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Markets, prices and consumption

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Markets, Prices and Consumption. Herring trade in the North Sea and Baltic region

Introduction

This article presents an overview of the long term trends in the trading patterns for salted herring in the area of the North Sea and the Baltic Sea and their hinterlands in the period of c. 1600-1850. The *market* is defined as ‘the interaction between supply and demand to determine the market price and corresponding quantity bought and sold.’¹ In this period the north European herring market underwent several changes. This is analysed from four different points of view: The first main section examines the main trading routes for herring in Northern Europe by use of records from the Sound toll registers as well as from accounts of herring imports in the German North Sea and Baltic cities. Then a number of price series for various parts of northern Europe give indications for the long term development of prices of herring. Following this an analysis of the consumption patterns of salted herring is carried out, and finally the influence of mercantilist policies is evaluated. The area of investigation and most of the towns mentioned in this article are listed on the map figure 1.

¹ <http://www-personal.umich.edu/~alandear/glossary/m.html>

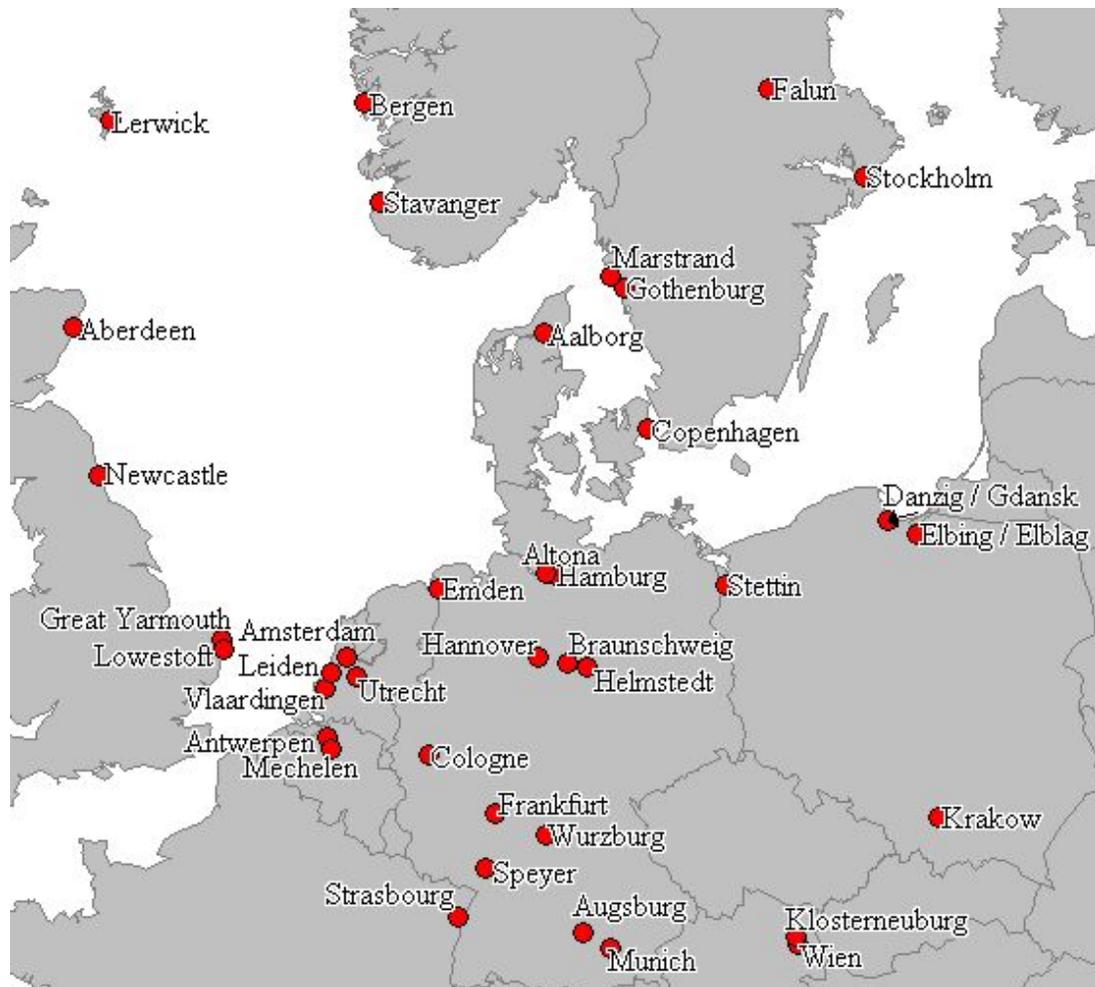


Figure 1

Markets

As a starting point the Dutch herring fabrication and exports all over Europe in the 17th century gives an indication of the scope of the European herring trade. When the salted herring came ashore the content had usually shrunken, and in order to control the quality of the landed product as well using the empty space in the barrels, the whole cargo was repacked. Therefore, the barrels containing the finished product ready for export contained 12 barrels per last against the 14 barrels per last, when landed by the fishing vessel. Packed in barrels the finished product was easily transported over large distances, and the cured salted herring could last for a long time. Being the prime product, but all the salted herring from the North Sea area was processed and

barrelled, so it was easy to transport. But where did all the salted herring go in the 17th and 18th centuries?

Dutch historian, Kranenburg calculated that in the heyday of the Dutch primacy in the herring trade in the first half of the 17th century c. 80% of the production of salted herring was exported to other countries, and only 20% was consumed in the Dutch Republic. The main herring port Enkhuizen in the Noorderkwartier, the northern part of the Holland province, was trading mainly with Hamburg in northern Germany and the countries in the Baltic area. The southern fishing ports along the Maas; Schiedam, Rotterdam and Delftshaven were handling the export into the central German marketplaces of Cologne and Frankfurt, as well as Rouen north of Paris and also to England. Herring from Enkhuizen was also sent south, just as the southern town occasionally shipped herring to the Baltic, but in general the pattern was clear.² In the following, it is mainly the herring trade between the North Sea and the Baltic which is analysed, since these areas offer a number of exquisite sources for investigating the long term changes in trade patterns.

Through the Sound

When estimating the size of the development of trade in northern Europe, various statistics can help clarify, who were the dominating players on the market from the late 16th until the mid 19th century.

One of the most important markets for the herring fisheries around the North Sea herring was the Baltic. For the salted and barrelled North Sea herring to reach The Baltic they were practically always carried by sea. This meant that they had to pass the Sound, and throughout the period in investigation all ships entering the Sound had to pay a toll to the Danish king for safe passage through the narrow straits of Denmark. Each skipper was obliged to present an account of where his ship came from, where it was going, what they were carrying and where the ship itself was from. Most importantly the ship had to pay a sum according to the amount of goods they were carrying. Testimonies of all ships were recorded for almost 300 years, and a large scale historical undertaking in the first half of the 20th century led to the publication of the sound toll registers.³

² Kranenburg, H. A. H., (1946), p. 130-131.

³ Bang, Nina, (1922) and Bang, Nina and Knud Korst, (1932).

The Sound toll registers make up one of the longest time series of the transport of goods and it has been the subject of plenty of historical research.

The Sound toll registers have received criticism for inaccuracy and errors with regards to the quantities of goods registered per vessel, and with regards to the heterogeneous nature of measurements for ship last from various countries. This makes it difficult to use the absolute figures with regards to for instance the herring transported through the Sound as a precise indication of the consumption of North Sea herring in the Baltic region. However, as stated by historian, Aksel E. Christensen on the Sound toll registers, ‘the utility and importance of relative figures cannot easily be overestimated in the case of quantitative history of earlier periods.’⁴

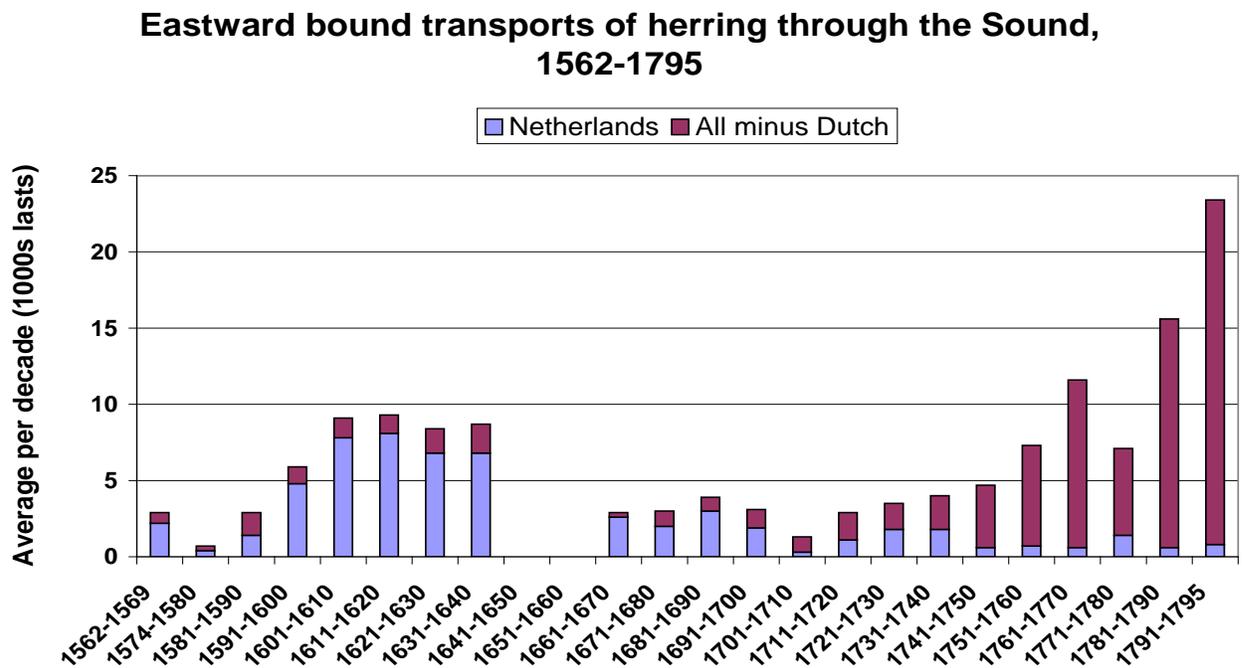


Figure 2.

Through a number of different extractions of herring transports through the sound it is possible to present an estimation of the overall development of the different herring producers competing for the Baltic market. Using a number of published sources figure 2. show the total amount of herring transported through the Sound in the period of 1562-1640 and 1660-1795.⁵ The main feature in this figure is twofold.

⁴ Christensen, Aksel E., (1941), p. 31.

⁵ Christensen, Aksel E., (1941), p. 337, Hitzbleck, Herbert, (1971), p. 274 and Johansen, Hans Chr., (1983), p. 105.

First of all, there seems to have been a highpoint in the transports of herring through the Sound in the first half of 17th century, followed by a decline to a third of this level in the following century. Then in the latter half of the 18th century transports picked up again, so by the 1760s the amounts of salted herring going through the Sound had surpassed the best periods of the previous century. By the 1790s the size of the herring transports through the Sound into the Baltic had more than compared to the heights of the 17th century.

Secondly, the figures reveals how the salted herring produced in the Netherlands accounted for 70-90 % of the herring transports throughout the 17th century, but out of a declining total amount. Not until the turn of the 18th century did the Dutch dominance of the trade through Sound disappear, and throughout the 18th century the Dutch remained minor players in the Baltic herring trade, so who took over?

Herring export through The Sound by export country, 1721-83

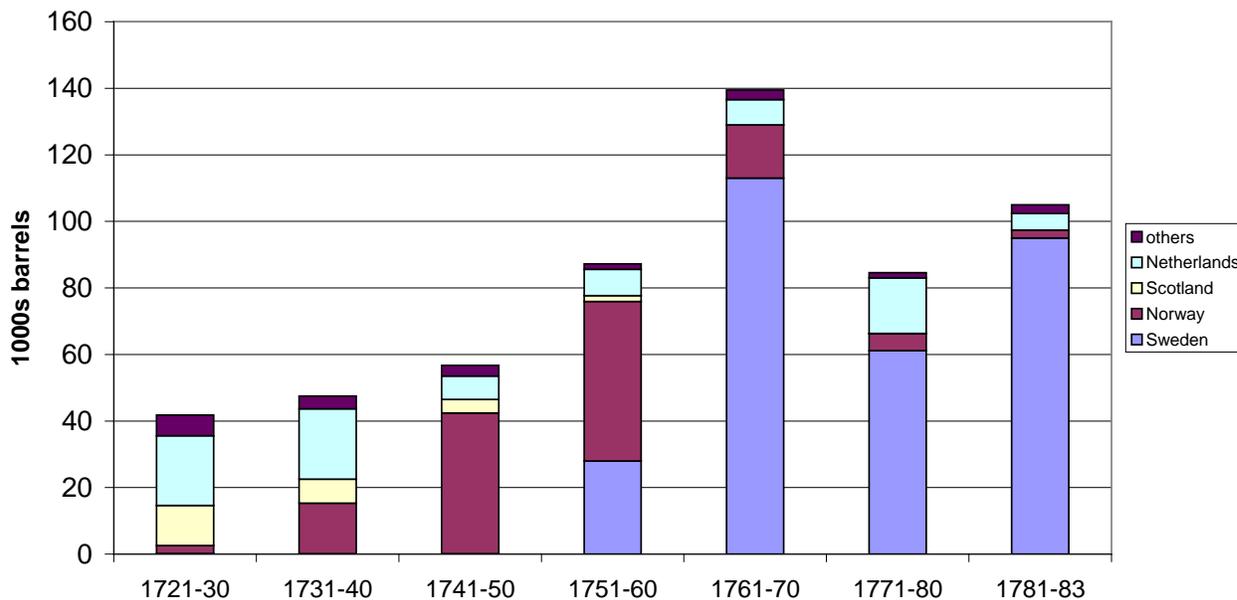


Figure 3.

For the years 1721-83 Swedish historian, Högberg has examined the sound toll registers for the amount of herring exported into the Baltic from the fishing nations of the North Sea area, which

is illustrated by figure 3.⁶ In the 1720s the Scottish export was the chief rival of the Dutch, where as the Norwegian export rose dramatically in the 1730s and 40s, where shipments from Norway were the most frequent in the Sound toll registers. From the 1750s onwards though, the Swedish produced herring from Bohuslen started entering the tables, and from the 1760s and for the rest of the century, Sweden was by far the most dominant exporter of herring into the Baltic. Thus over the course of the 18th century the composition of the trade through the Sound changed dramatically.

Through calculations of the Swedish herring export from Bohuslen 1760-1805 it is possible to see, how much herring went eastward into the Baltic and how much went westward into the North Sea region and further away. Figure 4. illustrate how c. two thirds of the Swedish export went through the Sound until 1780.

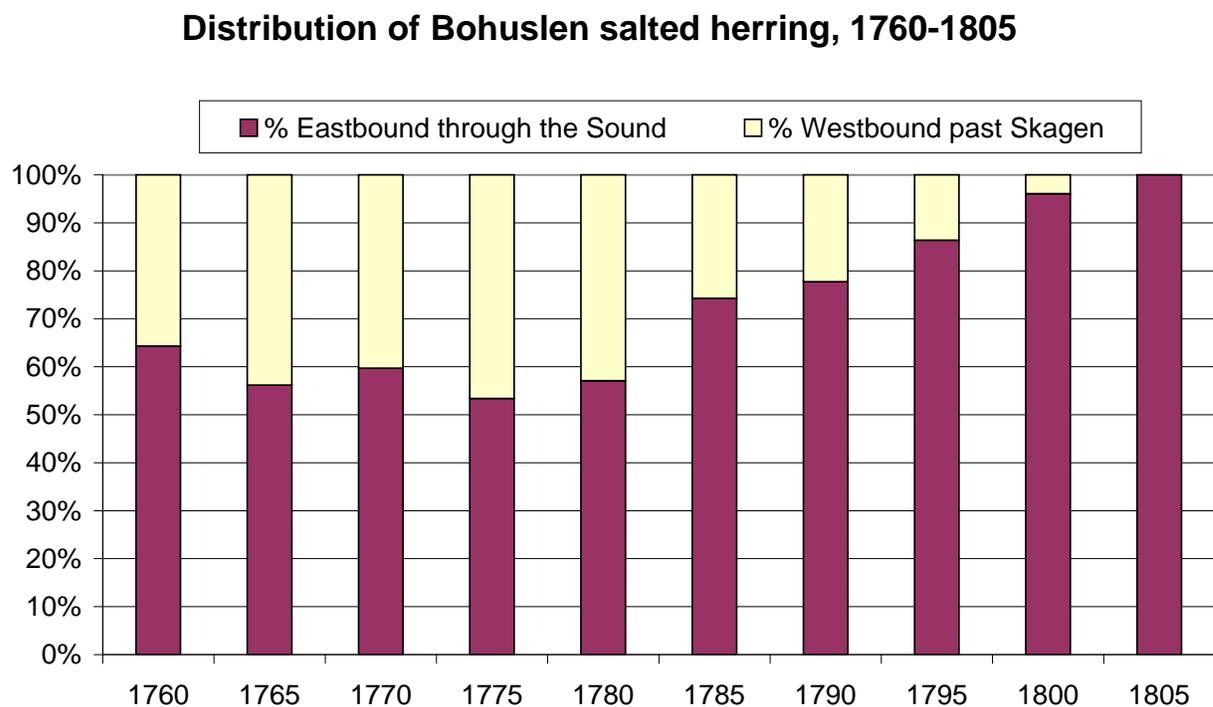


Figure 4.

⁶ Högberg, Staffan, (1969), p. 166.

However, in the following 25 years, which also had the largest export in total figures, the export went almost universally to the Baltic.⁷ In 1795 the German towns in the Baltic bought more than 80% of all the Swedish salted herring, while 4% went to Russia and 1% to Denmark. Within the westward bound quantities 9% went to 'the North Sea', 2% to the German North Sea coast and 1% to the Mediterranean. Norway, Great Britain and the Netherlands did not import significant quantities of the Bohuslen herring, but may have been at the receiving end of some of the unspecified North Sea exports.⁸ The relative decline of the westward transports after 1780 though, are probably attributable also to the Revolutionary Wars and the Napoleonic Wars, both interfering more with the North Sea area than with The Baltic.

Stettin

Once the herring shipments had passed the Sound going east, one of the most important herring ports of the Baltic area was Stettin in present day Poland. For Stettin it is possible to follow the annual import of herring for most years, 1597-1674, and again from 1739-1850. This is illustrated by figure 5.⁹ In the long term perspective the import figures for Stettin relate well the trading pattern observed from the Sound toll registers, although the contraction of the trade set in earlier in the 17th century locally in Stettin than in the Baltic at large. In spite of considerable gaps in the 18th century data, the import through Stettin rose again here, surpassing the 17th century highpoint in the latter half of the century. Then from the 1820s onwards the trade rose to 5-7 times the level of the previous century.

⁷ Dalén, Lennart, (1941), p. 140-141.

⁸ Dalén, Lennart, (1941), p. 142.

⁹ Blümcke, Otto, (1887), p. 193-196 and NA. *Commissie van Onderzoek omtrent de regelingen der Zeevisserijen, 1851-1857*, inv. No. 14, appendix 25, "Invoer van haring te Stettin van 1824 tot 1850".

Herring imported into Stettin, 1597-1850

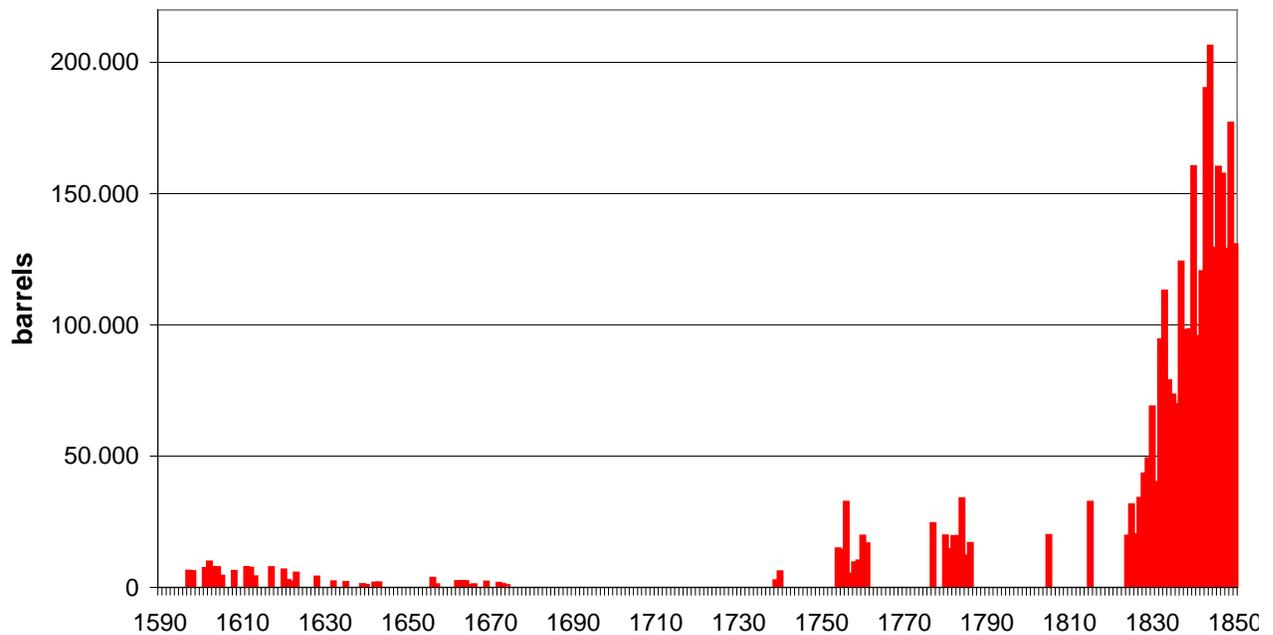


Figure 5.

In the 17th century the herring most likely came from the Netherlands, but from 1739-1759 trade figures make it possible to track the origin of the herring as being either ‘holländischer’ or ‘nordischer’. As late as 1740 the Dutch were still the most important export country, but over the course of the 1750s the imports of Nordic herring by far exceed the Dutch herring.¹⁰ This pattern of change fits well into the image established by the Sound toll registers of the Norwegian and Swedish produced herring taking over the herring trade. The origin of herring imported during the rest of the century does not feature from published statistics, but beyond doubt, the Bohuslen herring catered for the market of Stettin and its German hinterland. Then again from 1824-1850 it is possible to follow on an annual basis, which countries provided the herring imported into for Stettin. They are presented by figure 6.¹¹

¹⁰ Blümcke, Otto, (1887), p. 195.

¹¹ NA, *Commissie van Onderzoek omtrent de regelingen der Zeevisserijen, 1851-1857*, inventory no. 14, appendix 25; ‘Invoer van haring te Stettin van 1824 tot 1850’.

Herring imported from various countries to the town of Stettin, 1824-1850

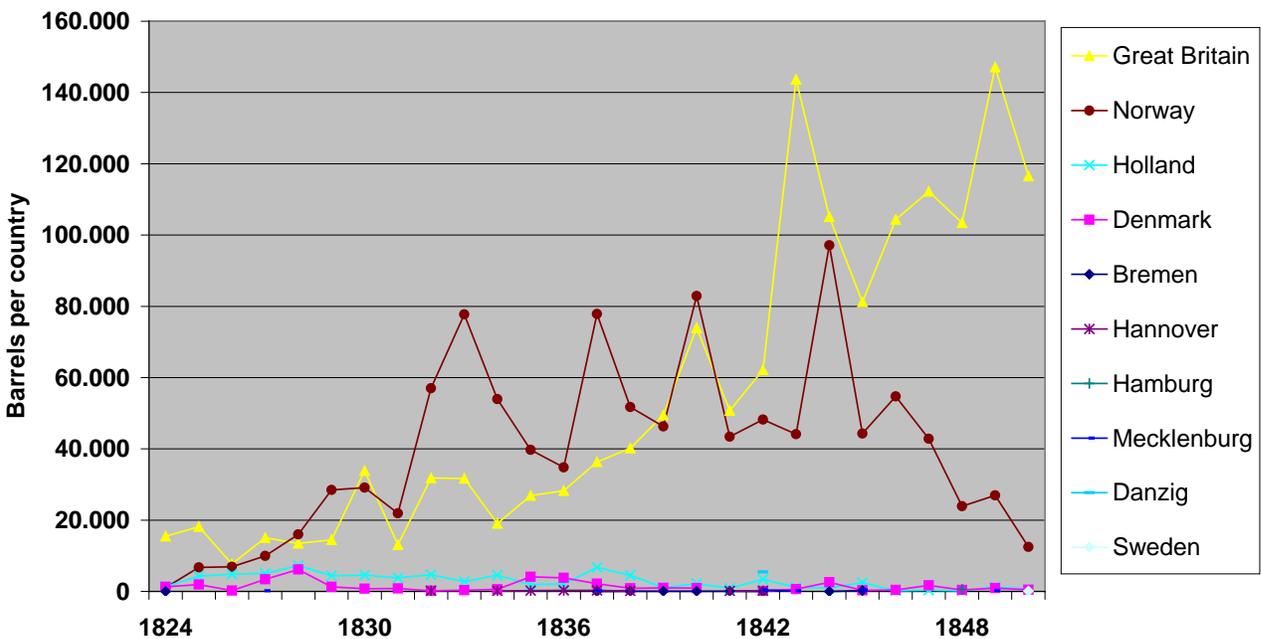


Figure 6.

It becomes evident that even in the 1820s the Dutch were still present in the Baltic, where as the Swedish herring industry was completely wiped out following the fall of the great Bohuslen herring periods. Instead the Scottish herring have entered the market as the dominant producer, but quickly into the 1830s the Norwegian herring export was surging and taking the lead throughout this decade. Imports from all other areas were insignificant. In the 1840s however, the Norwegian herring was on its way out again, where as the import of Scottish herring kept going up throughout this period, signifying how the Scottish rose to prominence on the Baltic herring market during the first half of the 19th century.

Geographically, Stettin functioned as a market for further sale and distribution in the German hinterland. In the 17th century herring imported through Stettin were sent to the province of Pomerania, and parts of neighbouring provinces of Mecklenburg and Western Prussia. To the east into Poland and the river Wisla they were competing with Danzig, and to the west the merchants of Stettin were competing with Stralsund and Greifswald. This covers some 3-400 km

of the Baltic coastline. To the south the trade route followed the river Oder at least 500 km to the south into Breslau in Silesia, which today is in south west Poland.¹²

The huge increase in the herring trade in the 19th century is most likely linked to a regional population increase and wider process of urbanisation, where especially Berlin witnessed a tremendous growth from an insignificant town in the 17th century into becoming the large capital of the Prussian Kingdom.

Hamburg

The main North Sea port of import for salted herring was Hamburg. Through published data on the annual import of herring it is possible to follow the annual import of herring for the years 1623-33, 1693-1744, 1779 and 1815-22.¹³ In spite of large gaps of years with no available data some trends can be lured out this time series displayed on figure 7.

Compared with Stetting much more herring was imported into Hamburg in the 17th century and first half of the 18th century. The available data reveal large inter annual fluctuations in this period ranging from 10,000 to a highpoint of 80,000 barrels imported in the beginning of the 18th century. The general trend though seem to have been one of decline over the whole 200 year period covered by import statistics, and contrary to Stettin, there was seemingly no rise in import in the late 18th century, nor a drastic take off in herring trade through Hamburg in the 1820s.

¹² Blümcke, Otto, (1887), p. 218-229.

¹³ Baasch, Ernst, (1906), p. 100, Hitzbleck, Herbert, (1971), p. 195 and Röhlk, Frauke, (1973), p. 114-115.

Total import of salted herring into Hamburg

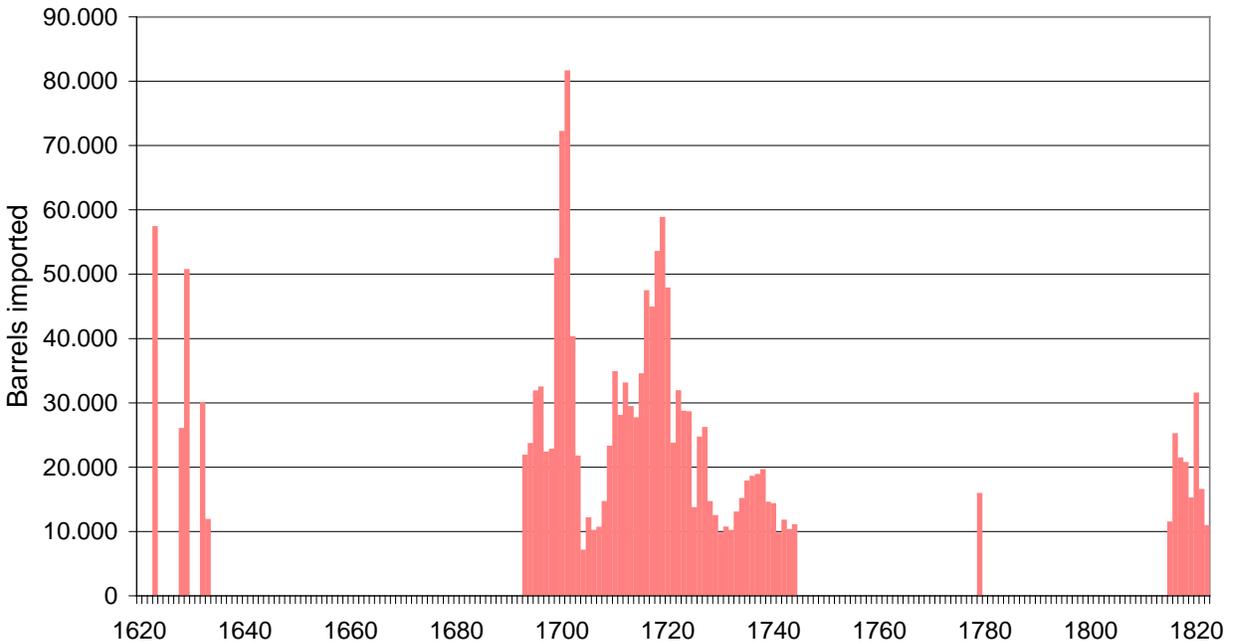


Figure 7.

With regard to the origin of the imported herring, the Dutch managed to stay ahead in the Hamburg trade until well into the 1750s, unlike the trade through the Sound and into Stettin. In the 17th century they accounted for virtually all herring imported into Hamburg, and still in 1717 the Scottish herring amounted to a mere one sixth of the total import. In 1753 64% of the herring came from The Dutch Republic, and in the years 1789-1792, when the Swedish herring were of paramount importance in the Baltic, 46% of the import into Hamburg was of Dutch origin. For the years immediately after the end of the Napoleonic Wars it is possible to follow more accurately the origin of the herring imported into Hamburg. This is illustrated by figure 8., where the Dutch contribution is still substantial. The legend 'England' in the table surely covers Scotland, which emerges as the most important place of production in the Hamburg herring trade in this period, while herring from Denmark, probably from the Limfjord, and from nearby Emden and Bremen also figured in the trade in Hamburg.¹⁴

¹⁴ Röhlk, Frauke, (1973), p. 112-115.

Import of salted herring into Hamburg by origin

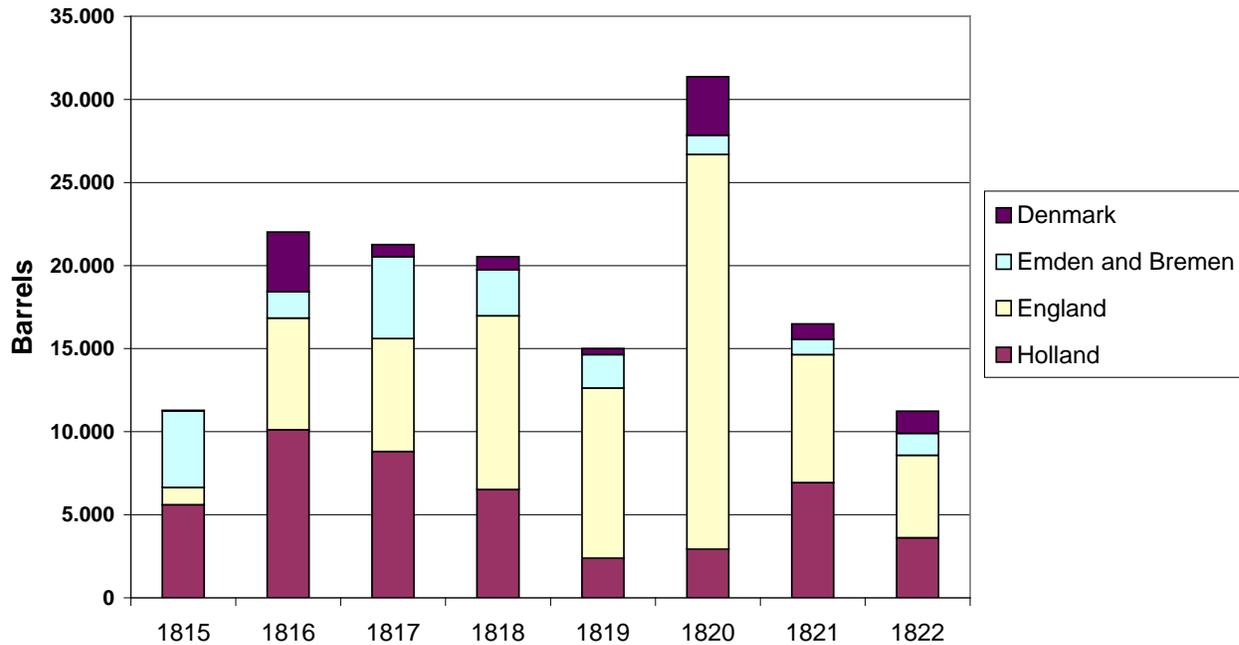


Figure 8.

One of the reasons for the waning importance of the herring trade in Hamburg has to do with the specific trade relationship existing between the city council of the free state of Hamburg and the government of the Dutch province engaged in the herring industry. Hamburg agreed to buy up the Dutch herring, and give them a privileged position in the resale from Hamburg, by treating the salted herring from competing producers as an inferior product. In return the Dutch producers upheld very tight regulations with regards to the quality of the finished product.¹⁵

This would have made it less attractive for the Scottish, Norwegian and Swedish producers to engage in the herring trade with Hamburg, and conversely increased their interest in exports into the Baltic area. Hamburg and the hinterland up the river Elbe and further into the western parts of Germany also experienced a population growth in the 18th and 19th century. However, this does not seem to have been reflected in the import figures for herring, but the following sections on prices and consumption, will readdress this issue.

¹⁵ Röhlk, Frauke, (1973), p. 112.

Prices

Long term relative decline

German historian, Hitzbleck has assembled 19 different price series for salted herring covering the period 1259-1850 from most of northern and central Europe.¹⁶ They are all shown of figure 9 as ten year averages of the amount of silver it took to buy one barrel of herring. Hitzbleck noticed that the herring prices were higher in market places far away from the place of production than nearby. He also observed that since the transportation costs at sea were lower than they were inland for the same for the same distance, the herring prices were lower in the coastal areas.¹⁷ It was indeed the case that prices were lowest in the Low Countries, England, Hamburg and Danzig, where as inland cities Würzburg, Munich, Vienna and Krakow generally had very high prices.

European herring prices 1600-1850

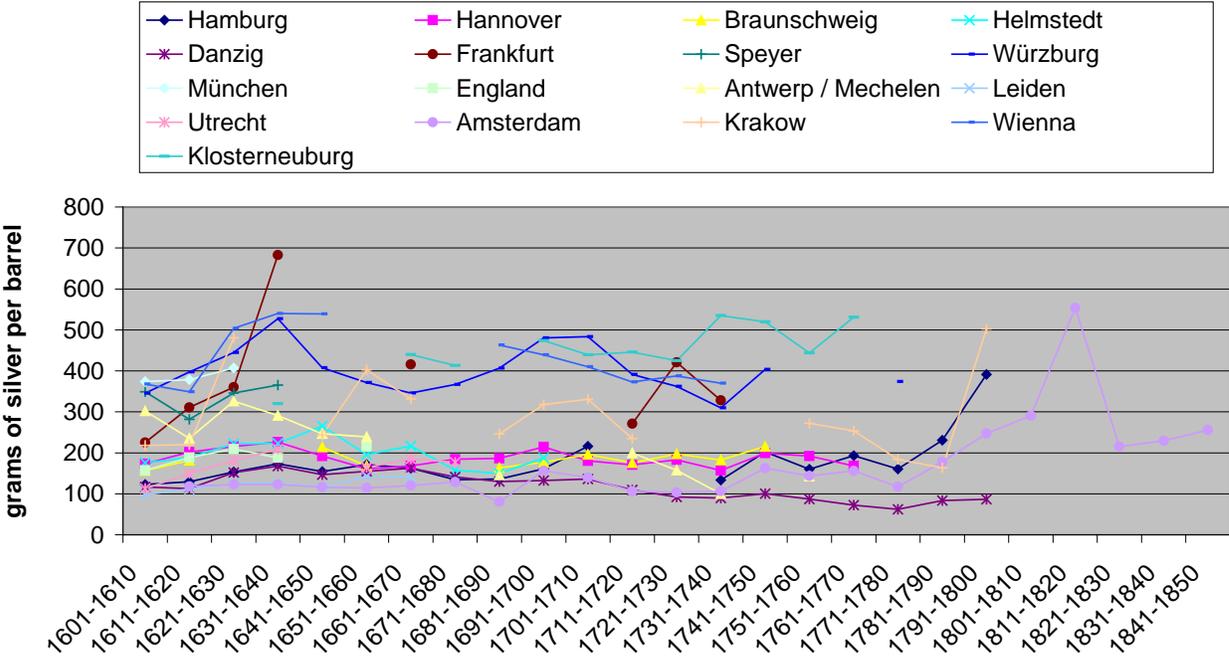


Figure 9.

¹⁶ Hitzbleck, Herbert, (1971), p. 324-325.

¹⁷ Hitzbleck, Herbert, (1971), p. 148-153.

In general the prices at markets in the vicinity of the North Sea fluctuated very close to each other throughout the period 1600-1850, especially the prices in Amsterdam and Hamburg, and also the Hamburg hinterland of Hannover and Braunschweig. But there were exceptions to these general patterns.

Divergence between North Sea and the Baltic

Two politically motivated deviances from this pattern occurred. Firstly, the market prices at Antwerp and nearby Mechelen in the first half of the 17th century, when prices rose to a level of more than twice that of for instance Amsterdam. Antwerp was the main hub of traffic and commerce in Northern Europe in the 16th century, but with the outbreak of the Eighty Years War of Dutch liberation from Habsburg rule the Dutch, Antwerp got caught in the middle. The city was controlled by the Habsburgs but a fleet of Dutch vessels effectively shut the main entrance to Antwerp from the sea by blocking the river Schelde. As soon as the war was over in 1648 the prices are seen to have fallen to a level closer to the other North Sea ports. Secondly, the prices in Frankfurt sky rocketed in the 1630s, which is attributable to plague, which hit Frankfurt twenty fold stronger in 1635 than normally, as well as the turmoil of the Thirty years War, and the combined perils also distorted the herring trade.¹⁸ Soon after the price in Frankfurt were normalised.

Moreover and more interesting for the dynamics of the herring market, a more structural divergence from the market prices along the coastal cities occurred in the mid 18th century in Danzig, when the price started to fall and deviate more and more from the prices in Amsterdam and Hamburg. There, they remained rather stable at least until the 1780s and 90s where the problems of the Napoleonic period caused prices to go up. In the 17th century the price in Danzig was actually higher than in Amsterdam, but this changed in the 18th century and by the 1760-80s the Amsterdam prices were twice as high as in the Baltic entrepôt. This is clear from figure 10 where Dutch historian van Bochove have calculated the year to year price fluctuations between the Netherlands and Danzig.¹⁹

¹⁸ Elsass, M. J. (1940), vol. 2 part 1, p. 65, and vol. 2 part 2, p. 2.

¹⁹ Bochove, Christiaan, (pers. comm., 2005). Data originates from: Bochove, Christiaan van, (2003)

Hitzbleck also noticed this deviance, in a comparison with the development of grain prices. The grain prices in Amsterdam, Würzburg and Vienna fluctuated in concordance with the herring prices; but in Danzig, the grain prices went up in the latter half of the 18th century, when the herring prices went down.²⁰

Prices in Amsterdam and Danzig, 1500-1800

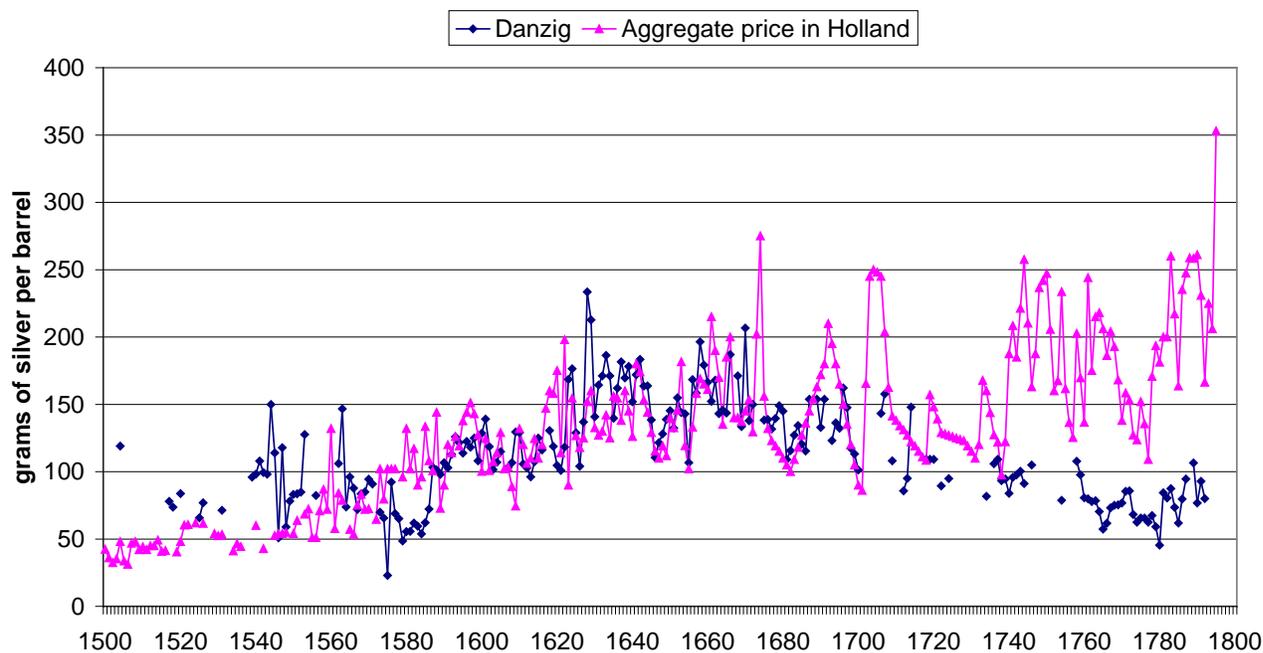


Figure 10.

Canadian historian, Unger also commented on the 18th century divergence in price levels in Amsterdam and Danzig. According to Unger the price differential between Amsterdam and Danzig for the 17th century bears no statistical resemblance with the one for the 18th century. During the same period the Dutch also lost out on their most important trade, the grain trade, known as the ‘mother trade’. Unger though, found the development of the herring prices linked to factors internal to the herring industry rather than linked to changes in the grain trade.²¹ He saw the difference rather as a reflection of the Dutch loss of market shares in the Baltic herring trade, but did not offer an explanation for why; this would cause the Danzig prices to go down.

²⁰ Hitzbleck, Herbert, (1971), p. 242.

²¹ Unger, Richard W., (1980), p. 272- 274.

But if the transportation costs of were higher the further away from the place of production, then what might be the effect of the shift of main production place caused by the great Bohuslen period of 1756-1808?

Bohuslen herring and the 16th century analogy

The figure 10 also reveals an historical precedent for the 18th century situation with the Danzig being significant lower than the one in Amsterdam. In the decade 1575-1585 the prices in Danzig equally fell dramatically in a decade where the Dutch prices rose. At this time the Northern parts of the Netherlands were revolting against the Habsburg rulers, so an increase in market prices is an expected consequence. The drop in the Danzig price though, coincided with the Bohuslen period of the latter half of the 16th century.

In the years 1556-1587, trade statistics as well as anecdotal evidences testify to the notion that the sudden appearance – and later disappearance of the herring from the shores caused the fisheries' to bloom and bust.²² It is not possible to reconstruct the total production at Bohuslen so far back in time, but Danish historian, Holm has reconstructed the late 16th century export of ship lasts of herring from the Bohuslen area into the Baltic. Holm also put forward the hypothesis that the production of herring at Bohuslen was able to substitute the transports of Dutch herring through the Sound into the markets in the Baltic. Dutch exports went down around 1570 because of eruption of the Dutch Revolt against the Habsburg rulers. When the Dutch started exporting herring into the Baltic again in the 1590s, this coincided with the disappearance of herring from the shores of Bohuslen.²³

The two phases when the prices in Danzig were lower than in Amsterdam are analogous with two instances of large inshore herring fisheries at Bohuslen. This phenomenon is not just a visual impression. The correlation between the prices in Danzig and in Amsterdam from 1500-1795 is 0.10. But when the periods of significant Bohuslen herring periods, 1570-1589 and 1760-1795 are taken away the correlation is a lot stronger at 0.39.

²² Dalén, Lennart, (1941), p. 41, Claussøn Friis, Peder, (1632).

²³ Holm, Poul, (2003), p. 282-288.

The main explanation for the fall in the Danzig prices is linked to the 18th century change in trading patterns observed in the Sound toll registers, where the Bohuslen herring became all dominant in the Baltic and was sold in unprecedented quantities. Moreover, the Swedish salted herring is likely to be of an inferior quality to the salted Dutch herring, so this can also have added to the change in average market prices. The difference in quality was also the case in the late 16th century.²⁴

The Bohuslen periods are a well established environmental phenomenon occurring c. once every century since the Viking Age. Besides the abovementioned Bohuslen periods, there was a shorter one in the mid 17th century, which did not become noticeable economically²⁵ Thus, it appears that twice in two hundred years did an environmental phenomenon, the occurrence of large quantities of herring at the inshore skerries of Bohuslen have a profound side-effect on the development of the North Sea and Baltic herring markets.

Hinterland divergence

We have now seen two instances where the prices on the Danzig market diverged from the North Sea markets, and as Hitzbleck observed the herring prices in the central European heartland were much higher by the sea than further inland. So, would the falling prices in Danzig also have a regional effect on the prices in its hinterland?

The price series for the central European cities are not quite as complete as for the coastal cities, but still a changing pattern is recognisable here as well. The prices in Würzburg, Vienna and Klosterneuburg just outside of Vienna remained at a quite stable high in the 18th century, but when looking at Krakow, the herring prices started falling quite rapidly in the 1760-80s. In the 1780s the market price in Krakow was lower than in Hamburg for the first time in the 200 years, where data are available. Also the price in the inland city of Würzburg catered for by herring imported up the Rhine from the Rotterdam area, did not seem to have fallen in the late 18th century, as the Krakow prices did. This possibly indicates a similar divergence in central Europe, as what happened in between markets by the sea. This is all shown by figure 11., but

²⁴ Frandsen, Karl-Erik, (2004), p. 145-167.

²⁵ Alheit, J. and Hagen E., (1997), p. 130-139.

unfortunately the relatively low number of data points available does not allow for a statistical test of this relationship.²⁶

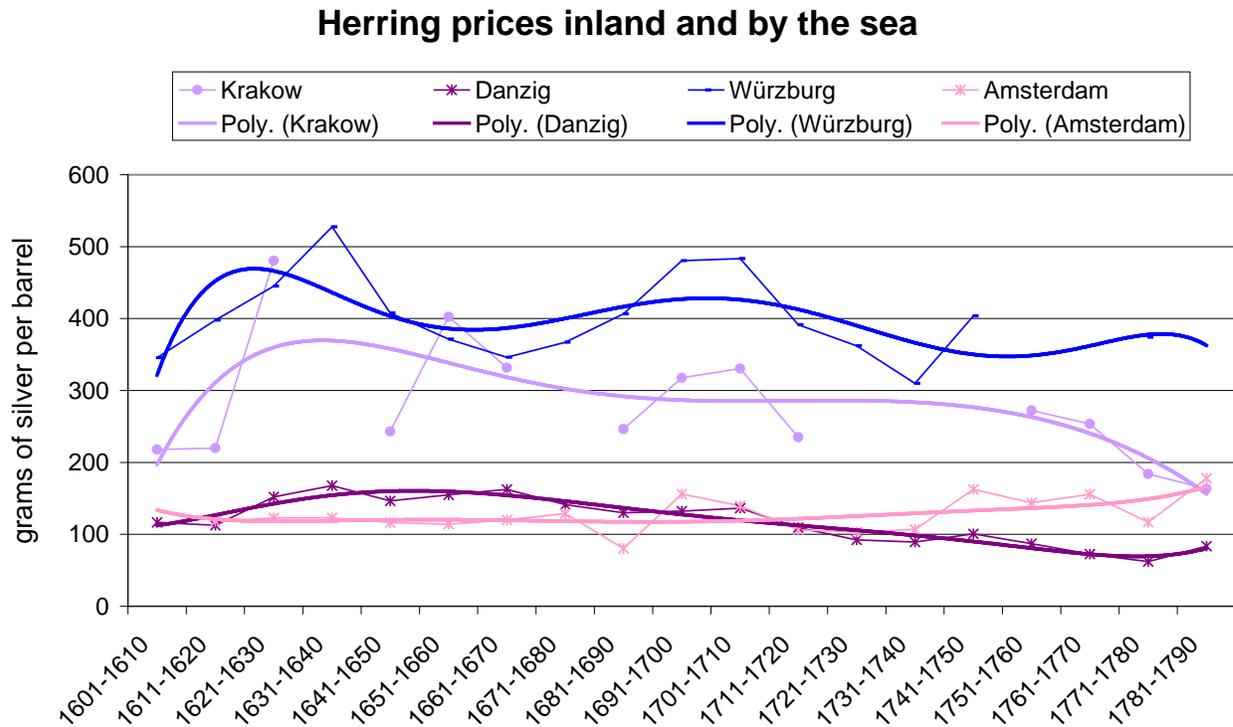


Figure 11.

Krakow's closest and thereby cheapest access to the sea was the river, Wisla which flows through Danzig before reaching the Baltic Sea. It seems likely therefore that the large inflow of Swedish produced herring also influenced the markets in the deep south of what was then the Kingdom of Poland. In the 1790s however, the herring prices in Krakow tripled, while they remained stable in Danzig. This need not influence the theory of a connection between the Bohuslen herring fisheries and the Krakow herring market, since the most likely cause for the jump in prices was the second partition of Poland in 1793. Prussia, Austria and Russia divided Polish territory amongst themselves, whereby Poland ceased to exist for more than 20 years and Krakow came under Austrian control, while Danzig was included in Prussia.

In 1941 the Swedish historian Dalén commented that the occurrence of Bohuslen herring periods coincided with periods of generally rising prices in Europe.²⁷ This may be true, but this analysis

²⁶ Hitzbleck, Herbert, (1971), p. 324-325.

of the specific differentiations of prices in the North Sea and the Baltic illustrate how the general demand of herring did not in itself drive forward the Bohuslen fisheries. In the case of the Bohuslen herring fisheries it rather seems to be the case that the supply - the sudden appearances of easily accessible and thereby cheap herring changed the market and drove down prices. With the German States and The Baltic area at large being the principal market for European herring in the 17-19th century, it is of interest to investigate the demand of herring in those areas.

This can be checked by through the development of the herring prices compared to grain prices gives an indication of the buying power of the average consumer. When estimating long term price fluctuations in the early modern period, it is difficult to account for inflation rates, so if the price developments are to be used as an indicator of the demand for salted herring, it is better to view the herring price in relation to the commodity most stable and important, which was the grain price. When demand fall the relative price of herring will fall. As we saw above the herring prices in all of Germany rose in the 17th century, but in fact seen over the whole period 1600-1850, the herring prices were falling, relatively speaking, compared to the grain prices.²⁸ But what if it is a surge in production, rather than a fall in demand that causes prices to go down? A means to check this is to look at the consumption patterns in the principal markets to see what role the salted herring played in the diets of people in the North Sea and Baltic areas.

Consumption

Historical changes in diet, with regards to the fisheries have not received much attention from historical research. Norwegian historian, Nedkvitne though, has detected a structural change from c. 1500- 1730 in the relationship between grain prices and prices of dried codfish in Amsterdam. He has interpreted this as related to a shift in demand of fish from dried cod towards herring and cod salted in barrels.²⁹ However, in the Dutch market of the 17th and 18th centuries the taste for salted herring seems also to have dropped. From c. 1640 until the middle of the 18th century the home consumption of herring in percentage of the total production of herring in the Netherlands dropped, even this was also a period where the size of the total production fell

²⁷ Dalén, Lennart, (1941), p. 78.

²⁸ Hitzbleck, Herbert, (1971), p. 228-244.

²⁹ Nedkvitne, Arnved, (1988) p. 589-598.

significantly. At the same time population increased, indicating that by 1750 the consumption per capita had fallen to an estimate 25% of the level a century before.³⁰ Also in the Dutch Republic the successful introduction of the potato as an important part of the stable diet has been credited for a declining interest in salted herring.³¹

In Scotland, also a major production place for herring, anecdotal evidences suggest that the fisheries were a major source of food for the common people in the 17th century.³² This however, can not be backed by a later quantitative verification from the mid 18th century provided by the same author. Rather, during the 18th century potatoes became part of the diet, while fish was always an extremely rare product on the dinner table. Only along the Scottish coast did herring, saithe, haddock and Shellfish play a significant part in the local consumption from 1550-1780.³³ Accounts of households derived from a number of Scottish institutions in various years between 1639 and 1790, indicate that fish, mostly herring, made up an average of 2.1 percent of the stable diet.³⁴ Quite different from the Baltic region, the diet in Scotland seems to have consisted on mainly porridge, diary products and occasionally meat.

A lack of demand as well as tradition for eating fish in the Scottish hinterland compared to other parts of the North Sea and Baltic region is likely to have hampered the 17th and 18th century attempts to build up a competitive Scottish herring industry, and indeed as seen above, the 19th century growth was driven by the exports to Germany and the Baltic region.

In England, the expansion of foreign market is also seen as the key to the rise of the English herring industry over the course of the 19th century. Recently English historian, Haines has noted that although the population of England almost tripled in the century from 1750-1850, the domestic demand for herring did not follow suit. According to Haines, ‘...cured fish did not appeal to the taste of the English, perhaps on account of its inferior cure and poor quality.’³⁵ In any case, an *e silentio* reasoning on account of the consumption of salted herring in England, would hint that this was not a dish commonly served in the 17th and 18th centuries. In the seven volumes, *A History of Agriculture and Prices in England* covering the period 1259-1793, market

³⁰ Kranenburg, H. A. H., (1946), p. 135-136.

³¹ Vries, Johan de, (1968, reprint 1980), p. 143.

³² Smout, T. C., (1963), p. 219-220.

³³ Gibson, A. J. S. and T. C. Smout, (1995), p. 225-243.

³⁴ Gibson, A. J. S. and T. C. Smout, (1995), p. 249-260.

³⁵ Haines, Michael, (2000), p. 65.

prices for herring disappear after the 1660s, and also works of synthesis on English consumption leaves out any mentioning of salted herring.³⁶

From the territory of the German states several pieces of evidence point towards a gradual decline in demand for herring per capita. Figure 12. illustrates how salted herring featured prominently in the food served at the Hospital of the Holy Ghost in Elbing, Eastern Prussia in the early 17th century.³⁷ Here, herring constituted about one fifth of dishes served virtually all year round, and this amount of herring surely exceeded the levels reached in Scotland around the same time.

In Lüneburg in northern Germany c. 15.5 kg of herring was consumed per capita in the 15th century, while in Hannover, also in the northern part of the country, a mere 3-4 kg per head was served in the period from 1728-1755 at poor peoples home. For the latter half of the 18th century an estimate of 6 kg per capita for the whole of the German area has been presented.³⁸ In any case the general patterns seem to be one of decline from 1600-1850.

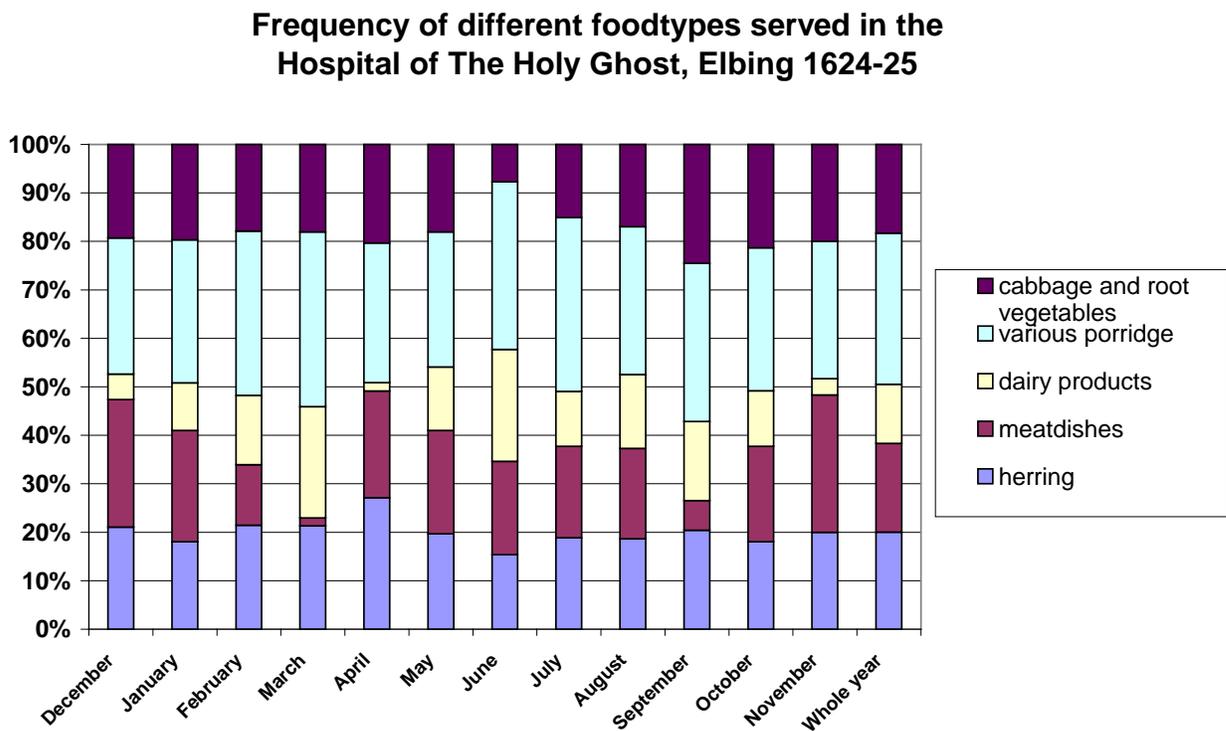


Figure 12.

³⁶ Rogers, James E. Thorold, (1866-1887 (reprinted, Vaduz, 1963)), Shammass, Carole, (1990).

³⁷ Klonder, Andrzej, (1996), p. 349-375.

³⁸ Hitzbleck, Herbert, (1971), p. 306-312.

Some of the best available source of information on changing diets is from Sweden, where historian Morell has analysed the diet in a hospital in Falun, north of Stockholm. For the period 1659-1837 it is possible to follow the annual consumption of unspecified salted fish. In 1659 every inmate received an average of 12 kg fish; where as in 1663 the annual intake of fish per capita had reached more than 60 kg, and in 1674 as much as 100 kg of fish were eaten every year. In 1688 the level was back to 60 kg, where as only a few years later in 1695 the annual consumption was less than 10 kg. In the 18th century the average consumption of fish rose again to level c. 60-80 kg in the mid-18th century, and stayed around 80 kg until the beginning of the 19th century. In the 1820s and 1830s the level was back at c. 10 kg, per capita per year. The is reason to believe that salted herring was the main source of the consumption of fish at the hospital, since dried cod amounted to only a tenth of the total quantity eaten every year.³⁹

The Swedish per capita consumption of salted herring then appears to have been the most prolific in the investigated area of northern Europe. To some extent the rising and falling levels of consumption followed the rhythm of the Bohuslen herring periods. It can hardly have been a coincidence that close to 100 kg of fish was consumed in an inland place such as Falun, when the herring shoals were flocking along the western shoreline, both in the middle of the 17th century and in the latter half of the 18th century. But, also when the herring did not come close to Sweden the consumption was much higher than known figures from Germany, The Netherlands, England and Scotland.

The overall trend of the north European consumption of fish thus seem to have declining over the years 1600-1850, especially in the westerly lying areas around the North Sea, where the importance of herring disappeared, possibly replaced by the potato. In the eastern parts around the Baltic, Sweden and Germany, available data point towards a much higher per capita consumption, but also with a declining tendency over the 250 year period. Thus large regional differences are observed in the consumption of salted herring. This pattern would affect the herring trade in such a way that the eastbound export gained in relative importance for the herring producing areas around the North Sea, while the home consumption in these areas dwindled.

³⁹ Morell, Mats, (1989), p. 199-202.

Trade policy

Import restrictions

The trade however, was also affected by the policies led by the governments in the countries of the North Sea and Baltic region. Apart from the challenges of waning consumption the European herring trade was also affected by the introduction of mercantilist economic policies during the 18th century.⁴⁰ In 1689 the French king Louis XIV prohibited the import of any foreign salted herring into France.⁴¹ This restriction must have been removed later, since in 1751 France reintroduced a complete import ban on herring.⁴² During the second half of the 18th century the export markets for the Dutch herring further diminished as Denmark prohibited import of foreign herring in 1774, and Prussia.⁴³ In the Southern Netherlands, the import of foreign herring into the Southern Netherlands was prohibited in 1767 and in 1770, when the government put a bounty on every vessel engaged in the herring fisheries in order to promote an otherwise slumbering enterprise.⁴⁴

The direct effect of such historical policy measures can often be difficult to check, but for the 18th century trade between Sweden and The Dutch Republic, historian Lindblad, has compared the economic policy of the Swedish government with the actual development of trade figures. In the late 1730s a new Swedish government introduced a harsh mercantilist policy, whereby the Swedish import of several products was banned, while high import tariffs were levied on others. The trading relationship between Sweden and the Dutch Republic deteriorated, and the rapidly declining herring trade is evidence for the effectiveness of the mercantilist policy. This was before the great Bohuslen period started, when the Swedish consumption of herring was dependent on import, and in 1738 and 1739 almost 2,000 barrels of herring was imported into

⁴⁰ Here 'mercantilism' is defined as: '...the economic theory that a nation's prosperity depended upon its supply of gold and silver, that the total volume of trade is unchangeable. This theory suggests that the government should play an active role in the economy by encouraging exports and discouraging imports, especially through the use of tariffs.' Cited from: <http://en.wikipedia.org/wiki/Mercantilism>

⁴¹ Smout, T. C., (1963), p. 222.

⁴² Vries, Johan de, (1968, reprint 1980), p. 142.

⁴³ Röhlk, Frauke, (1973), p. 113.

⁴⁴ Verbrugge, L., (1932), p. 9.

Sweden. However, from the following years onwards and in the following 50 years the annual import remained at an average c. 300 barrels per year.⁴⁵

Judging from this piece of evidence from Sweden it would appear that the above mentioned import restrictions was an effective measure in protection of the home herring industries in the latter half of the 18th century. Bearing in mind the above analysis of the changing pattern of consumption, where the North Sea producers of herring, especially The Netherlands, became increasingly dependent on the export markets, import restrictions as the above would, all things equal become a bigger threat to The Dutch Republic and Scotland than to for instance Sweden.

Discussion

In the beginning of the period Dutch produced salted herring from the North Sea dominated the herring trade, where as during the 18th century Scottish, Danish and Norwegian herring featured prominently. In the latter half of the 18th century though, the Swedish produced Bohuslen herring rose to become the largest exporter of herring into the Baltic, while Norway and Scotland regained their status in the Baltic market for herring in the 19th century. Price series for various parts of northern Europe give indications for the long term development of prices of herring. Three results on this emerge: The herring prices in coastal areas were generally lower than further inland. Secondly, there was a general trend of herring prices in the North Sea area and the Baltic fluctuating together. Thirdly, this pattern was disrupted twice by the appearance of two periods c. 1570-1589 and c. 1760-1808 of very large fisheries at Bohuslen on the Swedish west coast. In these two periods, the Bohuslen herring came to dominate traffic through the Sound and thereby the Baltic trade in herring, but in neither of the two periods did the Bohuslen herring succeed in dominating the North Sea market for herring in the same way as in the Baltic. This was seen in the import tables from Hamburg, where the Dutch managed to stay in during the last decades of the 18th century.

The observed general decline in herring prices can have two causes. The supply of salted herring can have gone up, or the demand for herring per capita can have gone down. Comparisons

⁴⁵ Lindblad, J. Thomas, (1982), p. 18-20 + 62.

between grain prices and herring prices in the German territories indicate that herring became increasingly unattractive in comparison with grain, in that the buying power of herring dwindled. Thereafter, the consumption patterns of salted herring were analysed. The results thereof indicate two things. First of all, the figures for consumption presented point towards a falling demand for salted herring in the period in question. Secondly, the consumption of herring was larger in the north eastern and central parts of Europe than in the countries surrounding the area of main production, the North Sea. Finally, the mercantilist policies of the European states in the 18th century would have worked primarily against the export oriented producers such as the Dutch and Scottish. A summation of the findings in this article is the following general characteristic of the development of the market for herring in the North Sea and Baltic areas.

Conclusion

The trade in salted herring appears to have been highly integrated in between the main area of production in the North Sea and the main areas of consumption in the Baltic area and on the European continent. This is not least demonstrated by the negation of this, being the two periods, when Bohuslen herring rose to prominence. The appearance of large shoals of herring is a well described environmental phenomenon, but this article argues that the economic impact of the fisheries developing in Bohuslen were equally felt in the trade pattern for herring in northern Europe. The end of the late 16th century Bohuslen period marked the beginning of Dutch supremacy in the Baltic market, while the 18th century Bohuslen period was instrumental in finishing off the era, when the Dutch herring industry played an important role in the Baltic herring trade. After a phase of Swedish dominance until the early 19th century salted herring from Scotland and Norway became dominant in the Baltic.