 November 1922).

805 *Ibid.*

806 Thos. J. Wiborg Archive. Copy book marked Østenstad Elvik (1922–1928), p. 23. Letter to Tom Wiborg, 4 September 1922.

807 *Ibid.*, pp. 1–25.

808 *Ibid.*, p. 22. Letter to Nils Elvik, 4 September 1922; Poppe (1997), p. 34. The spelling 'Elvik' is chosen since this is how it appears in the source material.

This meant that the company had to cover the costs and take responsibility for the vessel in its damaged condition and for repairs.<sup>809</sup> In a letter to his son Tom, Wiborg reiterated that he was at a loss to see the end of the problems resulting from the accident; he had been in Denmark for six weeks and expected to stay there for two more.<sup>810</sup>

### *Trade continues*

SS *Knut Skaaluren* continued to operate in trade in northern Europe during this period, while the *Tartar* did not return to ordinary operations until April 1923.<sup>811</sup> Both ships were in full operation for the remainder of 1923, except for June and July when they were laid up for the summer.<sup>812</sup> In February 1924, the company Thos. J. Wiborg & Son purchased (through AS Knut) the wooden steamship *Tromøy*, built in 1921.<sup>813</sup>



**Picture 8-6.** The SS *Tromøy* during outfitting under its former name, *Solnut*.

Source: Courtesy of Stavanger City Archive.

809 Thos. J. Wiborg Archive. Copy book marked Østenstad Elvik (1922–1928), p. 22. Letter to Nils Elvik.

810 *Ibid.*, p. 23. Letter to Tom Wiborg, 4 September (1922).

811 *Norges Handels og Sjøfartstidende (1922–1923)*. Weekly alphabetical ships list for the period 17 August 1922 to 4 April 1923.

812 *Ibid.*

813 *Agderposten* (9 February 1924); Thos. J. Wiborg Archive. Accounting protocol for the shipping company AS Knut. Capital account for the SS *Tromøy*.

But trading conditions were difficult in 1924, and the three ships did not resume trading after having been laid up for parts of June and July. They were reported as being idle in the ‘Tyne area’, probably waiting for cargo.<sup>814</sup> Rates continued to fall,<sup>815</sup> and by the end of the year, the *Tartar* was laid up in Brevik where it remained for much of 1925 and 1926. The *Tromøy* made only two voyages in 1925 before it too was laid up. It was put up for sale in May 1925, just fifteen months after it was bought, but the company was unable to sell it.<sup>816</sup>

In a letter to Nils Elvik in October 1925, Wiborg complained that the market was so poor that a shipment of pit props for export, with coal in return, had resulted in a loss of NOK 1,000.<sup>817</sup> He concluded that ‘everything is going to the devil’.<sup>818</sup> *Tromøy* was re-advertised on 8 May 1926. The sales advertisements are reproduced in Picture 8-7.<sup>819</sup>



**Picture 8-7.** Sales advertisements for the SS *Tromøy*.

Source: *Norges Handels og Sjøfartstidende* (4 May 1925, 8 May 1926).

The second advertisement paid off and the vessel, which had been bought in February 1924 for NOK 110,000, was sold in June 1926 for NOK 45,000 to shipowner Salomonsen in Kopervik.<sup>820</sup> A cash payment of NOK 15,000 was made on acquisition with the remainder to serve as a loan.<sup>821</sup> Salomonsen paid by instalments and the loan was finally repaid

814 *Norges Handels og Sjøfartstidende* (1924). Weekly alphabetical vessels list for the period 10 January to 12 December 1924.

815 Statistics Norway. Historical statistics of water transport (1928). Average freight statistics for the years 1914 to 1928.

816 *Norges Handels og Sjøfartstidende* (4 May 1925).

817 Thos. J. Wiborg Archive. Copy book marked Østenstad Elvik (1922–1928), p. 30. Letter to Nils Elvik, (17 October 1925).

818 Ibid. ‘Alt gaar til Bloksberg’ [sic].

819 *Norges Handels og Sjøfartstidende* (8 May 1926).

820 Thos. J. Wiborg Archive. Accounting protocol for the shipping company AS Knut. (1926) Capital account for the SS *Tromøy*.

821 Ibid. With Wiborg retaining first priority in the ship.

in December 1928.<sup>822</sup> The *Tartar* was also sold in 1926, to the Kristiania shipping company Arth. H. Mathiesen, after having been laid up for a long period.<sup>823</sup> In December, one month after the sale, it was decided to dissolve the company AS Tartar, and it was formally wound up in December 1927.<sup>824</sup>

After these sales, Thos. J. Wiborg & Son was left with only one vessel, the *Knut Skaaluren*, shown in Picture 8-8 loading ice. It was built in 1900 and was the oldest of the company's post-war acquisitions. It was also the largest vessel and the one most frequently in operation. It had thus the greatest earning potential for the company, and its age probably made it more difficult to sell. As a wooden vessel, it was suitable for trade in the polar regions.<sup>825</sup> In the summer of 1925, it was chartered by the Spitsbergen coal trading company, the Store Norske Spitsbergen Kulcompani, to transport miners and supplies from Tromsø to Spitsbergen, and miners and coal on return.<sup>826</sup>



**Picture 8-8.** The SS *Knut Skaaluren* loading ice.

Source: From Worm-Müller (1935), p. 699.

822 Ibid. Account for A. Salomonsen, Kopervik.

823 *Norges Handels og Sjøfartstidende* (25 November 1926).

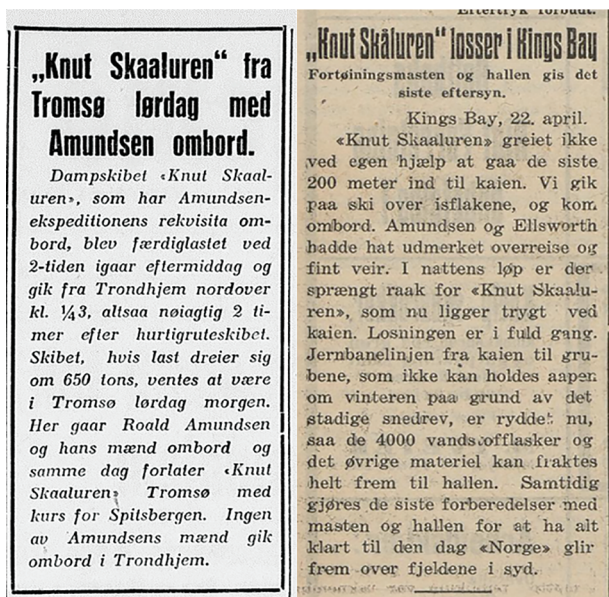
824 *Norsk Kundgjørelsestidende* (14 January 1927, 14 January 1928).

825 The wooden hull's insulating capacity was better than a hull made of steel or iron. It was also flexible and could withstand great stress.

826 *Express* (Kristiansund) (30 April 1925).

## The SS *Knut Skaaluren* and the Amundsen-Ellsworth-Nobile transpolar flight

In the spring of 1926, *Knut Skaaluren* appeared in newspapers all over Norway and as far away as the US.<sup>827</sup> The ship was chartered to assist the Norway expedition, the ‘Amundsen-Ellsworth-Nobile transpolar flight’, by which Roald Amundsen, Lincoln Ellsworth, Umberto Nobile and Hjalmar Riiser Larsen and others travelled aboard the airship *Norway* from Ny Ålesund in Svalbard across the North Pole to Teller in Alaska.<sup>828</sup> The *Knut Skaaluren* transported provisions, spare parts, hydrogen cylinders and other equipment from Trondheim via Tromsø to Kings Bay (*Kongsfjorden* by Ny Ålesund).<sup>829</sup> Amundsen, Ellsworth and the other members of the expedition joined the vessel in Tromsø.<sup>830</sup> Picture 8-9 shows reports of the event from two Norwegian newspapers.



**Picture 8-9.** Newspaper clippings: The SS *Knut Skaaluren* and the Norway expedition.

Sources: *Trondhjems Adresseavis* (15 April 1926) and *Hedemarkens Amtstidende* (23 April 1926).

827 Examples include the newspapers *Trondhjems Adresseavis* (Trondheim), *Hedemarkens Amtstidende* (Hamar), *Haalogaland Harstad* (Harstad), *Bergens Tidende* (Bergen) and the *Skandinaven*, published in Chicago, Minneapolis and St. Paul in the US.

828 Barr (2019) in the *Store norske leksikon* (Norwegian encyclopedia).

829 *Haalogaland Harstad* (14 April 1926).

830 *Hedemark Amtstidende* (23 April 1926).

Despite the fame it achieved, the profit from the vessel's operations in 1926 was a mere NOK 585. The company AS Knut suffered a loss of NOK 51,000 for the year, mostly linked to the sale of the *Tromøy*.<sup>831</sup> In the following year, the *Knut Skaaluren* was laid up for long periods. Even though the ship had carried out four paid voyages, revenues were insufficient to cover the vessel's expenses and were not nearly enough to cover the debt incurred by the sale of the *Tromøy*. Since Thos. J. Wiborg & Son was failing to make enough money, combined with the fact that its general manager had attained the great age of 82, it was becoming clear that the most sensible solution was to sell the *Knut Skaaluren* and cease operations.<sup>832</sup> The ship was advertised for sale in the summer of 1927.<sup>833</sup> At the same time, it was being chartered for the 'Icelandic trade'.<sup>834</sup> The ship was sold in December 1927 for NOK 55,000 to Hans Hansen in Langesund, on terms similar to the ones used when the *Tromøy* was sold.<sup>835</sup> This sale brought Thos. J. Wiborg & Son's activities in the shipping business to a close.

### *Consequences of the crises*

The main reason for the problems experienced by the company in the 1920s was the very difficult market situation in the shipping sector. Thos. J. Wiborg & Son was operating in the tramp trade, with goods such as coal, grain, ice, ore and timber, transporting the goods in one motor ship built of concrete and two wooden steamships, all rated at less than 900 tons deadweight. During the 1920s, this fleet was not only regarded as small, but also as obsolete.<sup>836</sup> Tramp shipping of these types of bulk cargoes was one of the segments hardest hit by the economic crisis and the

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831 Thos. J. Wiborg Archive. Accounting protocol for the shipping company AS Knut (1925–1928). Profit and loss account 1926.

832 The source material does not tell us whether or not Thomas Johannes Wiborg was still making the decisions.

833 *Norges Handels og Sjøfartstidende* (9 July 1927). Advertisement for the sale of the *Knut Skaaluren*.

834 Thos. J. Wiborg Archive. Accounting protocol for the shipping company AS Knut (1925–1928). Timecharter, Iceland; Bakka (1983), p. 43. The 'Icelandic trade involved carrying a cargo of empty barrels and salt to Iceland and returning with barrels full of salted fish'.

835 Thos. J. Wiborg Archive. Accounting protocol for the shipping company AS Knut (1925–1928). Cash payment of NOK 15,000 on acquisition and NOK 40,000 as a loan to the purchaser, with Wiborg retaining first priority on the ship.

836 Bakka (1983), pp. 36–37, 42–43.

company's outdated tonnage only exacerbated the problem. Moreover, T. J. Wiborg, the company's general manager, was aging and, although he remained focused and rational, his physical condition was reduced. In 1926, he wrote that his mobility was so impaired that he had to have support to stay on his feet.<sup>837</sup> The decision taken in 1927 to close down the shipping activities seems to have been a wise one.

## Market conditions and Norwegian ice exports

Once the First World War was over, Norway resumed its export of ice (volumes and export destinations are listed in Table 8-1). Sweden and Denmark remained important markets, while the UK market grew quickly to high levels in the early 1920s, after which it fell steeply in 1926. The UK import ban of 1916 had been lifted but the problems of the 1920s were reflected in falling imports. The largest volume recorded was 24,325 register tons in 1922, a reduction of 85% on the 1913 figure. The pre-war sales volumes to the UK were never regained.

**Table 8-1.** Norwegian ice exports distributed by country (1919–1930)

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	Total	In %	
<b>UK</b>	1,354	7,970	12,012	24,325	15,939	7,453	5,051	3,958	1,719	1,762	2,324	2,351	<b>86,218</b>	<b>20.63%</b>	
<b>Ireland</b>								154	387	693	344	188	238	<b>2,004</b>	<b>0.48%</b>
<b>Sweden</b>	5,610	4,195	12,730	2,562	5,786	2,012	22,955	7,280	18,490	6,751	4,106	10,468	<b>102,945</b>	<b>24.63%</b>	
<b>Denmark</b>	2,238	1,798	13,054	1,259	3,394	1,610	8,526	6,918	5,555	3,462	3,754	3,026	<b>54,594</b>	<b>13.06%</b>	
<b>Germany</b>							64,611	2,235	28,278	2,391	5,668	27,147	<b>130,330</b>	<b>31.19%</b>	
<b>France</b>	2,887	6,638	10,309	12,289	2,777	3,509	3,562	3,743	3,244	2,369	1,211	799	<b>53,337</b>	<b>12.76%</b>	
<b>Other countries</b>					146	16	303		20	80			<b>565</b>	<b>0.14%</b>	
<b>Total</b>	<b>12,089</b>	<b>20,601</b>	<b>48,105</b>	<b>40,435</b>	<b>28,042</b>	<b>14,600</b>	<b>105,162</b>	<b>24,521</b>	<b>57,999</b>	<b>17,159</b>	<b>17,251</b>	<b>44,029</b>	<b>417,904</b>	<b>100.00%</b>	

Source: Compiled on the basis of Statistics Norway. Historical statistics of external trade (1919 to 1930).

As previously noted, Norwegian ice exports peaked in 1898, after which they declined throughout the period of 1900 to 1913. The decline was linked

837 Thos. J. Wiborg Archive. Copy book marked Østenstad Elvik (1922–1928), p. 64. A letter to a lawyer called Wiese, 11 March 1926.



to the growth of high-quality, factory-produced ice at competitive prices. (See Refrigeration and industrialised production of ice in Chapter 1). During the war, when Norwegian ice exports to the UK ceased entirely, British domestic factory ice assumed a dominant position in the market, and this supremacy continued after hostilities had ceased.<sup>838</sup> Moreover, in the second half of the 1920s, Norwegian exporters encountered greater competition in the UK ice market.<sup>839</sup> In 1926 and 1927 in particular, ice from Germany, among others, began to make inroads into the UK market.<sup>840</sup> By 1927, a situation had developed whereby Norwegian ice was being exported to Germany at the same time as German ice was being exported to the UK. In 1926, a total of 12,007 long tons of ice were imported to the UK, of which approximately 6,350 tons came from Norway. In 1927, the corresponding figures had fallen to 10,088 tons and approximately 2,750 tons.<sup>841</sup>

The decline in exports did not only apply to the UK; exports to the rest of Europe fell by 75% between 1913 and 1922, from 65,560 register tons to 16,110.<sup>842</sup> Some countries, such as Belgium and the Netherlands, which had been major export destinations prior to the war, did not import any ice at all from Norway in the 1920s, and Germany did not import Norwegian ice until 1925. Exports to France were resumed soon after the war, but in much smaller volumes than before. From 1923, the decline intensified, continuing throughout the 1920s.<sup>843</sup> Sweden and Denmark were the only countries that maintained their pre-war levels of ice imports from Norway. One reason for this was that the production of artificial ice in these countries was not as advanced as elsewhere in Europe, where the production of factory ice had increased every year since before the turn of the century. T. J. Wiborg was not happy about the mechanisation of ice production: *'The world war opened the door to the ice machines everywhere*

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838 Wiborg (1943), p. 5; Norwegian Maritime Museum. The Worm-Müller Collection, Box 1, Brevik/Langesund. Letter from Thomas Johannes Wiborg to Jacob Worm-Müller (1926) p. 3.

839 Statistics Norway. Historical statistics of external trade (1920–1930); *Cold Storage and Produce Review* (1920–1930).

840 *Cold Storage and Produce Review* (19 January 1928).

841 Compiled on the basis of Statistics Norway. Historical statistics of external trade (1926–1927). Tables related to Norwegian commerce: Table 11 (1926) p. 172, Table 11 (1927), p. 178; *Cold Storage and Produce Review* (19 January 1928).

842 Ibid.

843 Ibid.

*and, after the war, our opportunities for ice sales were greatly reduced in most of our old markets. It is only extraordinary needs that are now breathing life into the ice exports.*<sup>844</sup>

At the same time, it had become difficult to deliver large quantities of ice from Norway because many exporters had ceased operations during the war.<sup>845</sup> Much of the country's production facilities and infrastructure had been dismantled, and even in peacetime it was not considered profitable to rebuild them.<sup>846</sup> Similarly, the journal *Cold Storage and Produce Review* reported that the war had caused many of the British ice importers to wind up their businesses.<sup>847</sup> Several of the UK warehouses that had previously stored Norwegian ice were left to decay during the war, and it was not considered profitable to restore them.<sup>848</sup> The combined lack of importers and a shortage of storage facilities both contributed to the decline in UK ice imports.<sup>849</sup> It was also more difficult than before the war to obtain suitable tonnage, such as wooden steamships, as iron-hulled steamships were on the rise.<sup>850</sup> Furthermore, prices for transport of ice in 1923 were higher than before the war because of the demand for tonnage to transport coal.<sup>851</sup> The decline in ice exports should also be seen in the light of the economic policies adopted by the Norwegian Government in the 1920s, described above.

However, there were also good years. As already noted, demand for Norwegian ice was high during years with hot summers. In July 1920, *Cold Storage and Produce Review* reported that ice factories in Britain were unable to meet current demand.<sup>852</sup> In Grimsby, the fishing fleet was laid up in port waiting for ice supplies, while in Hull, both the butchers and fishing companies were complaining about a shortage of ice.<sup>853</sup> The Norwegian ice exporters were unable to satisfy demand, but for the ice

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844 Norwegian Maritime Museum. The Worm-Müller Collection, Box 1, Brevik/Langesund. Information concerning ice exports sent by Thomas Johannes Wiborg to Jacob Worm-Müller.

845 Wiborg (1943), p. 5. Nicolay Wiborg, for example, who was one of Norway's largest pre-war ice exporters, shut down his operations in the autumn of 1917.

846 *Cold Storage and Produce Review* (15 April 1920), p. 86, (18 January 1923), p. 7.

847 *Ibid.*, (20 March 1924), p. 88.

848 *Ibid.*

849 *Ibid.*

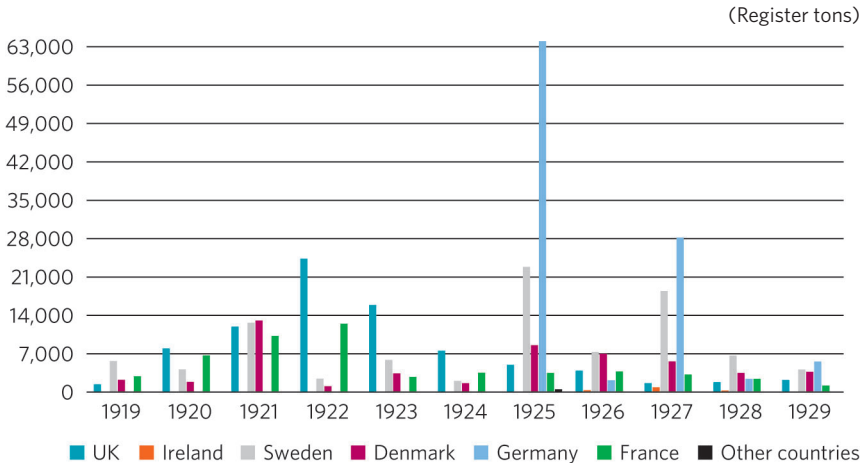
850 *Cold Storage and Produce Review* (18 January 1923), p. 7.

851 *Ibid.*, (15 March 1923), p. 92.

852 *Ibid.*, (15 July 1920), p. 166.

853 *Ibid.*

they offered for sale, the mismatch between supply and demand created a higher value. In 1921, the value of ice per register ton was NOK 7.90, a level that had not been reached since the peak year of 1898.



**Figure 8-1.** Norwegian ice exports distributed by country (1919 to 1930).

Source: Compiled on the basis of the Statistics Norway. Historical statistics of external trade (1919-1930).

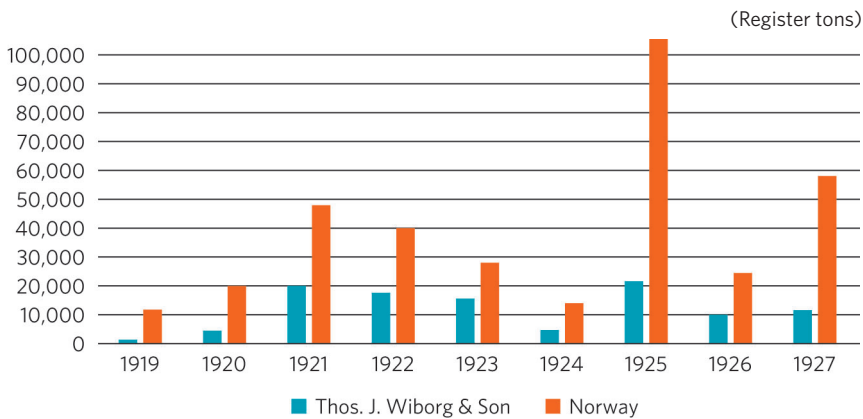
In 1925, Germany re-entered the ice market, and this caused both prices and export volumes to increase. Most of Norway's ice exports went to Germany, with Sweden in second place. This was a particularly good year, when Norwegian exporters sold in excess of 100,000 register tons of ice at a value of NOK 5.39 per register ton. However, as illustrated in Figure 8-1, the events of 1925 proved to be the final convulsion of the Norwegian ice industry and these figures were not repeated in the following years, up to and including 1930 which is the last year with official Norwegian export statistics for ice. The higher prices in 1925 also reflected the mild temperatures experienced during the winter of 1924/25 and domestic sales, including to fisheries in western Norway.<sup>854</sup> For the remainder of the 1920s, export levels remained stable, except for 1927 and 1930 when demand from Sweden and Germany rose again and generated higher exports, but this time at a lower value: NOK 2.55 per register ton in 1927 and NOK 4.81 per register ton in 1930.<sup>855</sup>

<sup>854</sup> *Cold Storage and Produce Review* (19 February 1925).

<sup>855</sup> Statistics Norway. Historical statistics of external trade (1919-1930).

## Thomas Johannes Wiborg at the helm until the very end

Insight into how Thos. J. Wiborg & Son performed during the 1920s is slightly hampered by incomplete sources. The final year for which we have full data from the Wiborg chartering journals is 1920. However, the journals also include lists of key figures for the years 1921–1927. Together with the Norwegian export statistics, these sources have enabled us to discuss the remainder of the period up until 1927, when the company ceased operations.<sup>856</sup>



**Figure 8-2.** Ice exports by Thos. J. Wiborg & Son and Norway (1919–1927).

Sources: Compiled on the basis of the Thos. J. Wiborg Archive. Chartering journal (1906–1920), including key figures for 1921–1927; Statistics Norway. Historical statistics of external trade (1919–1927).

Thos. J. Wiborg & Son resumed its export of ice to several European countries following the First World War. During the war, the company had shifted its export focus to Scandinavia, and in 1919, both Sweden and Denmark continued to be important export destinations. But the year also saw the first export of an ice cargo to continental Europe, and in 1920, the company's exports to the UK restarted.<sup>857</sup> However, export volumes were 81% below the pre-war level of 1913.<sup>858</sup> The UK was the biggest export market,

<sup>856</sup> Ibid.

<sup>857</sup> Thos. J. Wiborg Archive. Chartering journal (1906–1920).

<sup>858</sup> Based on the Thos. J. Wiborg Archive. Chartering journals (1913, 1920); Statistics Norway. Historical statistics of external trade (1913, 1920).

but relatively large volumes were also sold to Sweden and Denmark, where ice continued to be delivered in multiple journeys with smaller ships.<sup>859</sup> As illustrated in Figure 8-2, Norway's ice exports grew right after the war,<sup>860</sup> as did Thos. J. Wiborg & Son's share, which reached an impressive 42% in 1921 and 44% the year after. National exports declined in 1923, which gave Thos. J. Wiborg & Son a record 56.4% share of all Norwegian ice exports. The company also achieved a record value of NOK 7.9 per register ton that year. The company, but not Norway, had regained its pre-war export levels and was the country's largest ice exporter.<sup>861</sup>

Unfortunately, 1924 turned out to be a dramatically worse year, with Norwegian total exports (14,600 register tons) amounting to less than Thos. J. Wiborg & Son had exported the year before. Fortunes changed again, and 1925 emerged as the economic peak year of the decade, both for Norway and for the company. The main reasons for this were the hot summer and the return of Germany as an importer of Norwegian ice. Swedish demand also increased (see Figure 8-1). Furthermore, Thos. J. Wiborg & Son's ice production enjoyed an excellent and profitable season, and it succeeded in exporting all the ice it had in stock during the summer.<sup>862</sup> The company exported a total of 121 shiploads containing 21% of total Norwegian exports in 1925.

In many ways, the 1925 ice season represented the last of the 'normal' years of operation for Thos. J. Wiborg & Son. Although 1927 was to be a good year, largely due to Germany's activities in the market, the company had now entered what in practice was its liquidation phase. From October 1925, the problems really started mounting up, not only for the company, but also for its 79-year-old general manager, T. J. Wiborg, and his partner, his son Tom. We have described in some detail the cessation

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859 Thos. J. Wiborg Archive. Chartering journal (1906–1920).

860 They were, at about 48,000 reg. tons in 1921, more than double the volume exported in 1920 and four times as much as in 1919. Norwegian ice exports were, however, considerably less than pre-war levels. Export volumes in 1921 were only 29.5% of the level in 1880, which was the year in the period from 1880 to 1914 when Norwegian ice exports were at their lowest. However, the value per registered ton of exported ice was more than twice that in 1880. Although there were some good years during the 1920s, Norwegian ice exports never returned to their pre-war levels.

861 Worm-Müller (1935), p. 691.

862 Thos. J. Wiborg Archive. Copy book marked Østenstad Elvik (1922–1928), p. 30. Letter to Nils Elvik, 17 October 1925.

of the company's shipping activities (p. 175), and now the end had come for their ice business. The year 1925 heralded the demise of the company's ice exports. In a letter to the foreman at the Elvik ice facility, Nils Elvik, in the late autumn of 1925, Wiborg describes the state of the market as poor, with prices at rock bottom. He was sure that the company would lose money on ice exports in the coming winter, concluding that it was not necessary to cut more ice until the spring of 1926.<sup>863</sup> Between 1925 and 1926, the value of Norwegian ice fell from NOK 5.39 to NOK 2.10 per ton. Wiborg's pessimism is certainly understandable, particularly so in the light of his problems in the shipping sector, which to him appeared terminal.<sup>864</sup>

But much worse was to come. The banks were under pressure. Several Norwegian banks encountered problems in the wake of the Norwegian economic policies adopted during the 1920s. One of them was Wiborg's bank, the Central Bank of Norway, which at the time was also the country's largest investment bank.<sup>865</sup>

In October 1925, it terminated Wiborg's overdraft facility, no doubt because the bank itself, which went bankrupt in 1928, was seeking to reduce risk.<sup>866</sup> However, in a letter written by Wiborg to the Central Bank of Norway, it is stated that the termination was triggered by a debt incurred by his son as part of the company's overdraft.<sup>867</sup> In the following year, T. J. Wiborg turned 81 and by this time, his mobility was so impaired that his wife Louise had to assist him in getting to and from the office.<sup>868</sup> He continued to run the company on his own, because his son Tom had been ill for some time and was not expected to return to work soon.<sup>869</sup> Sadly, on 9 June 1926, Tom Wiborg died by suicide.<sup>870</sup> In a letter

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863 Ibid.

864 Ibid.

865 Hodne (1981), p. 485.

866 Ibid.

867 Thos. J. Wiborg Archive. Copy book marked Østenstad Elvik (1922–1928), p. 32. Letter to the Central Bank of Norway, 23 October 1925. Debt that Thomas Johannes Wiborg's son Tom owed to the bank.

868 Ibid., p. 64. Letter to a lawyer called Wiese, 11 March 1926.

869 Ibid.

870 Ibid., p. 92. Letter to Ivar Fallenius, 10 June 1926, p. 96. Letters to Realf Sørensen and Axel Wiborg, both 15 June 1926.

to his son-in-law Ivar Fallenius on 10 June, T. J. Wiborg explained that Tom had passed away the night before: *'at 11' ... he died, my dear boy, the only one I had*'.<sup>871</sup> Wiborg wrote about Tom's death in letters to family and close friends, explaining that Tom had been depressed because of his debts, *'It was his big loss in business he couldn't get over*'.<sup>872</sup>

The following year, 1927, the company Thos. J. Wiborg & Son was still operating. There was an upturn in the market due to increased Swedish and German demand, and the company exported 99 shiploads of ice, accounting for 21% of Norway's total ice exports. This brought the activities of one of Norway's largest ice exporters to a close. Two years later, on New Year's Eve 1929, ice exporter and shipowner Thomas Johannes Wiborg passed away, at the age of 84. One of Norway's leading ice exporters, with almost 60 years in the business, was gone.

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The final period of the Wiborg operations, from the end of the First World War until the demise of the company in 1927, was heavily marked by decline and crises. The war was followed by an economic boom which led to rapidly rising freight rates in shipping. In the autumn of 1920, however, the shipping market went into decline, and the rest of the 1920s was deeply problematic for the sector. For the tramp trade, which was the business of Thos. J. Wiborg & Son, conditions fluctuated between bad and worse, and the company was unable to make enough money. On the other hand, the market for ice exports revived during the post-war years with hot summers, and Thos. J. Wiborg & Son was able to benefit from strong demand and high prices. The company became Norway's largest exporter of ice. From 1925, however, problems began to arise. In a difficult economic climate, the bank terminated the company's overdraft facility, and the following year, sadly, T. J. Wiborg's son and partner Tom died by suicide. The company now entered a liquidation phase, and all operations were terminated in 1927. Two years later, on New Year's Eve 1929, Thomas Johannes Wiborg passed away.

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871 Ibid. Letter to Ivar Fallenius, 10 June 1926. 'Kl 11'. døde han, min kjære gut, den eneste jeg hadde.

872 Ibid., p. 96. Letter to Realf Sørensen, 15 June 1926. 'Det var hans store tap i forretninger han ikke kunne komme over'.

## Concluding remarks

The story of the Norwegian natural ice industry is a story of success followed by decline. The key to the industry's success was the ability to produce a quantity of natural ice that far exceeded domestic demand, unlike most other countries in Europe, and to sell and export the ice to customers abroad. This has been a central dimension of the Norwegian ice industry as discussed in the book. Ice exports began in the 1820s and the industry grew from the 1840s until the peak year of 1898, when a total of 553,366 register tons of ice were exported. The following year, export volumes started to decline, and this continued during the First World War. By the end of the 1920s, the total volume was down to 17,251 register tons (1929). Although small quantities were still being exported as late as the 1960s, Norway's 'last ice age' was over.

## The growth and decline of the Norwegian ice industry

A focus in this book has been the development of the Norwegian ice industry from about 1870 to 1930.

Ice was the fastest growing export commodity (measured in tons) throughout the period 1865 to 1898 and we can, on this basis, conclude that the ice industry was initially a success. The industry was important as all-year-round or winter work for many people and thus contributed to employment in the ice districts. Virtually all ice was exported by ship, and it was an important cargo for both sailing ships and steamships built of wood, contributing to significant incomes in the shipping sector and securing work for the seamen onboard. Some ice exporters owned the ships they used, but chartering ships was also a common way of securing shipping space and both Norwegian and foreign ships were used. The ice industry also promoted internationalisation by (large) ice exporters



forging long-term business networks with brokers, ice agents, ice importers and others spread across Europe. The younger generation was sent to business contacts abroad to learn the trade and the language, while the sons of Norwegians abroad were sent to Norway, to learn Norwegian and the trade here. The telegraph was also important for maintaining contact within the network and for securing necessary information about the market. Strategies involving regular deliveries to known customers or regular contracts brokered by well-known ice agents, often in combination with the use of forward contracts, were used by (large) ice exporters to counteract losses due to market fluctuations.

Volumes and values fluctuated from one year to the next in line with the temperature, and the market conditions for Norwegian ice appeared in general volatile. The peaks coincided with hot summers with strong demand for ice and/or with mild winters in Europe, where local natural ice producers were unable to meet demand, leading to increased demand for Norwegian ice. Imports to Germany were particularly important in this context. Normally the country was self-sufficient, in combination with imports of ice from the Alps, but in mild winters large quantities of ice were imported from Norway. The increased German imports thus greatly contributed to the increase in both the value and the export volume during these years. In some peak years, however, the ice had a high value while the exported volume remained low. It was in such years of limited supply and strong demand that ice exports had the highest value.

During the 1890s, the Norwegian natural ice industry faced a series of problems. Factory-produced artificial ice was gaining a foothold, major British importers were using their market power to control the market, there was a total lack of cooperation among the Norwegian exporters and there was a surplus of natural ice. All in all, this caused the prices to drop. Standing out from the rest of the decade was the record year 1898, with a value on natural ice of NOK 8.97 per register ton, the second highest in the period covered by this book. It was a year which, for many ice exporters, in terms of profitability, saved the decade. After 1898, the situation for the Norwegian natural ice industry changed for the worse, with a decline in both volume and value.

A key factor in shaping this decline was innovation in refrigeration and freezing technology. Commercial refrigeration was developed from the late 1850s, making it possible to cool down goods without ice. In the late 1870s, several companies patented new improved refrigeration plants, which sold in large numbers. In most countries in which refrigeration equipment became available, its first use was typically to produce artificial ice, and ice could now be produced much closer to the end users. This was a real technological shift in ice production, involving a transition from the traditional production of natural ice from ponds in winter to the all-year-round manufacture of artificial ice in diverse locations.

Around the turn of the century, artificial ice was competitive with natural ice in both price and quality. Norwegian exporters were now offering ice that was made with what was becoming 'second best' technology. The price was falling, nevertheless natural ice continued to be produced for some time yet. Norwegian ice exporters were investing in a trade where competitive advantage could only be achieved by selling the commodity at very low prices and where profitability was created by cutting costs to a minimum. Anyway, the market for natural ice was shrinking and it was only a matter of time before refrigeration and factory-made ice took over the entire market.

Another factor contributing to this decline was the conflict between the manufacturers of factory-made ice and importers of natural ice, which centred on the purity of the two products, with natural ice gradually losing out. Artificial ice production benefited greatly from the bad reputation that natural ice was acquiring, not least in the form of larger market shares. The Norwegian ice industry, backed by the Norwegian authorities, responded to the attacks, but to little effect.

Also political factors played a major role. During the First World War, Norwegian export volumes of ice fell from almost normal levels in 1914 to virtually zero by 1918. This decline was fuelled initially by the German authorities, who in 1915 declared that UK waters were part of a 'war zone'. The situation was exacerbated in May 1916, when the UK authorities banned imports of ice, causing exports from Norway to come to a halt.

After the war, the trade in Norwegian natural ice never recovered. The almost total cessation of trade during hostilities meant that domestic

factory-made ice gained increasing dominance in the European markets. Moreover, Norway's production capability was constrained because many exporters had closed their businesses during the war, leaving much of the production infrastructure largely defunct. Lastly, the number of British ice importers had decreased during the war and storage warehouses had been demolished.

The decline in ice exports should also be seen in the light of the Norwegian economic policies in the 1920s, making Norwegian goods less competitive in international markets.

Throughout the 1920s, Norwegian natural ice represented a commodity reserve that was mobilised in years of strong demand. However, 1925, when Germany was back in the market, proved to be the final convulsion of the industry. Its success was not repeated in the following years, up to and including 1930. Although minor exports of ice continued up to the 1960s, an era was over.

## Thomas Johannes Wiborg's business operations

A second central dimension of the book has been the in-depth study of the fortunes of one of Norway's largest ice exporters, Thomas Johannes Wiborg (1845–1929). He was active in the ice export trade for nearly 60 years, and he also became a shipowner. This has provided further insights into the growth and decline of the Norwegian industry; the challenges and problems ice exporters were faced with in this volatile industry. It reveals factors that appear to have fostered success or failure.

For the transport of ice from Norway to customers abroad, the Wiborg companies used exclusively chartered ships. In fact, a significant proportion of the ice was sent in foreign ships via the international shipping market. This brings out a novel aspect of how the Norwegian ice industry operated. In the literature, the shipping of Norwegian ice (and also timber) has been seen as a typical Norwegian activity, and the typical ice exporter as the owner of the ship. In this book, we have shown that chartering ships was common and that the ice trade was a part of the international shipping market. We have described a major Norwegian ice exporter who for many years did not own ships but chartered largely

foreign vessels for transport. The main requirements were probably that the crew had knowledge about transporting ice, the price, and that it could be in the loading port at the right time.

It is often believed that it was common for ice exporters to confine all of their activities to a specific geographical area: a city or a customs district, usually in close proximity to where the ice was produced. Wiborg cast his net much wider. The company's office was located in Kristiania, Norway's centre for market information, where many brokers and agents were based and communications were good, including telegraph connections abroad. Operations spanned across several locations within the two main areas for ice export. This created good conditions for ice production even under difficult temperatures, while at the same time providing market insight into the whole industry.

In the literature, the sale of ice abroad is often described in terms of ice exporters selling to one country or to one specific city. In Wiborg's case, however, export destinations were numerous and widely dispersed; the main market was the UK, but Wiborg also exported ice to a number of other countries. Often it was an ice agent who brokered the sale. The international ice market was complicated, with large distances and a number of players in different locations and countries. It was, therefore, challenging for a participant to keep up-to-date and on track. Wiborg developed relationships with a number of ice agents and delivered ice wherever the agent offered profitable business. Interestingly, after the agent had mediated contracts between Wiborg and a buyer for a period, the agent was dismissed, and the company and the buyer switched to doing business directly. Wiborg therefore also had a group of customers with whom it did direct business.

The literature on the Norwegian ice industry has until recently placed emphasis on domestic developments, with less focus on international aspects. What we can note is that Wiborg was intimately connected to a large number of foreign business contacts and connections and, in effect, built up a sizeable international network. The export destinations ranged from the Shetland Islands in the north to Algiers in North Africa in the south. Many of the connections lasted for several decades. Wiborg invested a great deal internationally, and the company succeeded in

establishing long-term business relationships and regular trade transactions. Since ice export was a volatile business, good broker contacts and loyal customers were important and, as we have seen, when the market was in decline, they helped the company to survive.

The use of different types of contracts was also important, and two types of contracts were extensively used by Wiborg. Large-scale, multi-year 'industrial shipping contracts' on an FOB (free on board) basis created predictable and stable revenues over time, while CIF (cost, insurance and freight) terms created the greatest revenue opportunities, but at the same time entailed greater uncertainty, since profits could change to losses due to delays that caused extensive melting, or by an increase in the rates for chartering ships after a contract for ice sales had been signed. Both types of contracts were regularly combined with forward contracts, for example, by entering into a contract in one year for delivery the following year.

Long-term financial relations in Norway also contributed to lessen the impacts of market decline. For instance, in the troubled 1890s the company was able to draw on its long-standing bank connection, the banking firm Thos. Joh. Heftye & Son. The bank postponed payments on loans, while in 1898, when Norwegian ice exports peaked, it financed short-term leases on ice plants which allowed Wiborg to increase production capacity. This support played a major role in the company surviving the years of decline and achieving a record high export volume and profit in 1898.

In the declining period that followed, Wiborg made further changes. Between 1902 and 1915, he terminated most of his leasing contracts for ice plants, produced less ice and instead purchased large quantities of ice from other ice exporters, to be sold abroad. This seems to have worked well and was indeed a fortunate turn, since the termination of the leases seem to have eased the problems that T. J. Wiborg had with the Norwegian tax authorities, which were linked to the leased facilities.

During the First World War, the decline in Norwegian ice exports continued and almost came to a halt in 1918. The shipping sector, on the other hand, experienced a wartime boom and in 1915, Wiborg expanded into the booming sector as shipowner in the tramp trade, carrying bulk cargoes. Similar to the export of ice, the shipping business relied on a

wide range of information and knowledge, spanning from pricing and technical issues to market characteristics and uncertainties. Interaction with external partners was therefore necessary to create the knowledge base that was required. Wiborg had been a charterer of ships for many years and had built up good long-term business relationships, and the knowledge required was largely accessed through these business links and, undoubtedly, through the crews and skilled employees. In other words, Wiborg apparently had good opportunities to succeed in shipping as well, which it did not do. The reason why can be explained by the international market situation. When the tramp trade was hit hard by the interwar crisis of the 1920s, the venture caused heavy losses for the Wiborg company.

The market for ice exports revived after the war, and in 1921–1923, the company was Norway's largest ice exporter. However, from late 1925, problems arose also here for Thomas Johannes Wiborg. In the wake of the Norwegian economic policy, the banks were under pressure, and in October 1925, Wiborg's bank terminated the company's overdraft facility. In June the year after, sadly, Thomas Johannes Wiborg's son and partner Tom died by suicide. The company was now in a liquidation phase, and both the ice and shipping business were wound up in 1927. Two years later, on New Year's Eve 1929, the ice exporter and shipowner Thomas Johannes Wiborg passed away, 84 years old.



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Map of Østmarka (CC BY-SA 3.0).

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Photo of wooden steamship loading ice using steam winches and derricks (Bjerkåsholmen in 1902).

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Photo of Fenit’s railway extending onto the loading quay. Photo © Albert Bridge (cc-by-sa / 2.0).

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