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# Cross traders, tanker tycoons and nation builders

Understanding Norway's position  
as a leading maritime nation

Seagull forlag

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# Part 1. Up to 1905

## The trade lanes

The most noteworthy feature for the shipping industry in 1905 was the formal peace agreement in September that set the end of the Russo-Japanese war.

Closer to home, the brewing political tension between Norway and Sweden was peacefully resolved at the same time and opened for a referendum that brought a Danish prince and his British princess to become HM King Haakon VII and Queen Maud as monarchy in a fully independent Norway.

To the Norwegian society at large, this was celebrated as a new dawn by a small country at the far edge of the world of little international consequence except one: that Norway was the fourth largest maritime nation.

In 1905 as today, the shipping industry made the world economy work. It was more over a period with few restrictions like trade barriers or national preferences. The oceans were open to free competition in a geopolitical system dominated by colonial networks and political spheres.

There was the British Empire, spanning a quarter of the globe, its trade controlled by financial structures in London with strings to every continent and many of the world's ports. Coal export from British ports alone amounted to 50 million tons a year, supplying energy to much of Europe and overseas. Raw materials from the Colonies were imported through Britain's colonial wharves, while manufactured goods were shipped out to a global market.

France had possessions in Africa, the Indian Ocean, Far East, Caribbean, and even in North America. Shipping services from Le Havre and Marseille were no less ambitious, flying the Tricolor along the trade lanes.

The Netherlands had its dominions in "East India" (Indonesia), in South America and the Caribbean with Amsterdam as its window on the world. Belgium had Congo and Antwerp as its colonial port; Portugal had possessions in Africa East and West, India and Macao, managed out of Lisbon. Spain had lost Cuba and the Philippines, but retained its cultural bonds with South America. Even Denmark had its Virgin Islands colonies and the hold of Iceland and Greenland.

The late-comer as far as overseas possessions were concerned was Imperial Germany with territories in Africa East and West, a foothold in China and scattered islands in the Pacific, but with great ambition to build its own empire of trade out of Hamburg and Bremen.

Italy made do with colonies in North Africa.

The United States of America had strictly no colonies, but protectorates taken from Spain in the Caribbean and Far East as well as its sphere of influence in Central America. The Russo-Japanese war also in its way caused geopolitical changes, as the Japanese took a firm control of its corner of the Far East and stifling Russia as a player in the East.

The world trade had been expanding rapidly since the 1840s, driven by free trade and new technologies. Innovations like telegraph, steamships and railways had been arranged in networks, connecting areas and regions in a manner never seen before. The completion of the Suez Canal in 1869 and the subsequent improvement of fairways, channels and ports with adequate hydrography, buoys and lighthouses contributed to “cutting distances” and “shrinking” the globe.

The world trade doubled in 20 years, the world’s main trades were by 1905 all established between the most populated areas or between the sources of raw materials and the manufacturing countries and eventually to the consumers. In most value chains there would be an ingredient of transport across water: shipping.

## The maritime nations

The inclination for seafaring was not universal but found in geographical patches here and there. One thing was living off the sea by fishing from the beach or from a simple boat; quite another to carry produce and products by boat across the sea for sale or barter. And to take one step further: to undertake the carriage of products for payment; to become a *shipper*. Carrying the goods of the world would be a profession; being involved in *shipping*.

For long shipping had merely been an adjunct of trade. The earliest tradeways we know of are found between populated areas, across the Mediterranean, the Black Sea, the North Sea and the Baltic. We may detect a cultural disposition to seafaring from an early age, but the maritime trade lanes would be subject to all sorts of disturbances, from natural disasters to plunder, war and politics.

By the year 1500 and the rise of Western Europe as the leading powers, the Spanish and Portuguese had by Papal decision shared the unknown world between them in what was to be colonial empires. In Northern Europe the Hanseatic league held sway in the Baltic and North Sea, challenged by the Dutch who were to curb the Spanish influence to the North, i.e. beyond the Channel. The British were yet to rise to prominence from 1650.

In the Mediterranean the republics of Genoa and Venice emerged as the dominating political and mercantile forces from the 1200s stretching into the Black Sea. Whereas Genoa lost out to Venice after 1380, the “Lion republic” was to benefit from the collapse of the Byzantine empire in 1423 when the Osman armies took Constantinople (Istanbul). Venice for a while controlled the Aegean and Crete, but was to be ousted from the Eastern Mediterranean around 1715.



*The late Medieval trade routes, abt 1200*

Coming the 1700s, the Dutch and British held the hegemony of the North Sea and Baltic trade, with Denmark-Norway and Sweden as regional powers. The Spanish and Portuguese were largely looking overseas, as were Britain and France. In the Mediterranean, the muslim presence in North Africa and in the Eastern part was a constant menace to North European vessels. Europe had meanwhile been divided into the Catholic south and Protestant north, Russia was awakening under Catherine the Great and the German-Roman federation ruled most of Continental Europe until toppled by Napoleon in 1806.

When the map of Europe could be restored after the Napoleonic wars in 1815, most of Europe was still pre-industrial in social organization as in economy. True, the British coal production by 1815 amounted to 16 million tons for heating and steam engines. But the first postwar decade was to be characterized by the return of Mercantilist economic principles of protective tolls and custom barriers across Europe. Britain moved to promote timber from Canada which caused a crisis for timber exports from Scandinavia.

A general economic setback followed the war and had severe implications on trade. The first international shipping statistics, which only comprised UK, USA and the Scandinavian countries, show a substantial decrease in tonnage from 1815 to 1827.

Around 1830 we are entering a new turn of economic growth under peace and growing prosperity, with population growth, rising consumption and trade. The industrial evolution in its infancy spread from Britain to the Continent with coal mining, steam engines and mechanical manufacturing. The rule of law was finally induced in Mediterranean waters when the rogue states of North Africa were reigned in to allow shipping to pass unharmed.

Shipping was quickening. Shipbuilding was picking up and gaining momentum. The fleet of sailing ships doubled from 1831 to 1848 – already before the abolition of the Navigation Act. It took the British fleet 22 years to be restored to its 1815-strength, but from then on it expanded rapidly.

The expansion was above all driven by the Americans as the US fleet tripled to 2,9 million tons by 1850, following the British fleet of 3.1 million tons (having grown by 58 per cent over the period). Together, the British and Americans dominated the seven seas with 75 per cent of the global fleet. In Britain, the American progress was taken as a call to action as the American ships were considered more advanced, innovative and better sailing than their own. However, the larger part of the US was used for the coastal and domestic trade, leaving the share in international trade to just 16 per cent.

Still, USA ranked as the second largest, well ahead of France (8 per cent), the German principalities (6 per cent), Canada (5 per cent), and the Scandinavian countries (7 per cent). These were to be the leading players in the forthcoming expansion.

## The leading maritime nations, 1850

Great Britain	3,159,583 nrt
USA	2,940,560
France	658,297
Germany*	498,800
Canada	420,600
The Netherlands	323,200
Norway	288,600
Spain	244,900
Sweden	196,400
Italy	176,200
Austria-Hungary	190,500
Finland	97,900
Denmark	90,600
Belgium	29,800
World fleet	8,039,600

\* the German principalities  
Net reg tons, actual tonnage  
Source: A N Kiær, Statistics Norway

#### ANDERS N KIÆR

One of the first scholars to gather international maritime statistics was the Norwegian Anders N Kiær (1838-1919), who as a civil servant was entrusted with the national statistics and became the first director of the Norwegian Statistics Bureau. His *Statistique Internationale, Navigation Maritime, Les Marines Marchande*, was published from the 1870s and won international acclaim.

## The First Globalization

The abolition of the British Navigation Act from 1<sup>st</sup> January 1850 is often seen as the defining moment of the freedom of the seas. This happened, however, at a point when the global merchant fleet was in rapid expansion, and the prospect of free competition promised the same sort of benefit as free trade.

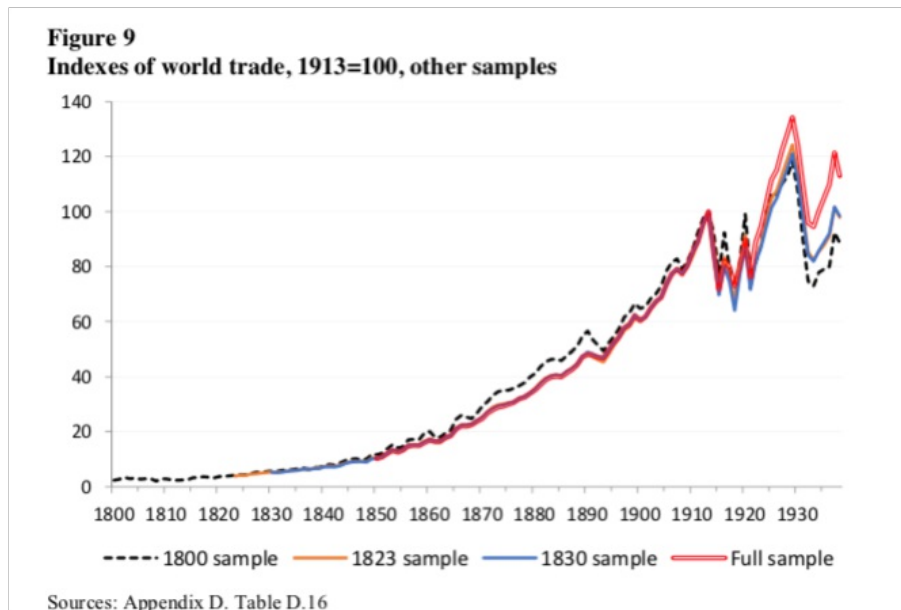
The Industrial Revolution in Britain had brought up challenges that would lead to a significant shift in economic policy between 1830 and 1850. Under the old Mercantilist economy, trade agreements had been based on reciprocity with mutual tariff reductions between nations. The repeal of the Corn Laws in 1846, when heavy import duties were cut, marked the decisive shift to free trade. It was based on the belief that cheap imports were the key to prosperity; it would benefit consumers, cut business costs and help to maintain Britain's industrial supremacy. It was accompanied by tax reform, and by 1860 import duties had been removed on 400 items. Tariffs were retained for revenue purposes on luxury imports like tobacco, tea, spirits and wine. Free trade was also designed to preserve social stability by removing privileges, agricultural protection and other sectorial interests.

Other European nations followed up by liberal trade reforms, not only reducing custom tariffs but also lifting ancient urban monopolies to trade, together with a whole set of religious and cultural reforms, better education for all and voting rights to larger groups.

This shift of social reform coincides largely with the breakthrough of new technology: steam power, railways, steamships, and telegraph. The period 1840 to 1870 furthermore opened for mobility, migration from rural to urban communities or to America, the growth of towns and production facilities and the establishment of new supply chains of food and provisions from the farmer or fisherman through wholesale dealers to the consumers.

Trade and commerce increased in volume as well as diversity. As the trade chains were formed and developed, free competition in shipping led to plummeting freight costs, a fact that again spurred further growth. Open seas was an essential part of the policy of free trade.

The shift to free trade, inspired by Britain and followed by most other nations, led into what is generally known as the "First Globalization", spanning the period 1850 to 1914. Although there would be gradual bouts of reverting to bilateral trade agreements and economic depressions, the period was to see strong economic growth and a huge rise in world trade. This was also to see the expansion in the colonial economies, with Great Britain, France and increasingly a united Germany as the leading European economic powers. This was to be Europe's century.



*The First Globalization has been attributed to shipping, its rise in efficiency and diminishing freight costs.*

From a maritime perspective it is useful to adopt the model of the two cycles: The *cycle of the wooden sailing ship* and the *cycle of the iron (and subsequently steel) steamship*. All maritime nations by 1850 were great in wooden ships, but the wooden sailing fleet peaked in 1880 and went into abrupt demise, while the fleet of efficient steamships double during the 1880s and again during the 90s. The cycle of iron and steam picked up as the wooden sailers declined.

With its superior efficiency the steamship was the prime driver of the First Globalization.

The steamer came to alter the geopolitical view of the world, helped by the opening of the Suez Canal in 1869. New York was now two weeks away, rather than two months; Australia one month rather than four. The “tyranny of distance” was, if not fully overcome, radically reduced and subjected to an estimate time of arrival.

In a wider perspective the shipping industry played its part in interaction with several other factors:

- trade policies and customs barriers
- open access to distant markets
- cheap and flexible transportation
- a commercial infrastructure of brokers, telegraph, communication
- better port facilities and railway distribution
- institutions and the rule of law

Under the national trade policies and scant legislation, shipping was largely a self-regulating industry. In a free market there was room for all sorts of contenders, all of whom relied on their own national flag, customs and regulations.

#### ##Entrepreneurs in sail

The craft of building, handling, and operating ships grew out of maritime communities. It was essentially dependent on specific competences, from shipwrights to sailors, sail- and ropemakers, navigators and merchants; the sort of people you would find in any seaside town around Europe and North America.

Ships, even smaller ones, were usually beyond the means of a single owner, and thus required some sort of local cooperation and organization in the shape of partnerships. The essential elements were **competence** and **capital**.

In the pre-industrial era an experienced captain, or ship master, would represent most of the required competence, operationally as well as commercially. In Scandinavia and Germany the social position of the captain was strong. He would be the responsible manager of the vessel with respect to manning, loading, navigation, maintenance, dealing with agents and brokers as well as arranging cargoes in foreign ports. He

would collect the freight, pay off the crew and port dues and remit the balance to the “book-keeper” at home for distribution to the owners. For this he was entitled to “kaplak”, the commission on the freight. A successful captain was just as much a businessman as a seafarer and navigator. Often the initiative for a new ship would emanate from a captain, talking it over with a merchant.

Capital would usually be provided by a partnership of investors, initially merchants who might have an interest using some of the vessel’s capacity in their own business. A partnership was usually organized locally by merchants together with the captain, perhaps also the shipbuilder and maritime craftsmen. With no facilities to obtain mortgage financing (which only opened around 1900), the required capital had to be raised in cash, or in kind as timber or metal furnishings.

In Britain the idea of a partnership made out by 64 parts is of ancient origin and stipulated in the Merchant Shipping Act of 1854.

The partnership as an equity base for sailing vessels had, however, its strong points and weak. As a single-asset entity, it was restricted to the one vessel and its life cycle. All net proceeds were distributed to the shareholders, and extraordinary expenditure like repairs had to be covered in the same relation. Then sold or lost, the net proceeds were paid out and the partnership closed. For a wealthy merchant the partnership model allowed for potentially profitable investment and also a spread of risk by taking smaller shares in several vessels.

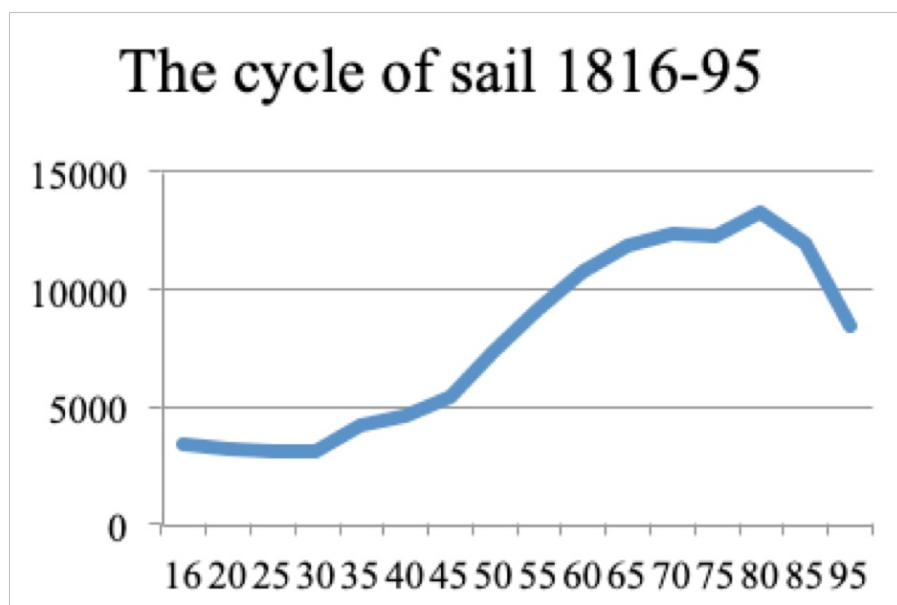
One of the part-owners was appointed as “book-keeper”, to do the accounts of the proceeds transferred from the captain. One “book-keeper” could handle several partnerships, but they remained separate entities. There was no capital accumulation as such.

The shipping fleet for much of the wooden sailing ship era remained a fragmented industry in the Baltic and Nordic regions. In more advanced economies like Britain and the Netherlands, larger fleets of vessels were brought together under the dedicated leadership of an entrepreneur or a family, although often owned by separate partnerships. This allowed for a more involved commercial role by the owners, and the captains could be part-owners or simply hired hands.

It is my view that the entrepreneurs of the early part of the growth cycle, from the 1830s until the turn of the century, are found mainly in the group the shipmasters. The master’s role was all-important in the early decades, but slowly changed with cheaper telegraph and broker networks that allowed for a more dynamic commercial ownership.

Part-owner - a person holding a part (share) of a partnership

Shareholder - a person holding a share in a limited liability company



*Sailing ship fleet expansion*

## Sailing ship fleet expansion

### Growth rate by period

Period	per cent
1831-39	23,9 per cent
1940-49	65,8
1850-54	20,8
1855-59	17,6
1860-64	10,2
1965-69	4,6
1870-74	0
1875-80	8,3

Source: A N Kiær

## Innovation in sail

By 1850 we find that almost the entire world fleet consisted of wooden sailing vessels; an aggregate 7,455,000 net reg tons (nrt). True, there were steamships of 264,000 nrt, but most built in wood and capable of local and short regional voyages with passengers and mail.

Construction and handling of sailing vessels were still to be developed and refined. The pre-1800 style had been bulky capacious vessels, usually rigged with three square sails on each mast. After the Napoleonic wars, the square rig of a 3-masted fullrigged ship or barque was extended and at the same time made more manageable by splitting the topsail (*mersseil*) into the smaller double topsails (*undre stump* and *øvre mersseil*), and adding topgallants and skysails above; as much as seven sails on the fore and main masts on a large vessel.



In addition, iron rods and chains were increasingly used for standing rig, even in wooden vessels. This obviously made for a sturdy and robust rig; in fact too robust as would emerge in time.

Much of the innovation came from the shipbuilders in New England who had conceived long and narrow hull shapes known as the “clippers”. These were fast-sailing vessels, in their extreme shape with 1:6 length/beam ratio; sacrificing capacity for speed. In Britain, shipbuilders adopted the concept for tea-clippers of a more moderate form, and generally for sleek and more economic sailing ships to be built in Canada’s Maritime Provinces, in Britain, Europe and Scandinavia. The sailing ships were still refined through the 1850/60s and reached their high point and market conditions in 1873. The sailing ship fleet reached its peak in 1880, with 13 million nrt. Construction of iron and steel sailing ships would, however, continue well past the turn of the century.

The contemporary wooden sailing ship mostly from 500 to 1500 tdw (tons deadweight, carrying capacity) was in many ways efficient carriers. The largest and finest would be full-rigged ships built in the 1860/70s for the regular voyages with passengers and cargo between Britain and Australia, Europe to the Far East, to South America and other long hauls. They would have large crews, keeping splendid standards and would be sailed very hard. When steamships came to take over the long hauls in the 1870s, the sailing ships were in time sold off as cargo carriers, reduced to barque rig and manned by 18-20 men. They would end up in the bulk trades carrying low-cost cargo around the world.

Demand for vessels from the 1830 brought about a boom in shipbuilding in most of the maritime nations. In areas of ample supply of suitable timber, like Sweden and Canada’s Maritime Provinces, shipbuilding emerged partly as the ultimate kind of “forest product”, ships being built successively for trading and quick resale. Canada emerged as a maritime power in its own right with the fourth largest fleet by 1875. Canadian-built ships, the “Down easters”, were generally larger than the European wooden sailers.

The sailing ship was superbly fitted for the large trades of the 1860s, carrying grain, timber, coal and other bulk cargoes. However, dependent on wind and weather they would take their time. From the 1880s, efficient cargo steamers came out in greater numbers, and the sailers were left as the second choice. Arrival date was unpredictable, there was always the risk of loss; they were time-consuming and came to resort on their ultimate competitive edge: The lowest freight.

## The organization of shipping

By 1850 the shipping business had become an industry in its own right; no longer simply an offspring of trade.

The practices of the business appear impressively advanced, with charter parties, bills of lading, custom clearances, principles of insurance, liability and limitation. British law was, by means of its commercial dominance, to become the legal standards adopted for most disputes.

Yet shipping was largely based on national regulations. Tolls and customs were the main regulators; the king’s prime source of income. The need to quantify cargo for customs clearance gave rise to the first tonnage measurement. Ship measurement was based on a multitude of intricate local measures for volume and burden; but every vessel had to produce a measurement certificate (målebrev).

Similarly, sailors were considered a strategic reserve to man the king’s vessels at times of war, and a system of muster rolls for seamen was organized in Denmark-Norway from the 1660s. The art of navigation quickly spread from the Dutch with their early maps, and the formal skills were set out in a royal decree for Denmark-Norway in the 1720, at the same time as a pilotage system was set up. But for long there would be no standards for seaworthiness and safety.

Growing international trade would soon put pressure on some of these issues.

The desire of the cargo owner to cover his risk had developed into a system of underwriters operating in the larger seaports around year 1700. Edward Lloyd’s coffeehouse on Lombard Street in the City of London became one of the venues for merchants wishing to “underwrite” their risk. As a means to determine a risk, a system of ship assessment was conceived, whereby vessels were “classified” according to a set of quality standards; A1 being the highest of several classes. In 1764/65 the Lloyd’s Register of Shipping was formed to undertake such classification, and the first register books were published soon after.

A new edition of Lloyd's Rules of 1835 introduced what came to be universally known as "Lloyd's Rule"; a rule of the thumb for seaworthiness: A freeboard of 3 inches for every foot of depth of the cargo hold. A vessel with a 12 feet deep cargo hold would need to have a freeboard of 36 inches (3 feet), considered sufficient for buoyancy even in the harshest of weather.

As shipping became an industry in its own right, it also had to establish its own safety institutions. Around the 1830s, mutual ship insurance societies were formed in the maritime communities around Western Europe. These came to take a share of the risk for damage or total loss, but also introduced "classification" criteria and technical rules for building in order to ensure adequate standards and to decide insurance premiums and valuation.

In Norway, most of the mutual insurers joined forces in 1851 in a common set of building rules. In 1864 the same parties set up Det Norske Veritas as a common ship classification institution, serving the same purpose as Lloyd's Register, Bureau Veritas (1828) and Germanischer Lloyd (1867).

In 1845, a committee under admiral George Moorsom introduced a measurement system in Britain, based in the internal volume of a ship in "registered tons", each of 100 English cubic feet. The "Moorsom" system was introduced internationally through a diplomatic convention by all major seafaring nations in 1873.

Similarly, a common identification system for registered vessels was made mandatory in 1867. Each vessel was given a four-letter signal to be shown by flag. The letter code also had a national identification; Norwegian signals starting with H, J and later L and X. Up to 1867 one had to close to hailing distance to learn the identity of a vessel.

The four-letter call-sign for vessels was well suited for telegraph transmission, a clue that gave rise to an international network of signal stations. The best known is the one at Lizard Point in Cornwall, opened in 1872, consisting of optical observation of call signs being relayed by overland telegraph to Falmouth and London. From 1882 Lloyd's of London established a network of 27 signal stations around the world, connected to the London office. For half a century Lloyd's signaling stations provided the basic communication system for international shipping, being able to convey short coded messages.

## The coming of steam

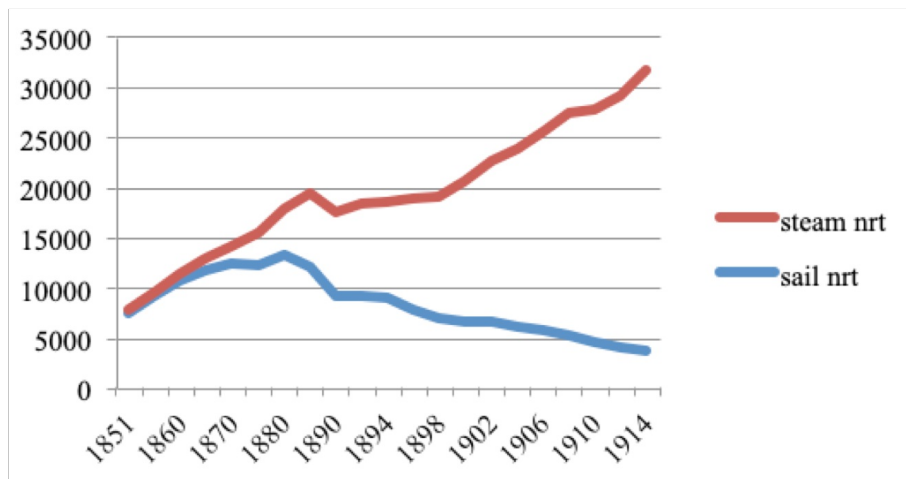
Steamships were at first no serious contenders to sail. The technology of steam was still to be improved and perfected, dependent on advances in metallurgy, boiler pressure and the overall efficiency of the burning coal.

The structural construction of the iron ship became quite advanced during the 1850s, including such novelties as bottom tanks for water ballast. The engineering innovations in the shipyards on the Tyne and Clyde were impressive. The main challenge was the engine; originally the simple balancing engine driving a single cylinder; later oscillating engines for paddle steamers and finally the two-cylinder crankshaft engine with the steam driving a small high-pressure and a wider low-pressure cylinder. These were all quite coal consuming and little fuel-efficient. It was only the improved technology of higher boiler pressure in the mid-1860s that made the compound (two-stage) engine economically viable.

The next technological level was reached in the early 1880s with steel hull construction and the triple-expansion steam engine. Steel construction allowed for marginally thinner plating and dimensions; the structure became somewhat more flexible and the carrying capacity higher. Again, it was higher boiler pressure that allowed for the three-stage utilization of the heated steam. Here, however, the technology for commercial shipping came to rest for the next 30 years until the advent of the diesel-engine.

Iron and steam construction of cargo vessels emerged in earnest from about 1870. In the British fleet, steam surpassed sail in 1883 and on the global level in 1892 when the total fleet reached 18,3 million nrt. And at this time it was accepted as fact: A steamship was three times as efficient (productive) than a sailing vessel. It also cost roughly three times as much and had higher running expenses, but then the freight level was also three times higher.

And at the same time ports and wharves were improved and extended to handle the ever-rising volume and diversity of cargo. This was followed up inland by canals and railways that made out the logistic arteries through which the trade flowed.



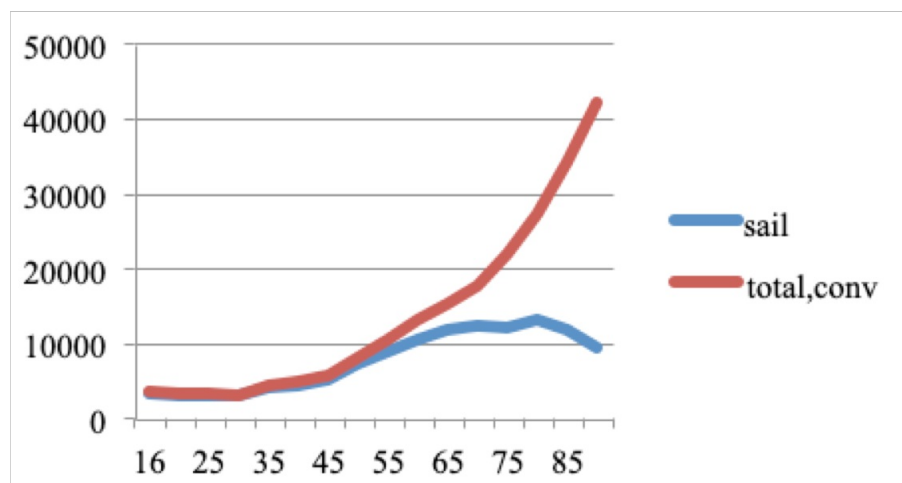
*The growth of the world fleet, sail and steam, in nrt.  
1850-1914*

*Source: A N Kiær, Lloyd's Register*

Steamships had a dramatic effect on the world trade and travel, for two reasons.

First, steamships allowed for predictable voyages and, in time, to integrated transport systems of ship and railway lines. But secondly they also afforded a huge increase in capacity, not only by supply of new ships but above all because of higher productivity.

Economists at the time equaled one steamship ton with the productivity of three sailing ship tons. By this theory we see a meteoric rise in capacity from about 1870, coinciding with the effect of the Suez Canal. Competition from steamers was no so much from the tonnage of vessels as the higher productivity.



*World fleet growth in real capacity 1816-1890.*

*1 sailing ship ton=  
3 steamship tons, nrt*

*Source: A N Kiær*

Although Britain was at the lead with its free trade and technology, much of the same maritime innovation followed all over Europe and elsewhere.

Steamships and railways opened the possibility to build systems for travel, mail and express cargo. Steamship lines would connect Dover to Calais, Southampton to Bilbao, Hamburg to Newcastle and Bergen, Stockholm to Helsinki and St Petersburg.

On a global level steamship lines would connect continents, colonies and regions of influence. As such services, like linking Britain with India, Australia and Hong Kong, were considered as strategically important trunk lines that carried the Royal Mail, they would often receive a government subsidy. This policy was adopted all over Europe in support of regional and overseas mail and passenger services.

## Steamship owners

Steamships were from the beginning almost entirely intended for passenger, mail and express cargo, often with some sort of subsidy. Only regular services were expected to generate the steady volume of traffic to cover the costs.

And for this reason we find that all over Europe a group of steamship companies rising to prominence around 1850. They would become a sort of "flag carriers", responsible for a growing network of regular trunk lines; on a regional basis as well as in international services.

Many of these companies had been formed either by entrepreneurs who went for the new technology or on a common civic basis by merchants and investors to promote local or regional interests. Though most were to be managed by ambitious leaders, the companies had in many cases a balanced ownership structure protected from takeovers by voting restrictions.

The list includes names like P&O Steam Navigation (1837), Cunard Line (1840), British India Steam Navigation (1856), Messageries Maritimes (1854), Norddeutscher Lloyd (1856), Oesterreichischer Lloyd (1836), Cia Trasatlantica Espanola (1850), Koninklijke Nederlandsche Stoomboot Mij (1856), Holland America Line (1873), Compañia Nacional de Navegación (1881), etc. On the regional services in Northern Europe some companies succeeded like Thos Wilson, Sons & Co (1831), the Bergen SS Co (1851), DFDS (1866), Svenska Lloyd (1869), Stockholms Rederi AB Svea (1871) and Finska Ångfartygs (1883).

These companies are important for several reasons.

They succeeded in building reliable and profitable operations, established networks of agents and forwarders and thus a sort of geographical domain that held competitors at bay. They also built great operational competence with staffs of officers and superintendents, and they were well placed to expand with economic growth. They became operations of high proficiency, tailored for the era of steamship services and becoming of age with the Belle Époque.

Many of these companies were amongst the shipping lines that came together in the freight *conferences* for overseas services to set up protective agreements to keep intruders out. And as a result they were largely profitable and ranked amongst the largest shipping companies in the world by 1914. In fact, this group of companies should retain their hegemony for around a century, until the turmoil of the 1970s.

## Social challenges

Nowhere are national inclinations and cultural dispositions seen more clearly than in the social aspects of seafaring.

Generally, the captain held high authority on board all ships, being master next to God. Such a paternalist system had survived for centuries and, generally speaking, came to clash with the political reforms at the end of the 19th century. Britain had its apprentice system that bound the young seamen to his captain; in Scandinavia only men from coastal towns were allowed to go to sea and were collectively considered as the king's naval reserve. Once taken on by a master, the master also took on an obligation for the sailor. The system ensured experience and stability, but came under pressure from the 1860s.

Twenty years later the system had largely collapsed, mostly due to the fact that the shipping activities changed from seasonal short sea trade to longer deepsea voyages. With the deepsea trade the crew gradually changed from local men to sailors joining the ship in foreign ports. From the 1860s the mobility of sailors took off as the problem of "jumping ship" escalated. In the Norwegian fleet of 60,000 seafarers, some 1,500-3,000 were reported as having "jumped" every year from 1871 till the end of the century.

By the 1890s most countries had adopted more modern legislation for seafarers, restricting the authority of the master, curbing physical punishment, limiting the duration of service contracts, easing the crew's obligation to go to sea in obviously unseaworthy vessels, etc. Also guidelines regarding food and nutrients were introduced.

Even the matter of seaworthiness was largely left to self-regulation, i.e. to the discretion of the master. But as there were no formal regulations as to freeboard and lifesaving equipment, conditions varied and masters were often under pressure to load as much cargo as possible.

In 1872 Samuel Plimsoll, a Liberal member of Parliament (MP), published the book "Our Seamen" in which he particularly exposed the conditions in the English coal trade from the Northeast to London. Cutthroat competition had led to low income, low wages, poor maintenance and an appalling loss ratio. Ships were often sailing un-insured and overloaded, however, the local sailors had little alternative but to sign on and hope for the best.

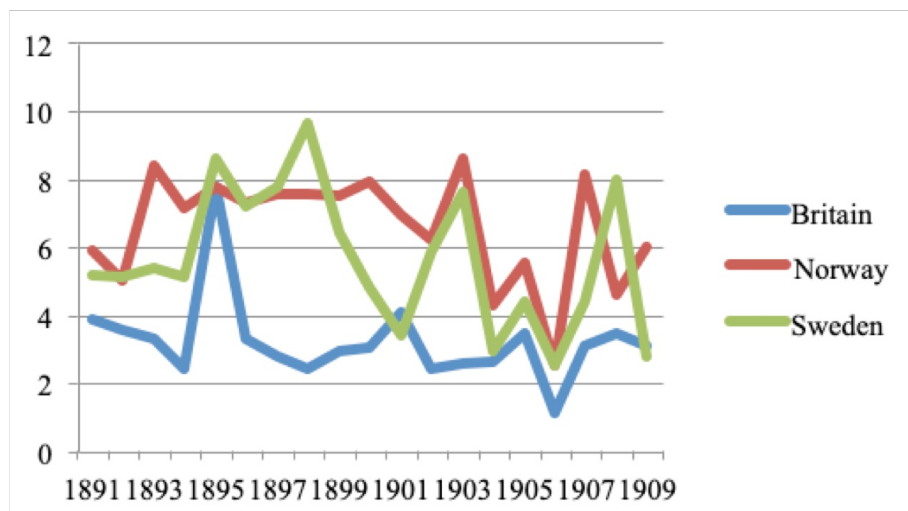
Plimsoll raised the issue of official inspection and proposed a mandatory loading line. He was close to see his proposal being put before Parliament in 1874 when Benjamin Disraeli of the Conservative party took over as prime minister from Gladstone and withdrew the bill. Then came Plimsoll's outburst in the Commons, for which he had to apologize deeply, but the result was a watered-down revision of the Merchant Shipping Act of 1876 that brought in Board of Trade inspectors with authority to stop vessels overloaded or in a poor condition.

From the 1870 up to 1910 the social aspects of seafaring commanded more attention and paved the way for better national standards. Britain, as the largest maritime nation, was also the first to make the loading line compulsory in 1876, although in effect from 1894. From 1905 all vessels visiting British ports were required to have the "Plimsoll mark". However, it was hotly disputed in maritime circles at the time.

Even though the struggle for seaworthiness was to the benefit of the seafarers, conditions remained poor through the depressions of the 1880s and 90s, both as to living quarters, food and working conditions. As crewmembers were generally discharged after a voyage, most were left to the mercy of boarding masters and crimps in the ports around the world as a kind of international "proletariat". Up to the turn of the century, the welfare of sailors was mainly a matter for the seamen's missions and other charitable groups.

Shipwreck and accidents constituted a reality in the sailor's life and, indeed, throughout the entire maritime industry. Losses were an unavoidable part of the shipping business, and the human toll varied from year to year.

In the 1890s, with figures available from the Lloyd's Casualty Returns statistics, we also find evidence of effects of depression by the heavy losses, particularly of sailing vessels. There are wide differences between nations, with Great Britain holding the lowest loss ratio, followed by Germany. Norway, in particular, with its very many wooden sailers and to some extent Sweden, suffered from excessive losses, up to 6-7 per cent of the national sailing ship fleets per year. This largely reflected the low value and poor prospects for ageing wooden vessels, often abandoned after damage to the rigging or badly leaking. More alarming was the great loss of seafarers under Norwegian flag, reaching 2716 for the 1890s.



*Loss ratio of sailing vessels 1891-1909, as percentage of fleets.  
The consistent high losses for Norwegian vessels reflects the general crisis for the wooden sailers.  
Source: Lloyd's Casualty Returns*

## Norway in the perspective

Forming Europe's northern rim, Norway took part in the European economy as a supplier of timber and fish. Timber had been exported in quantity to the Netherlands since the 15<sup>th</sup> Century and successively to Britain, while fishery products like stockfish largely went through Bergen and its commercial channels to Hamburg and beyond.

Norway had one of the longest coastlines in Europe, but was sparsely populated and the smallest of the Scandinavian countries in population, 884,000 in 1801 (Denmark 1,0 million and Sweden 2,3 million). But because of its natural resources, the dependence of seafaring and shipping was relatively greater, what explains why Norway had the larger fleet by 1800.

In short, Norway became one of the rather few genuine maritime countries, together with Great Britain, the Netherlands, Denmark and Singapore; places where seafaring helped to shape the community with regard to history, culture and economy.

Peace in 1814 and the following Kiel treaty decreed the end of the double-monarchy Denmark-Norway when the latter was to be ceded to Sweden as compensation for losing Finland to Russia. An initiative in Norway, however, ensured a democratic constitution of 17<sup>th</sup> May 1814, but the new country had to accept the Swedish king as its head of state.

New British trade barriers from 1815 spelled disaster as the timber merchants on the Oslo fjord and South Coast were cut off from their traditional markets, rendering most of the merchant houses and their patrician owners into misery and liquidation. New markets in France and the Netherlands partly compensated but what saved the situation was the union with Sweden. From 1827 Norwegian vessels were permitted to bring timber from Swedish ports to Britain under an Anglo-Swedish trade agreement of 1824. This preceded the general economic upturn from the 1830s and paved the way for growth and brighter prospects.

Meanwhile the fish trade from Western Norway was affected by changing markets in Southern Europe, but largely rescued by an upswing in the export of salted herring in barrels to the Baltic region. For Bergen, as a major seafaring city, the fleet of larger vessels for the Mediterranean trade withered, while the number of small vessels for the Baltic trade flourished. By 1850 Norway ranked as the 7<sup>th</sup> amongst the maritime nations, after Britain, USA, France, Germany, Canada and the Netherlands.

The importance of the abolition of the Navigation Act is definitely obvious for Norway. Only five days after the official lifting of the Act, on 5th January, 1850, the barque *Flora* of Tønsberg arrived in London with a cargo of timber from Quebec. She was the first non-British vessel to have loaded in St Lawrence for a British port and thus inaugurated a new era.

Stimulated by the war in Crimea 1853-55 and briefly halted by a postwar financial crisis, the Norwegian fleet doubled during the 1850s and again during the following decade. By 1875 Norway had surpassed the Netherlands, Germany, Canada and France to become the third largest maritime nation after Britain and USA.

Norway was different. The country was no colonial power but a small nation still with a pre-industrial economy. External conditions from 1850 offered opportunities that had been taken and turned into an economic mobilization in a society that offered some basic factors.

One were the resources found in local seaside communities that had been dependent on seafaring since the beginning. These communities provided all the required skills and resources for building and operating wooden sailing vessels, with vital connections to the timber industry and fish merchants.

The other main factor was cultural; a largely egalitarian society with a sentiment of protestant work ethics. A political regime of "civil service aristocracy" and a legal framework were laid out to encourage initiative and entrepreneurship. And third: The support institutions of education, insurance and guidelines were largely brought about by the players themselves in a supportive community.

Again we see competence as a driving force, experienced captains and skilled craftsmen. Capital was raised from a variety of sources, from family and local merchants and organized in partnerships. The acquisition cost was subscribed in cash, but return on capital was significant at 10-25 per cent most years. In Bergen, as the largest city, merchants had traditionally invested in partnerships for vessels used in the fish trade, but increasingly in deepwater ships from the 1850s.

What is impressive by today's standards is the sheer extent of this mobilization, the number of vessels financed, built or acquired secondhand. Shipbuilding picked up from sporadic carpentry in the 1840s to become an industry in its own right, drawing on a wide range of craftsmen.

And as investment in ships proved lucrative, financing did not seem to be a problem, even in a community of hard-earned cash. The shipping industry that emerged proved to be typical Norwegian: Broad, diverse and fragmented.

## Maritime clusters

### Shipping and shipbuilding thrived in clusters.

The busiest part of the country was the Southeast, the Oslo fjord towns and the coastline south to Kristiansand. Here the timber trade provided the basic employment, both from Norway and the Baltic, later from Canada. Some 75 per cent of the tonnage was owned in this area.

West of Lista lighthouse – the Naze – there was a different driver: The fish export, be it stockfish or herring, but also in combination with import of grain and salt. In the 1870s some 16 per cent of the fleet was owned in the Stavanger-Bergen region. The entire coastline north of Bergen, with Ålesund, Kristiansund, Trondheim and Tromsø as the main seaports only accounted for a meager 6 per cent of the fleet.

Traditionally, shipping had been a seasonal business; starting as the ice broke up in the spring and closing in November when the ships returned home for winter lay-up. This gradually gave way to continuous deepsea trading, to approximately 60 per cent of the fleet by 1860 and increasing. From employing some 20,000 seafarers in 1850, the number had tripled by 1870, mostly recruited locally.

The Norwegian shipping venture was based on resources available locally in an integrated maritime/trading community. The fleet of wooden sailing ships reached its peak by in 1890 and slid into rapid decline. The cycle of wooden shipbuilding was in decline by 1880, but the extensive sailing ship operation would still be entrenched in the trade with timber, ice and coal for many years; subsequently with secondhand iron sailing ships.

It was Bergen with its thriving community of merchants that had the entrepreneurs and capital to go for steamships. The many merchants had traditionally been partowners in vessels for their own trade but began to invest in deepsea sailing ships in the 1850s, with fair returns. This offered profitable investment and a spread of risk by taking smaller shares in several vessels.

The Bergen sailing ships were designed for perishable cargo like stockfish, grain and fruit and were consequently of sharper hull shape for better speed. Again, it was the captains who were in effect managers, responsible for employment as well as shareowners.

The industrialist Peter Jebsen (1824-1892), originally from Southern Jutland and who had arrived in Bergen in 1843 to build the first waterdriven textile mill, owned shares in 36 ships by 1875, including large steamers built on his initiative in Britain. Fair financial results motivated further steamship investment, and by 1883 the steamers surpassed the sailing ship tonnage in Bergen. Bergen was something of an anomaly in this respect, as the Norwegians were laggards in sail and only saw its steam tonnage exceed sail as late as 1907.

## Norwegian fleet 1885

Registered fleet of 7397 sailing vessels and 510 steamers.

Of this impressive number, 52 per cent was smaller than 100 nrt, and the fleet in international trade consisted largely of smaller wooden vessels:

2388 of 100-499 nrt (average 293 nrt)

768 of 500-999 nrt (average 658 nrt)

103 larger vessels (average 1186 nrt)

The 165 cargo steamers were also generally small, on the average 472 grt.

Structurally, this fleet of 3000 sailing vessels was owned by single-asset partnerships, financed by individuals drawn from ship masters, merchants, tradesmen, senior civil servants, farmers, teachers and people who had the means. The vessel as such could not be mortgaged, but ship shares could be registered as collateral security for loan.

In the mid-80s the two leading shipping towns were affected by local financial crises; Arendal and Stavanger, both with large fleets of wooden sailing ships. This was largely a consequence of years of poor returns in combination with declining ship values and a devaluation of the DNV value scale. In Stavanger the crisis was deepened by the collapse of the herring fishery, while the Arendal crisis was spurred by fraudulent transactions. In both towns a preceding boom in speculative ship investment had been partly based on cross-securities and guarantees, and when some of the major trading houses came into liquidity problems, others collapsed as a domino effect.

For Arendal the 1886 crisis saw the town stumble from being the wealthiest shipping community in the county, never to recover. For Stavanger, the crisis spelled the end for the old patrician merchant houses, and a new generation took over as the leading, now more aimed at fishing and the preserve industry.

The large fleet of wooden sailing ships saw their demise in the 1890s, with an excessive loss ratio in an agonizing end to the economic cycle. The depletion of the wooden sailers was to wipe out the once vibrant shipping communities along the Oslo fjord and the South coast. It would be a slow demise of an entire competence culture towards the final disposal of the last vessels in the 1920/30s.



## SHIPPING IN RURAL AREAS

In the Scandinavian countries the shipowning and shipbuilding was not restricted to the larger towns; there was also a rural contribution; in Norway in the archipelagos between Grimstad-Risør and Tjøme-Nøtterø near Tønsberg. The same went for villages on the Swedish coast of Blekinge and Kalmar Sound and the Norrland coast from Gävle northwards. In Finland Åland and the Åbo archipelagos and Vesterbotten around Vasa saw a strong maritime activity. Denmark had its particular clusters around the South Funen Archipelago from Svendborg to Marstal, in Northern Jutland and other places. Here resided strong maritime subcultures that should keep the last sailing vessels alive up to the 1950s.

## Book-keepers and entrepreneurs

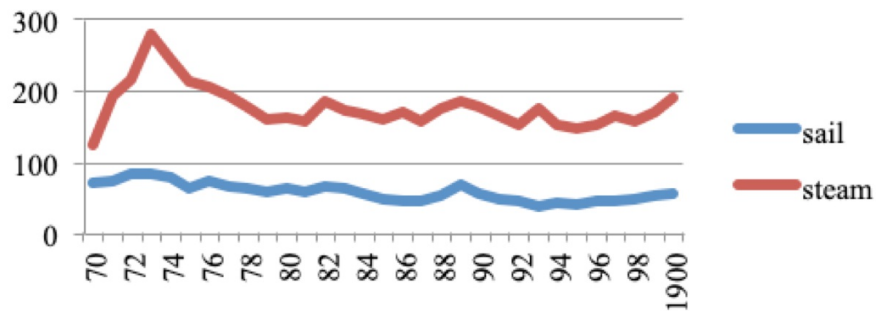
The nature of the single-asset partnership with its loose organisation of a managing captain and a "book-keeping" part-owner at home was lean and efficient, but no tool for development and ambition. The role of the "book-keeping" owner was basically one of caretaking, but there were entrepreneurs, too.

One example is John P Pedersen (1830-1900) at Staubø on Tverdalsøya in the archipelago between Arendal and Tvedestrand. The son of a shipowner and with three brothers in shipping, he stands out as dynamic and ambitious, although restricted by capital to invest in wooden sailers. By 1880 he was the wealthiest person of the parish, with shares of 1/16 to ¼ in 15 ships. From 1865 to 1884 he had been the person behind the local shipyard where 13 ships had been built.

From his copybook of 1884-87 we gain a good impression of how he was conducting his business from his small wooden office at Staubø. The owner was taking charge of the chartering by correspondence with brokers like Galbraith, Pembroke and H Clarkson in London, Gjemre in Newcastle, Olsen & Wright in Paris, Grisar & Marsigly in Antwerp, Holst in Savannah and Møller in Galveston. In due time before a ship was expected to its port of discharge, he had discussed the market options with a broker, written letters of instruction to the captain and also authorizing him to fix "best possible direction Galveston" or similar. The owner was using the Watsons Telegraphic Code for coded telegram messages to brokers, agents or the captain. It is also apparent how insurance is dealt with, seamen recruited through crewing agents but mates hired amongst the locals.

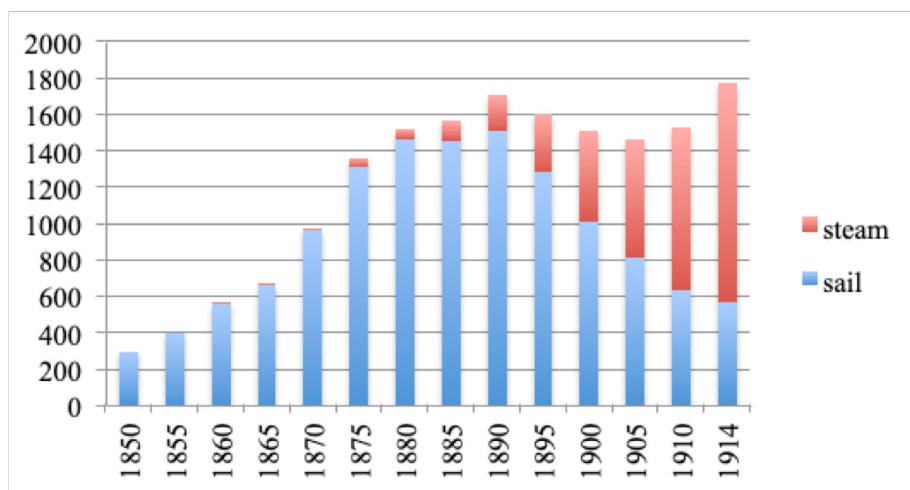
John P Pedersen stood by his wooden sailers through the difficult 1890s until he at the age of 66 took the initiative to go for steam. With the support of the local bank, an insurance settlement, savings and assets, he travelled up to Sandefjord to meet the yard owner Chr Christensen and was offered a 1450-ton steamer contract. Raising money took time and great effort by himself and his son Christian P Staubo and son-in-law Olaf Ditlev-Simonsen. While a good wooden sailing ship had a value of NOK 60,000, the steamer cost 250,000; to be raised in cash. But determination prevailed. The *s/s Daggry* ("Dawn") was completed in October 1898 and time-chartered in American waters.

The timing was right; the momentum of success paved the way for more steamers; the example emulated in the community to the extent that there were 15 steamships belonging in the parish at the end of 1902. But by then, the successful owners were in the process of moving out to Oslo.



Gross freight earnings 1870-1900 per ton for sailing vessels and steamers.  
Although these are aggregated figures, they give a good impression of the market conditions.

Source: SSB



Development of the Norwegian fleet 1850-1914, in 1000 net reg tons.

The total tonnage was in recession from the 1880s until 1905 as sail receded faster than the transition to steam. Source: Statistics Norway

## Steam: The technology leap

It is typical that the first iron steam vessel built in Norway should be constructed on the southern shore of the Lake Mjøsa, Norway's largest inland sea. The builders were Scottish craftsmen from Sanderson & Co, Glasgow, who during the summer of 1840 completed the paddle steamer Jernbarden.

The novel technology had to be imported, but it was available to people who could afford it and were open to its obvious qualities. In the case of Jernbarden, she opened the seasonal connections along the 117 km lake into the central tracts of Norway, and soon to be augmented by a railway line from Christiania to the head of the lake in 1854, built by Robert Stephenson. Steam required a new sort of men, engineers and mechanical craftsmen who quickly picked up the basic tricks of the technology.

The advent of technology caught on rapidly, spurred by steamship for coastal services, but also for metal and mechanical work, related to foundries, gas works, etc. During the 1850 the first of these "mechanical workshops" – soon to commence iron shipbuilding – were formed in the leading towns, Christiania, Bergen, and Trondheim. Competence and technology were rapidly acquired, partly from the Navy and also from Britain and

Sweden. By the mid-60s there was a steady production of mostly smaller iron steamers for coastal use, while larger were so far acquired from Britain.

The drive in introduction of steamships was the establishment of a transport system, supported by government grants and mail contracts. Only regular services for passengers, express cargo and mail could ensure the income necessary for the more expensive steamships. As we have already pointed out, this made it possible to develop larger steamship companies with the required commercial networks as well as the essential technical/operational management.

The group of companies like Det Bergenske Dampskibsselskab, Det Nordenfjeldske Dampskibsselskab and Det Søndenfjelds-Norske Dampskibsselskab were formed during the 1850s to operate steamship services to Hamburg, but refrained from challenging Thos Wilson & Sons who dominated the services to Hull and Britain. Bergenske and Nordenfjeldske were to remain market leaders in coastal/North Sea services well into the 1980s.

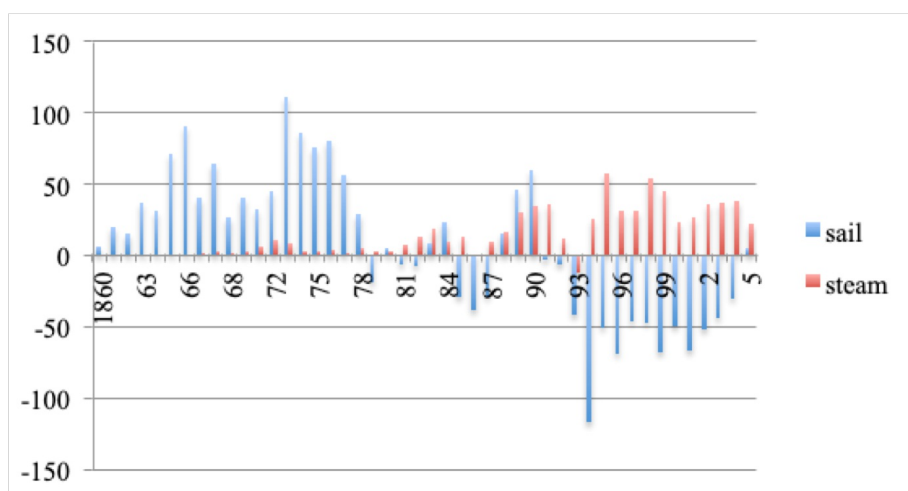
Carrying cargo by steam was for long an alien thought in the Norwegian shipping community. True, the technical advances of the 1860s with the more economical compound steam engine was a major improvement, but in the coastal communities there was a firm belief in the future of sail, boosted by satisfactory financial returns.

The only community in Norway where steam was followed with great interest was Bergen. Already in 1863 several merchants had come together in a steamship for operating to Northern Norway, carrying grain and provisions northwards to return with stockfish and fishery products. The ship was taken over by Bergenske whilst building and delivered in 1864 as Finmarken, to commence a regular service north.

The attraction of steam was above all productivity. As mentioned, a steamship ton was equal to three tons of sailing vessel; i.e. the cash-flow was expected to be three times higher. Peter Jebsen, the Danish-born industrialist, saw the project of a steamer to take copper ore from the Vigsnes mines at Karmøy to Britain and return with coal to Western Norway. The Saga (570 tdw) was delivered in June 1868 from Wigham Richardson & Co of Newcastle, as the first purpose built cargo vessel for Norwegian owners. She proved to be a good financial proposition, finding steady employment, and was followed by more vessels.

A few years later Peter Jebsen embarked on a far more ambitious project, with a series of four very large steamers for the emigrant trade from Norway to USA in combination with cargo. The steamers St Olaf, Harald Haarfager, Haakon Adelsteen and Kong Sverre (of 1403-2386 grt) built in Newcastle and Middlesbrough in 1871-73, were by far the largest in Norwegian ownership and remained so for a decade, financed by partnerships owned by Jebsen and other local merchants. The emigrant voyages were part of a wider employment scheme with increasing emphasis on coal from UK to the Far East, when St Olaf in 1871 transited the Suez Canal as the first Norwegian vessel, returning with rice or cotton.

By 1880, Bergen had a fleet of 30 iron steamers in addition to a good number of smaller wooden steamers for the herring trade. Three years later the steamer tonnage outnumbered sail in Bergen, and the transition from sail to steam continued rapidly.



*Acquisitions and departures from the Norwegian fleet 1860-1905.  
A notable surge in steamship investment around 1890 and from the late 90s.*

# Steamship disponents and entrepreneurial shipowners

The acquisition of steamers should soon lead to organizational changes in the way ships were managed.

The system of captain management and a shareholder accountant from the sailing ship soon proved inadequate for the operation of steamers. True, the captain's authority was still essential, but the greater capital involved, the more complex operation and the technical aspects handled by engineers and shipyards also required a stronger focus by the owners. And adding to this, quicker voyages, more port calls, discharging and loading, more cargoes to be fixed, at the same time as the telegraph and better mail services allowed for a greater participation from home.

This found a functional solution in Bergen with the "steamship disponents". In 1876 captain Jacob Christensen (1823-1887) settled ashore to take up management of the steamers *Bergen* and *August*, owned by the merchant house August Konow & Sons. Christensen proved himself to be a conscientious manager and soon had more ships added to his business. Others followed the example, often a captain with a partner of commercial practice who offered to take on management of partnerships.

"Disponent" is related to "disponere" (Norwegian) or "disponieren" (German), meaning handle or manage, and the disponent entered as the manager on behalf of the owners with authorities defined. The term "disponent owner" in current maritime law has the same implication.

These steamship disponents would often hold a minor part in the vessels, but acted entirely on the behalf of the partnership with limited authority. They would handle chartering, usually through their London brokers, arrange with port agents, coaling, general ship husbandry and dispatch instruction letters to the captains. In a decade or two, substantial fleets were gathered under steamship disponents like Jacob Christensen, Jacob R Olsen, Bergh & Helland, Harloff & Bøe, and others, some of whom ranked as the largest Norwegian "owners".

There is an essential distinction between a steamship disponent and the modern shipowner that was about to emerge, in the fact that the modern owner would also play an entrepreneurial part in long-time planning, contracting, financing and business aspects of the vessel. The phase of the "disponents" was connected to the traditional part-ownerships that was preferred in Bergen as it offered greater involvement for the larger partowners.

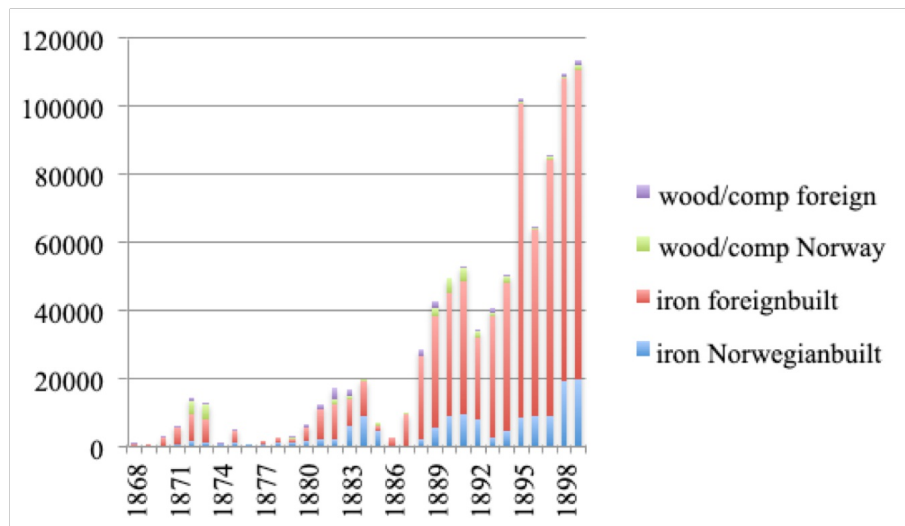
One of the first shipowners in the modern sense was Christian Michelsen (1857-1925), son of a Bergen merchant who took his law degree in 1879, married well and settled in Bergen as a lawyer but also with a strong interest in mining, fishing and whaling. With little success he turned to shipping in 1883. Michelsen soon realised that he needed to be fully in charge, and with the acquisition of ss *Sverre* in October 1884 he held 10/12; by heavily mortgaging his home, a wedding gift from his in-laws. His erstwhile adviser was captain Even Haugland who was also the resident Lloyd's Register surveyor.

In our context Christian Michelsen is important as an "entrepreneurial shipowner", building a shipping business as a personal venture by playing market cycles and opportunities. As the main owner he succeeded in aggregating a personal fortune that provided the means for an independent living.

Christian Michelsen had joined the liberal party and been elected mayor of Bergen in 1882, taking his seat as an MP ten years later. He became prime minister of a coalition cabinet in 1905 and is hailed as the architect behind the breaking of the union with Sweden, forcing King Oscar II to resign and bringing in Prince Charles of Denmark (married to Edward VII's daughter Maud) as king of Norway, Haakon VII. We shall meet him later in the story.

The role of the modern "shipowner" had been cast by Michelsen and became the model for the new generation that became the steamship entrepreneurs of the 1890s.

The Norwegian involvement in steam took place in two distinct periods: First the pioneering year from 1867 in stages during the 70s and early 80s until the depression of 1885/87, largely borne by merchant capital. The next period commencing in 1888/89 had a much broader entrepreneurial participation from persons with maritime or commercial experience. In fact, we are facing a new generation of entrepreneurs who were to set their mark for the next 25 years.



*A new phase of expansion from the late 80s, driven by a broader group of entrepreneurial owners.*

## A new generation

Opportunities are generally found as markets begin to pick up after recession.

The years 1887-90 are standing out in this respect as they saw a surge in purchases of steamships by a new generation of entrepreneurial owners. The Norwegian fleet of steamers doubled from 1887 to 1893, although it still did not account for more than 14 per cent of the tonnage. During the 1890s we find two very different trends happening at the same time: The crisis for the wooden sailing ships with a dramatic loss ratio taking place at the same time as the steamer fleet was after all growing, despite deteriorating markets. This was the point in history where the influx of steamers was barely keeping up with the demise of sailers.

Looking at the entrepreneurs who were now organising their first steamers we come across names like Halfdan Wilhelmsen, Otto Thoresen, Sigval bergesen, Hans Kiær & Co, B Stolt-Nielsen, Adolph Halvorsen, Bruusgaard Kiøsterud, Hjalmar Røed, A O Lindvig, Nicolay Wiborg, H M Wrangell, Knut Knutsen OAS, Biørnstad, Fred Olsen, Lorentzen, John P Pedersen & Søn, Albr W Selmer, A F Klaveness, J Ludwig Mowinckel, Halfdan Kuhnle, Bendix J Grefstad, J B Stang, Peder Johannessen, Hans Westfal-Larsen – household names in Norwegian shipping for generations.

Yet, the turn around 1890 is an important and exciting moment for the Norwegian shipping venture. It marks, in so many ways, the entry of the modern shipping industry as we would come to know it all the way up to the shipping crisis of the 1980s; a century later.

This new dawn is characterized by several innovations:

- The entrepreneurial shipowner, a person who is not merely managing assets for other shareholders, but with a more dynamic commercial approach to chartering, sale and purchase, financing projects, hands-on management.
- A more professional operation, in commercial as well as maritime and technical matters, relying on a lean organisation that also would include accounting, Insurance, crew management with a core of experienced officers, hiring superintendents for docking, etc.
- Basically each vessel would remain a separate financial entity, with capital subscribed for the acquisition and the net proceeds distributed along the vessel's life cycle.

- The expansion of the steamer fleet and more advanced international chartering business, such as time-charters like the Caribbean-US banana trade, also saw the rise of a modern shipbroker business in Norway, often as "cable brokers" with exclusive bonds to major brokers in London and New York. This ensured better market access and a competitive position for the local shipowners.
- It was also this group of entrepreneurial owners who came to utilize the new legislation that opened for public liability companies and shipping mortgage; the modern shipping company.

Where did these people come from?

Most were sons of ship masters, shipbrokers or merchants; coming up from a commercial culture. Some had the experience of a maritime career when they started; others had gained commercial practice at home and abroad. A few came from academic background as doctors or clergymen, but generally speaking, they had all grown up in communities where ships and seafaring were highly ranked, socially and materially.

**Halfdan Wilhelmsen**, Tønsberg (1864-1923), son of Morten [Wilhelm] Wilhelmsen (1839-1910) who had started as shipbroker and investor in 1865. Commercial education and practice, joined the family firm 1886, acquired first steamer *Talabot* 1887. Partner 1890, a true shipping talent and strategist who built Norway's largest company by 1900. Company relocated to Oslo 1916.

**Sigval Bergesen**, Stavanger (1863-1956), son of a clergyman, but commercial education and practice, started as shipbroker/agent in 1887. Financed first steamer the following year and became Stavanger's leading shipowner. Liberal MP 1903-09.

**Otto Keyser Thoresen**, Tønsberg (1849-1942), from Tjøme and son of a ship master and owner, became a captain and took over his father's business in 1880. Succeeded in financing first steamship 1887, ss *Seaton*. Took a particular interest in liner services and established the first Norwegian service to the Mediterranean in 1894. The company moved to Oslo in 1900.

**Anders Jacobsen**, Oslo (1845-), originally from Nøtterøy, sailed as a captain until 1882, moved to Oslo two years later as manager for sailing ships. First steamship acquired 1890, built one of Oslo's leading shipping companies.

**Hjalmar Røed** (1857-1906), Tønsberg, was a captain from a family of strong maritime traditions, settled in 1890 in Tønsberg as owner of the steamer *Sandø*. Had also management of steamers owned by Røed, McNair & Co, Glasgow with his brother Sigurd Røed as partner.

**Botholf Stolt-Nielsen** (1863-1936), Haugesund, was the son of a lawyer and decided on a mercantile career with education and practice. In 1886 he returned from Oslo to Haugesund to set up his own agency business, selling insurance policies. The first "herring steamer" *Avance* was acquired in 1891 and rapidly followed by other steamers.

**William Hansen** (1855-1931), born in Copenhagen, but came to serve with Bergen companies as a captain. Took over management of vessels in 1892 on M J Schjelderup's death and continued to build a large company.

**Ambortius Olsen Lindvig**, Kragerø (1855-1946, captain 1875, commercial practice, 1885 manager for sailing ships, ice exporter, first steamer 1893. Politically Liberal MP. Moved to Oslo 1912.

**Hakon Magne Wrangell** (1859-1942), Haugesund, was born to unmarried parents, grew up in the care of his grandparents, but succeeded at school. After a few years of practice with shipbroker R G Hagland, he set up a grocer shop in 1880, going on to invest in sailing ships and the herring business. He acquired his first steamship in 1894 and expanded rapidly.

**Bruusgaard, Kiøsterud & Co**, formed 1888 by captain Martin Henrik Bruusgaard (1845-1914), the merchant Nils Andreas Bull Kiøsterud and Fredrik J Kiøsterud (1861, who soon left). Starting with iron sailers, they went for steam in 1895 and built a large operation, soon with emphasis on the Far East.

**Brødrene Bjørnstad**, Sarpsborg, formed 1888 by the brothers Carl L Bjørnstad (1858) and Hans Bjørnstad (1860), timber merchants and shareholders in wooden sailers, first steamer 1896. Relocated to Oslo 1904.

**Camillo Eitzen**, Oslo (1851-1938), from a background of civil servants, grew up in Sarpsborg and Tønsberg, became a captain, acquired a broker firm in 1892 and settled in Oslo. Captain **Henry Tschudi** (1858-1939) with experience from steam became a partner two years later, and the first steamship delivered in 1896.

**Thomas [Fred]rik Olsen** (1857-1933), Oslo, was born at Hvitsten on the Oslo fjord in a family of captains and shipowners. After an initial trainee period in race he embarked on a maritime career and became a captain at the age of 22. From 1885 he came a partner with his father, Petter Olsen, and took eventually over the fleet of wooden sailers. The first steamer was delivered in 1897 for a regular service between the Oslo fjord and the Thames. Settling in Oslo in 1899, he came to expand largely from taking over other companies like Østlandske Lloyd, Færder and Ganger Rolf with regular passenger/cargo services to Rouen, Antwerp, Newcastle and Leith.

**Albrekt W Selmer**, Trondheim (1864-1910), the son of a doctor, born in Kristiansund, later settled in Trondheim, where he started with Bachke & Co. Manager of his first steamer in 1894, and formed his shipping and agency firm in 1897.

**Anton Fredrik Klaveness**, Sandefjord (1874-1958), son in a shipping family, had commercial education and practice before joining the family firm in 1898 as A F Klaveness & Co. First steamship acquired in 1898, and 1902 he formed the first multi-asset shipping company. Was to become a pioneer in large vessels. The company was relocated to Oslo in 1907.

**[J]ohan [Ludwig] Mowinckel** (1870-1853), Bergen, was the son of a wealthy merchant and became a student with the University of Oslo. After that he sought commercial and shipping practice abroad, and after his return to Bergen in 1893 was employed by Christian Michelsen, Bergen's leading shipowner and politician. When at Michelsen, he purchased his first steamer in 1898 and set up his own firm in 1901.

**Bendix Jørgensen Grefstad**, Arendal (1860-1922), from Fjære near Grimstad, captain, first iron sailer 1897, steamer 1899, partnership Grefstad & Herlofson 1907-1916, died 1922 from illness and company wound up.

Knut Knutsen OAS

**Vilhelm Torkildsen** (1869-1946), Bergen, the son of a doctor, born at Lillehammer but grew up in Bergen. Commercial education and practice in London before returning to Bergen. Formed his own coal import firm and acquired his first steamer 1899.

**Edvard Bernhard Aaby** (1869-1936), born Drammen as son of a shipowner (who died when his was 14), became a captain and settled at home in 1893 as broker and manager of sailing vessels. The first steamship acquired in 1898. The company moved from Drammen to Oslo in 1916.

**Karsten Bøhme Grøn**, Sandefjord (1873-1912), adopted son of captain/shipowner Peter Anton Grøn (1836-1903), mercantile practice, partner 1897 and invested in steamers. Killed by accident at sea 1912. Married Augusta, daughter of Christen Christensen, Framnæs, and his sister Therese married A F Klaveness.

**Ivar Anton Christensen** (1868-1934) was born in Mandal as the son of captain who took over a steamship agency in Haugesund in 1889. Also the young man opted for a maritime career and obtained his master's ticket at the age of 20. In 1893 he started a shipbroker firm in Haugesund and acquired his first steamer in 1902. Ten years later he had the largest fleet in town when he decided to move his operation to Oslo.

**Bernhard Hanssen** (1864-1939), Flekkefjord, was the son of a carpenter and was able to take teachers' seminary in 1883 and settle down as a teacher. Politically active as a Liberal, he became editor of the local newspaper in 1891 and became involved in local development projects. He was elected MP for the Liberals in 1900, and the position in Oslo opened doors that enabled Hanssen to set up his shipping company the following year.

**Peder Johannessen**, Tønsberg (1874-1940), son of a shipbroker, mercantile practice, partnership with captain Ole D Danielsen (1859 ) from 1904 with steamers.

**Hans Westfal-Larsen** (1872-1938), Bergen, was born as the son of a captain who was lost at sea when HWL was a child. He sought commercial education and was in 1889 employed by Rasmus F Olsen, a Bergen shipowner, rising to the post of confidential clerk. He formed his own firm in 1905 after financing his first steamer by means of a partnership of merchants and connections.

In order to fill the list of leading characters, we should include some of the established owners by 1887, as well as the leading disponents:

**Christian Michelsen** (1857-1925), Bergen. A merchant's son who became a lawyer and acquired his first steamer in 1883 in what can be termed an entrepreneurial business. He went for large ships and emerged as the leading shipowner in Bergen. Politically active as MP from 1892, a leading politician and prime minister in 1905 with the termination of the union with Sweden. The shipping company was dissolved in 1915 and the

proceeds were bequeathed to become a humanitarian foundation.

**Jacob Rytter Olsen** (1849-1917) was the son of a ship master and became a captain. After commercial practice he acquired his first steamer in 1881 and became an early entrepreneurial shipowner in Bergen, going for large steamers.

**Jacob Christensen**, steamship disponent established 1876 by captain Jacob Christensen 1 (1822-1887), followed by Jacob Christensen 2 (1857-1917) managing merchant-owned vessels. By 1910 the firm had been transformed to a family business on a moderate scale.

**Bergh & Helland**, Bergen, formed 1882 by captain Olaf O Bergh (1845-) and the confidential clerk Peter Helland (1847-1935) as steamships disponents for a good number of merchant partnerships. For a while the firm ranked amongst the largest in Norway, but most were gone by 1914.

The greatest challenge and main obstacle for young, competent and ambitious young men was the matter of financing. Until 1904, ships had to be fully financed by the shareholders, although banks could arrange loans on the security of ship shares.

Some of shipping projects were financed by turning to new groups of investors. A F Klaveness called on wealthy farmers in the inland counties to offer shares, and Olaf Ditlev-Simonsen had to travel extensively to the West Coast to raise the required capital for his father-in-law in 1896.

It is indicative that the South coast that had been the driving in the expansion in sailing ships 1840-1880, were now struggling with a large fleet of wooden sailing ships of low value and profitability and was largely left behind in the transition to steam.

The expansion in steam should come, apart from Bergen where it continued much as before with merchant capital, in Tønsberg, Drammen and Oslo, in Stavanger-Haugesund and to some extent in Trondheim. Capital appears to have been subscribed regionally through connections and family.

On the whole, the period from 1888 was to see a wave of entrepreneurship and organisation of steam shipping companies along the coast.

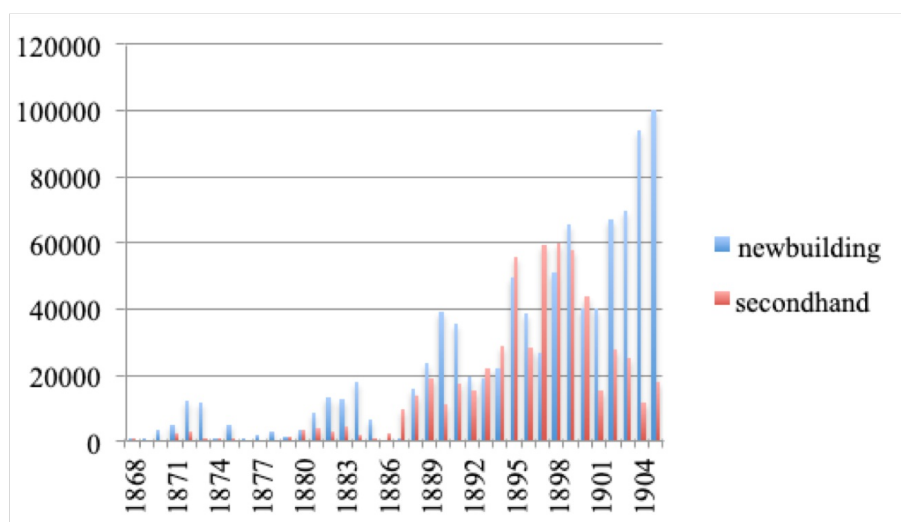
Of the 1004 cargo steamers acquired during 1888-1905, there were 587 newbuildings and 417 secondhand acquisitions. In addition, there were 53 new steel sailing ships delivered and 383 iron sailers acquired secondhand. Altogether investment in 1440 more modern vessels in 12 years, at a time when the Norwegian merchant fleet was actually diminishing.

## Spanning the globe

With some notable exception of a number of Bergen- and Tønsberg-registered steamers, most Norwegian vessels were small. The vast majority of the vessels were smaller than 1000 net reg tons, or around 1500 tdw.

Traditionally, most of the vessels had been sent out with cargo from home or Scandinavian ports. Once the ships were discharged in a foreign port, the captain would arrange the next cargo with his local broker or agent, taking a suitable cargo in the general direction he had been instructed to do. This custom gradually changed during the 1880s when many disponents and shipowners had established connections with brokers abroad, like Charles Northcote, W S Lindsay, Horace Clarkson, Galbraith in London, Grisar & Marsigly in Antwerp, Wamkersie in Rotterdam, Daniel Milberg in Hamburg, H Boman and Olson & Wright in Stockholm as well as Paris and many others. Correspondence would be by long and confidential letters, discussing markets and directions; surprisingly often in the Norwegian language since apparently most had employed Norwegians as brokers. When a cargo had been arranged, the fixture was concluded rapidly by telegram.





*Acquisition of cargo steamers 1868-1905, newbuildings and secondhand purchases, in gross tons.  
Secondhand buying appears at a higher rate during weak markets, whereas new contracting follows closely the market outlook.*

*Source: Author*

The shipbrokers found in every coastal town in Norway were mostly dealing with local cargoes and principals, like export of timber, ice and fish and the imports of coal, salt and whatever else was needed.

Much of this was to change around 1890 when a new generation of shipbrokers in Norway managed to win the confidence of the local shipowners by some sort of "added value". Joachim Grieg in Bergen, who set up his firm in 1884, went to considerable expense to gather information on port conditions, charterers' solidity and relevant market news. Grieg in Bergen, Thomas Fearnley in Oslo, Chr Th Boe in Arendal and others would be followed by a new generation of shipbrokers in the 1890s, often with practice and connections from abroad. The successful ones would draw on more or less exclusive bonds with the leading broker houses in London, Paris, Hamburg and New York; the "cable brokers". In this manner, the Norwegian brokers would represent the shipowners while the foreign broker would front the charterer.

As most ships were small, they would large be employed in European waters, along the coasts of America and in the Far East. As late as 1891, the fixtures by Fearnley & Eger Chartering were mainly for coal (37 per cent), timber 836 per cent) and woodpulp (12 cer cent);  $\frac{3}{4}$  of the timber originated in Norway and 77 per cent of the coal in the UK. There were only 5 time charter-parties.

Against this parochial background it is intriguing to follow the Norwegian participation in the Caribbean-US fruit trade. In 1885 three steamers were fixed for the seasonal transport of bananas from Baracoa, Cuba, to New York; the *Welhaven*, *Fram* and *Stamford*. It is said that when the charterers realised that *Stamford* was Norwegian, they sought to cancel the charter party. However, the steamers did well, and the next year, Joachim Grieg was called upon by a Mr Hall of W M Hurlbut & Co of New York. They had discovered a good number of smaller Bergen steamers in Lloyd's Register and wanted to find out whether any business could be made.

The timing was right as the banana-growing industry was going through rapid expansion and consolidation as cultivation spread from Cuba to Jamaica and the Central-American mainland. Fruit importers came in the market for seasonal charters or outright time-charters for several years. The Norwegian ships brought in, initially steamers of 500-1000 tdw with naturally ventilated holds, met with expectations, and in 1893, 59 out of the 79 banana vessels were Norwegian. Even though United Fruit Co, as the consolidated market leader, began to build its own "Great White Fleet", the Norwegian "Mosquito fleet" was kept on till the 1920s.

The banana boat chapter is important as the first example of a specialized trade by Norwegian owners, served by purpose-built vessels. Much of the credit has been attributed to competent officers, reflected by the saying: "We do not charter your vessels; we charter your captains!"

The most widely travelled group of ships were the larger deepsea tramp steamers, whose number slowly escalated. Here the Bergen merchant owners and Tønsberg entrepreneurs like Wilhelmsen and Røed were leading the way. And the larger sailing vessels were also often fixed for long voyages, with timber from Norway to Australia, coal to Chile and guano from Chile to Europe.

## Political division

A belated revision of the Shipping Act of 1860s came up for the *Storting* (parliament) in 1893. The main issues were over safety and seaworthiness, that were still to be left to the master's responsibility, but the term of hire was restricted to 2 years.

There was, however, a political division between liberal MPs who sought to improve the working conditions of sailors in general, and MPs who were concerned not to impose terms that would put Norwegian vessels to disadvantage.

Then came the 1890s and the crisis for the wooden sailing ships and the appalling loss ratio. The loss statistics had been picking up from 1887 and reached 160 per cent of the international standard during the first half of the 90s. During 1894 alone, 308 sailing ships were lost together with 567 lives. So while Norwegian seafarers in general were highly thought of, Norwegian sailing ships in particular had a poor reputation. Adding to this, Norwegian sailing ships in deep trade trades suffered from deficiency diseases; the Port Health Officer in Falmouth found in 1900 that 9 per cent of sailors on board Norwegian vessels were suffering from beri-beri, against 4 per cent in German and 0,5 per cent in British ships. Efforts at rectifying the diet with food regulations proved futile, as the reason for beri-beri (starchy food) was not yet understood. However, the British happened to solve the problem by issuing two spoons of lemon juice per day.

In 1895 a parliamentary commission was appointed to address the problems, and out of this a bill resulted in 1902, proposing public control with sea safety, seaworthiness and general conditions. There were, however, severe differences on what sort of control. The liberals favoured an institution of ship inspectors and surveyors, whereas the conservatives claimed that an inspection officer under the local maritime courts would suffice. It took a seven-days debate in the *Storting* in April 1903 to pass the Seaworthiness Act (Public Control with Ships' Seaworthiness) that led to the organization of a Maritime Administration ("Sjøfartskontoret") under the Ministry of Trade. Herewith, Norway had a departmental institution for maritime matters, ranging from technical and operational issues to working conditions. The proposal for a mandatory loading line was refused; even a liberal MP shipowner like Bernhard Hanssen from Flekkefjord who supported the Bill, took exception from the loading line.

The loading line was finally made mandatory in 1910, passed without serious debate.

There had been no public registry of ships, other than the list of "National certificate" (*Nasjonalitetsbevis*) issued by the regional customs officer since 1864. The 1893 Shipping Act outlined a ship registration structure, but the regulations were only passed in a Ship Registration Act of 4 May 1901. By the act, every ship would have to be listed, registered, by the district stipendiary magistrate, with details on measurement, ownership, including part owners in partnerships, or board members of public liability companies. The law entered into effect in 1904 and rendered the statutory listing of ownership legally secure for mortgage. In other words: The law opened for modern ship financing, following the relevant principles of the British Merchant Ship Act of 1894.

### NO COUNTRY FOR ORGANIZED CAPITALISM

The shipping venture was typical Norwegian in organisation and development. It started with local entrepreneurship, grew within personal networks, under a benevolent regime that put up few barriers and obligations. As proceeds were distributed, these were often reinvested in new projects. Ship shares were profitable for long periods, but hardly liquid for sale. They produced a sprinkling of cash until the mid-1880s.

The investment in steamers from the late 1880s followed the same pattern; a broad group of entrepreneurs drawing on larger networks to accrue more money for more expensive vessels. The business was professionalized to meet the changing markets and was surrounded by the required resources for insurance, chartering and technical services.

The Norwegian bank structure was largely similar: Some commercial bankers in the leading towns and a network of smaller banks set up locally to support local development. The Ship Registration Act of 1901 and the opening to mortgage financing was of great importance, but the main lenders (for 20-40 per cent of the ship's cost) were initially Dutch banks.

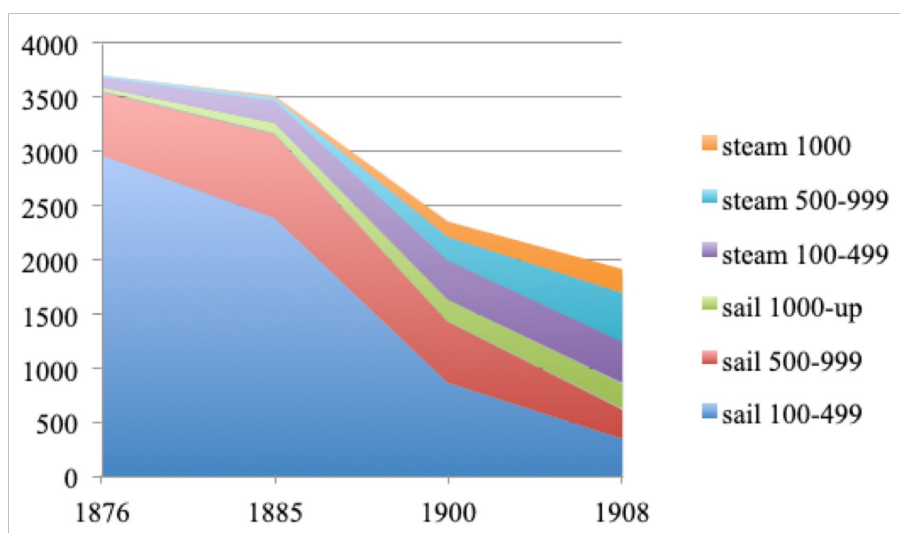
To develop larger and more advanced vessels for liner services or cargo contracts, a different financial system was required. The natural response was the Norwegian Ship Hypothek bank formed in 1906 by the leading banks. The idea of a national state-supported shipping finance institution met with scepticism from the shipowners who feared state intervention. Even the matter of modern legislation for public liability companies (aksjeselskap) was not settled until 1910 and a specific law for public liability shipping companies was not billed until 1916.

## The new dawn

A new century dawned in January 1900 with expectation in the air. The markets had been picking up; a record number of vessels were being built and acquired, from venerable iron clippers to secondhand steamers and newbuildings proudly sent out to sea.

The cycle of the wooden sailing ships was painfully grinding on after a decade of a diminishing fleet, while the new growth cycle of steam was struggling to replace the loss. Despite the decrease, Norway was still number 4 on the list, after Great Britain, USA and Germany, and ahead of France.

Sail to steam was a structural change, and a process of change that would take its time; about two decades. In a longer perspective the dominating change had been the gradual decline of the smaller sailing ships; 3000 ships of 100-499 nrt by 1976 had dwindled to 870 by 1900. The trend went for fewer but larger vessels.



*The number of vessels 1876-1908, in size and propulsion.  
The fleet was still mainly made out by smaller vessels below 1000 grt.*

The coastal towns with their emphasis on sailing ships enjoyed a reprieve from the general demise of sail with acquisition of good secondhand iron and steel sailings ships. Such vessels, retired by British and German owners, generally 20-30 years old and between 1200 and 3000 tdw, could be had at moderate prices. Operated in the traditional manner under strict economy, they could be quite profitable. For this reason the share of sailing ships remained high, 41 cent of the fleet in 1910.

There was also a geographical trend as the shipping communities in the coastal towns around the Oslo fjord and South coast withered with the demise of the sailing ships. The region was further depleted when the few shipowners who had actually succeeded in financing steamers moved to Oslo. The move by owners like Otto Thoresen from Tønsberg, A F Klaveness from Sandefjord, Biørnstad from Sarpsborg, Lindvig and Wiborg from Kragerø, Pedersen from Staubø, Isachsen from Grimstad, Waage and Ivar An Christensen from Haugesund, and many more, served to make Oslo a pot-boiler of new talent and entrepreneurship. By 1907 Oslo passed Bergen as the leading shipping city with a rapidly growing fleet.

There would have been good reasons for moving from Staubø or Sarpsborg to the larger commercial community in Oslo. Here the owners would have beer communication by telegraph and mail, and even telephone. They would have personal access to their bankers, brokers, insurance agents, to technical consultants and shipbuilders, and also to a social network that was to prove essential in time.

As a consequence of the structural changes Oslo and Bergen emerged as the two main shipping cities. Bergen was still characterized by merchant capital but also entrepreneurial owners, while Oslo's community largely consisted of shipping people who had moved in from other parts of the country. Oslo still had a large sailing ship fleet, making Bergen the largest in steam up to 1914.

## The largest shipping companies, 1905

### Number of steamers in nrt.

Wilh Wilhelmsen, Tønsberg	24	45,867 nrt	
Chr Michelsen, Bergen	8	16,277	
Bergh & Helland, Bergen	10	14,988	
Harloff & Bøe, Bergen	9	12,767	
Bruusgaard, Kiøsterud & Co, Drammen	10	12,346	5 sailers
Jacob Christensen, Bergen	6	12,03	
Jacob R Olsen, Bergen	6	11,757	
Andreas Olsen, Bergen	6	11,757	
Det Bergenske Dampskibsselskab	22	11,446	
Otto Thoresen, Oslo	16	10,952	
Fred Olsen, Oslo	15	10,454	3 sailers
Sigval Bergesen, Stavanger	16	10,231	2 sailers
Fearnley & Eger, Oslo	10	9,815	
Mail & Holby, Oslo	8	9,056	
Johan C Giertsen, Bergen	14	9,01	
Det Nordenfjeldske Dss, Trondheim	20	8,855	
S M Kuhnle, Bergen	8	8,616	
A F Klaveness & Co, Sandefjord	9	8,292	10 sailers
Hans Kiær & Co, Drammen	9	8,236	1 sailer
Conrad Hofgaard Blumer, Oslo	7	7,802	1 sailer
And Jacobsen, Oslo	11	7,646	

## Why not like Canada?

The Norwegian shipping adventure had in many respects grown like the one in Canada's Maritime Provinces. From the aftermath of the Napoleonic wars both came to expand through wooden shipbuilding largely based on local resources and emerged as two of the leading maritime clusters; Norway as the third and Canada as the fourth by 1875.

There are similarities: Both regions were initially pre-industrial and sparsely populated areas that succeeded in international shipping and shipbuilding. Neither had from the outset any technological resources that could support iron and steam. The ownership structure was, at least to start with, fragmented in both clusters. Both regions were largely tied to the timber industry and both developed strong communities of maritime

competence and skills.

Canada's Atlantic Colonies (Nova Scotia, New Brunswick, Prince Edward Island and Newfoundland) flourished and prospered with the wooden sailing ship to its peak in 1880, while Norway continued to rise and matured ten years later. From there on, decline seemed inevitable. The shipping industry in the Canadian Atlantic withered and practically vanished, whereas Norway went on to the next cycle, iron and steam ships. Why?

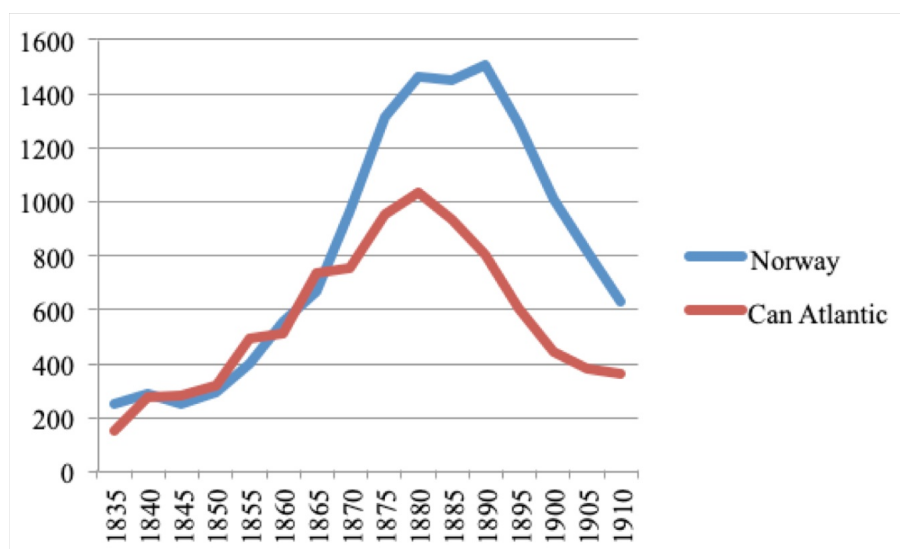
There were subtle differences, though.

First, the Norwegian fleet of sailing vessels was almost entirely owned by part-ownerships with the captain as the effective "manager". In Canada, ownership seems concentrated to merchant houses, combining trade and timber export with shipowning and other activities. "The great shipowners of Atlantic Canada were merchants first and shipowners second". Investment in shipping seems to be a matter of rational decisions, whereas it in Norway had an aspect of deeper roots and with no real alternatives.

Thanks to geography and population, Norway would build substantial activity in coastal steamship services that helped to support an iron shipbuilding industry and a – albeit moderate – technological cluster that could expand from the 1890s and the next cycle.

From the 1830s Norway would see cooperation within the local maritime communities, starting with mutual insurance societies, followed by the establishment of DNV in 1864. The shipping sector proved relatively more important to a small nation like Norway than Canada with far greater challenges and potential. The Canadian National Policy of 1893 set different political objectives than supporting a dwindling industry. When shipping in the 1880s no longer returned satisfactory results, the owners decided to sell.

Yet the most important difference appears to be in organization. The small single-asset partnership with a wooden sailing ship was doomed in Norway as it was in Canada. What emerged in Norway was the embryo of the shipping company, first the steamship "disponent" as a dedicated manager and later the entrepreneurial shipowner. These are the factors that lifted Norway into the second cycle with steam and iron from 1888/90.



*The rise and fall of the Canadian and Norwegian wooden sailing fleets 1835-1910*

Vi skal frem til 1905 og begynne der:

1905 er ved et brytningspunkt både i forhold til linjefart/driftsform

og mht organiseringen av sjøfolk

De store sjøfartsnasjonene og deres særpreg