#### CHAPTER 6

# Over the top – a steady downward course (1900–1913)

### Market conditions and Norwegian ice exports

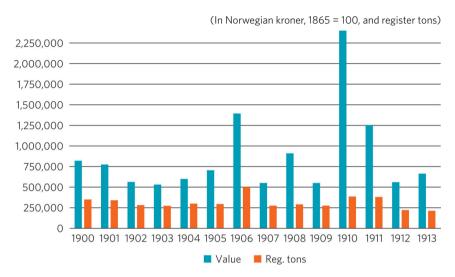
From the turn of the century until the First World War, ice exports declined both in volume and value. From 1890 to 1899, 3.7 million register tons of ice, with a value of NOK 15 million, were exported from Norway, but only 3.2 million tons, valued at NOK 7.4 million were exported from 1900 to 1909. 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

<sup>547</sup> Kysten (22 October 1906); Norges Sjøfartstidende (14 May 1907).

<sup>548</sup> Norges Sjøfartsstidende (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).

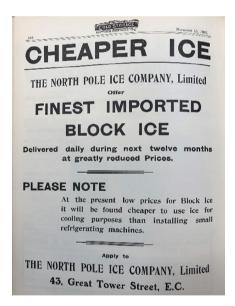
<sup>552</sup> Compiled on the basis of Statistics Norway. Historical statistics of external trade (1906).

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 culiminating point was reached in 1898 and 1899. '555 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,557 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,560 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.561

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>

<sup>557</sup> Farmand (23 December 1910); Cold Storage and Ice Trades Review (17 August 1911).

<sup>558</sup> Ibid.

<sup>559</sup> Ibid.

<sup>560</sup> Cold Storage and Produce Review (18 May 1911).

<sup>561</sup> Farmand (23 December 1911).

<sup>562</sup> Cold Storage and Ice Trades Review changed its name in 1911 to Cold Storage and Produce Review.

<sup>563</sup> Cold Storage and Produce Review (19 January 1911).

 Table 6-1.
 Norwegian ice exports distributed by country (1900–1913) 564

386,661 230,033 223,086 4,452,507	223,086	230,033		396,581	275,537	303,414	279,181	495,632	303,717 299,503 495,632	303,717	727,972	6,744 284,948	346,744	350,743 34(	Total
5,980	305			452	1,617		1,229	640	28	209			750	750	Other countries
2,676						235	267	378	173	360	444	415		404	Italy
3,914						354	633	195	195	268	412	190	1,014	653	Spain
174,210	13,633	14,817	17,609	14,722	12,060	11,798	12,335	16,379	13,961	11,603	9,129	8,791	8,874	8,499	Belgium
79,063		1,579	5,325	5,190	6,202	4,580	7,522	698'6	7,902	6,833	7,085	8,712	5,233	3,531	The Netherlands
353,898	26,525	28,820	35,833	24,512	23,249	28,261	23,941	23,112	23,850	25,549	23,762	20,815	20,122	25,547	France
539,671	2,665	3,756	87,796	148,775	6,237	14,110	5,476	187,437	22,459	37,394	6,547	9,854	3,747	3,418	Germany
50,042	8,464	5,816	9,844	9,367	883	2,087	819	7,843	1,538	1,208	171	113	1,396	493	Denmark
37,376	12,203	936	3,148	8,695	1,228	1,744	1,396	2,519	1,427	481	2,789	190	338	282	Sweden
3,205,677	159,291	174,309	226,654 174,309	183,703	225,678	239,016	226,152	248,372	227,789	220,021	5,270 235,868 226,388 220,021 227,789 248,372 226,152	235,868	305,270	307,166	Sum UK and Ire. 307,166 30
22,029	1,765	2,759	4,233	869	899'9	1,968	3,767								Ireland
1,412,774	157,526	171,550	222,421 171,550	219,010 182,834	219,010	222,385 237,048	222,385								UK
1,770,874								248,372	227,789 248,372	220,021	226,388	235,868	305,270	307,166	<b>UK and Ireland</b>
Total	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900	
(Register tons)	(Reg														

Sources: Compiled on the basis of Statistics Norway. Historical statistics of external trade by country (1900-1913).

564 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.566 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 6-2,568

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

<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. 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 sa'e 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. Sommerville 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

<sup>570</sup> Ibid., p. 9-11.

<sup>571</sup> Ibid.

<sup>572</sup> Ibid., (15 February 1905), p. 34.

<sup>573</sup> 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

<sup>574</sup> Ibid.

<sup>575</sup> Ytreberg (1951), p. 310.

<sup>576</sup> Ibid., pp. 336-346.

<sup>577</sup> Ibid.

<sup>578</sup> Ibid., p. 337.

<sup>579</sup> Ibid.

<sup>580</sup> 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>

<sup>581</sup> Ibid., p. 344.

<sup>582</sup> For more information, see Nygaard (2022).

<sup>583</sup> 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.

<sup>584</sup> Stavanger Aftenblad (12 April 1905); Norges Sjøfartstidende (14 April 1905); Kysten (15 April 1905).

<sup>585</sup> Kysten (2 April 1906).

<sup>586</sup> 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. 589

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,

<sup>587</sup> 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).

<sup>588</sup> Fleischer (1925), p. 49.

<sup>589</sup> 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.'595 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.596 Picture 6-3 shows an advertisement for the sale of the ice facility.

<sup>590</sup> 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.

<sup>591</sup> Ibid.

<sup>592</sup> 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.

<sup>593</sup> Ibid.

<sup>594</sup> 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.

<sup>595</sup> Thos. J. Wiborg Archive. Folder marked'Ice facilities' for Syverstad, Svestad and Bondivannet. (1902). Letter of 1 August 1902.

<sup>596</sup> 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 Næsset. TJW, 24 November 1907.'601 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. 602 Most of the company's leasing contracts were terminated in the period 1913 to 1915 (see Table 6-2).

<sup>597</sup> Thos. J. Wiborg Archive. Folder marked 'Ice facilities' for Syverstad, Svestad and Bondivannet. (1902). Proclamation of 11 August 1902 of termination, 1 August 1902.

<sup>598</sup> Siewers (1906), p. 83. Judgment of 6 November 1904 in an appeal hearing.

<sup>599</sup> Ibid.

<sup>600</sup> Siewers (1906), p. 83. Judgment of 6 November 1904 in an appeal hearing.

<sup>601</sup> Thos. J. Wiborg Archive. Copy book (1889–1898), p. 403. List of ice facilities in Kristiania Fjord and Skiens Fjord from January 1898.

<sup>602</sup> 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>

		Contract					
Name	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'.

<sup>603</sup> 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.

<sup>-</sup> 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.

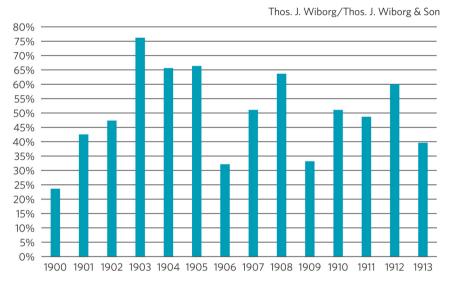
Knardal was taken over by T. & A. Wiborg 8 January 1885 and sold 2 November 1900, according to the Thos. J. Wiborg Archive. Copy book (1900–1910), p. 14. Transfer document.

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.' 604

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. There was thus an element

<sup>604</sup> Thos. J. Wiborg Archive. Diary for ice (1899-1929). Summary for 1913.

<sup>605</sup> 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. The price the company paid for ice could also vary between individual purchases.

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

<sup>606</sup> Farmand (23 December 1905, 22 September 1906, 19 December 1908).

<sup>607</sup> 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.

<sup>608</sup> 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.

<sup>609</sup> 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,

<sup>610</sup> Thos. J. Wiborg Archive. Copy book (1900-1910), p. 400.

<sup>611</sup> 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. Wiborg described Brodersen as his 'good friend'. 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. 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>612</sup> Thos. J. Wiborg Archive. Protocols with ice contracts (1904–1909, 1909–1915).

<sup>613</sup> Thos. J. Wiborg Archive. Protocol with ice contracts (1904–1909). Contract, 28 December 1903.

<sup>614</sup> Thos. J. Wiborg Archive. Protocol with ice contracts (1904–1909).

<sup>615</sup> Ibid.

<sup>616</sup> Thos. J. Wiborg Archive. Copy book (1900–1910).

<sup>617</sup> Only Thomas Johannes Wiborg's part of the correspondence is stored in the Thos. J. Wiborg Archive.

<sup>618</sup> Thos. J. Wiborg Archive. Copy book (1900-1910), p. 537.

<sup>619</sup> 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	Harwey & 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. Kinnear & 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).

<sup>620</sup> 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. 621 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. 622 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,624 an offer which Parr politely declined.625 He and Wiborg enjoyed an amicable correspondence, alternating between business and more personal topics. 626 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. 627 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. 628 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. 629 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'.630 Wiborg describes the King

<sup>621</sup> Thos. J. Wiborg Archive. Copy book (1900–1920), Protocol with ice contracts (1900–1913); Egeberg (1957).

<sup>622</sup> Egeberg (1957), pp. 35, 45; Thos. J. Wiborg Archive. Protocol with ice contracts (1900–1913).

<sup>623</sup> Thos. J. Wiborg Archive. Copy books (1900–1920), Protocol with ice contracts (1900–1913).

<sup>624</sup> Fred Olsen Company Archive: Letter from Henry Parr, 19 April 1898. In Nygaard (1999), p. 88.

<sup>625</sup> Ibid.

<sup>626</sup> Thos. J. Wiborg Archive. Copy books (1900-1920).

<sup>627</sup> Ibid. Letter, 9 November 1900.

<sup>628</sup> Ibid. Letter, 19 November 1903.

<sup>629</sup> Ibid. Letter, 29 November 1905.

<sup>630</sup> 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. 631

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. 632 Parr received a commission of 3% for this contract, which he renewed annually for Wiborg until 1909. 633 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. 634 This contract was also renewed on an annual basis by Parr up until 1908.635 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. 636 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. 637 In 1920, these two gentlemen were 71 and 75 years old, respectively, but still apparently engaged in fulltime 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

<sup>631</sup> Ibid.

<sup>632</sup> Thos. J. Wiborg Archive. Protocol with ice contracts (1900–1913). Contract, January 1901.

<sup>633</sup> Ibid. Protocol with ice contracts (1900-1913). Contract, 23 October 1908.

<sup>634</sup> Ibid. Protocol with ice contracts (1900-1913). Contract, 20 February 1901.

<sup>635</sup> Ibid. Protocol with ice contracts (1900–1913). Contract, 12 November 1907.

<sup>636</sup> Ibid. Protocol with ice contracts (1900–1913). Contract, 19 October 1912 (Dover), 7 February 1913 (London).

<sup>637</sup> Ibid. Copy book (1917-1920). Letter, 5 May 1920.

<sup>638</sup> 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, Mezler 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 (Westermalms 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.

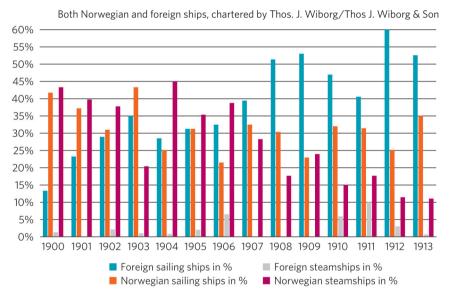
<sup>639</sup> Ibid. Protocol with ice contracts (1905–1906), Chartering journal (1906–1920). Contracts, 31 March and 25 July 1905, and 6 February 1906. The record contract of 6 February 1906 was completed by the Norway Lake Ice Co. Ltd. (the company founded by Thomas Johannes Wiborg's deceased brother 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.

<sup>640</sup> Ibid. Protocol with ice contracts (1910–1915). Contracts from 1910: 1 September, 22 September, 6 October, 18 October, 24 October and 28 October.

<sup>641</sup> 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
Total foreign	10	20	28	35	32	32	47	29	49	44	97	87	61	71	642
Total Norwegian	57	66	62	62	76	64	73	45	46	39	86	85	35	62	858
Total ships	67	86	90	97	108	96	120	74	95	83	183	172	96	133	1,500
Foreign in %	15%	23%	31%	36%	30%	33%	39%	39%	52%	53%	53%	51%	64%	53%	43%
Norwegian in %	85%	77%	69%	64%	70%	67%	61%	61%	48%	47%	47%	49%	36%	47%	57%
Steamships	30	34	36	21	50	36	55	21	17	20	39	48	14	16	437
Steamships in %	45%	40%	40%	22%	46%	38%	46%	28%	18%	24%	21%	28%	15%	12%	29%
Foreign Steamers	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

<sup>646</sup> 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.

<sup>647</sup> Thos. J. Wiborg Archive. Chartering journal (1906–1920).

<sup>648</sup> 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>2649</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 was also lessened by the use of

<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 shipowning. 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.