

Transforming consumption in the European periphery – colonial commodities in Scandinavia during the early modern era

Klas Rönnbäck

klas.ronnback@econhist.gu.se

**(Paper to be presented at 12th European Business History Association
conference, Bergen; Norway, August 22, 2008)**

Abstract: The aim of this paper is to look at how consumption of one commodity – sugar – was transformed in Scandinavia from being a luxury to being a mass-consumed commodity. The paper also tries to look at what factors had an impact upon this transformation. The paper finds that falling relative prices, probably due to international market integration, were crucial for the transformation. The ordinary consumers in Denmark seem to have gained little from the fact that Denmark (in contrast to Sweden) was a colonial power.

JEL: N33, N36, N93

Keywords: Economic History, Price History, Consumption, Sugar, Sweden, Denmark, Baltic Sea, Scandinavia, Colonialism

© The Author

Göteborg University
School of Economics and Commercial Law
Department of Economic History
P.O. Box 720
SE-405 30 GÖTEBORG
www.econhist.gu.se

“The CONSUMER of West India produce may be considered as the *Master-spring* that gives motion and effect to the whole Machine of cruelties... [...] The SLAVE TRADE can receive from no man *greater encouragement*, than by his *Consumption of the PRODUCE*”¹

Anonymous pamphlet, “The Duty of Abstaining from the Use of West India Produce, A Speech, Delivered at Coach-Maker’s Hall, Jan 12, 1792 (London).”

1. Introduction

Many scholars have noted how the introduction of ‘new luxuries’ of different sorts transformed many a European nation during the early modern era.² According to Carole Shammas one of two main categories of goods that experienced a significant growth in Britain during the period was groceries that for a long time had been considered luxuries, such as tobacco, sugar and caffeine drinks.³ Britain was not the only country experiencing such a ‘product revolution’. Wendy Woloson has for example documented how the consumption of sugar was ‘democratized’ in the United States, and Colin Jones & Rebecca Spangen have discussed the importance of sugar in revolutionary France during the late 18th century.⁴

Sugar is a product that well illustrates the shift from being a luxury to being a mass-consumed commodity, and might thus serve as an illustrative case study. This paper will try to look at the consumption of sugar in the periphery of Europe, around the Baltic Sea in general, and comparing the development in Sweden and Denmark in particular. The paper will try to answer a couple of questions:

- How did the market for sugar develop in the Baltic Sea region?
- When did sugar experience this shift from luxury to everyday commodity in the two Scandinavian countries?
- What factors are important to explain the shift?
- What impacts did institutional differences between the two countries, regarding the production of and trade in the commodity, have upon the development?

¹ Quoted in Ragatz 1971, p 260.

² Berg 2005, p 6; McKendrick 1982, p 66; Sombart 1967, p 168–171

³ Shammas 1990, p 292

⁴ Woloson 2002; Jones & Spangen 1999

2. Atlantic sugar in the Baltic economy

Many of the ports around the Baltic Sea imported quite substantial amounts of colonial commodities. From the accounts of the Baltic Sound toll, we can get a rough picture of what the patterns of the trade looked like.⁵ In table 1, the total amount of sugar imported through the Sound is reported, along with calculations of how much this would have been worth on the Amsterdam Bourse. To put the imports of sugar into perspective, the potential value (on the Amsterdam Bourse) of cereals and bar iron exported from the Baltic Sea region is also reported in the table.

TABLE 1. *Imports of sugar, and exports of cereals and bar iron, through the Baltic Sound, selected years 1775–1839*

Years	Volume of sugar imported through the Baltic Sound (tons)	Value of sugar imported through the Baltic Sound (1000 guilders)	Value of cereals exported through the Baltic Sound (1000 guilders)	Value of bar iron exported through the Baltic Sound (1000 guilders)
1775/1779	16 900	17 100	5 400	..
1795/1799	11 700	24 900	..	17 200
1816/1817	25 000	50 000	..	7 200
1835/1839	40 700	41 600	..	18 400

Sources: volumes of sugar see appendix A. Volumes of cereals from Bang & Korst 1953, volume 2:2:2.. Volumes of iron from Ahonen 2005, table 44. Amsterdam prices of all commodities are taken from Posthumus 1943.

Throughout the 18th century, imports of colonial commodities to the Baltic economy had increased significantly. As can be seen in the table, the value of the most important colonial commodity, sugar, imported in the Baltic Sea region was quite considerable by the end of the century – three times the value of all the cereals exported, and significantly larger than

⁵ The Sound toll accounts do not give us a complete picture of the amounts of commodities imported into the Baltic sea area. Some amounts might also have been imported over land, through the Eider canal completed in 1784, or through one of the two Belts (Store Baelt and Lille Baelt). It therefore seems reasonable to assume that the south-western ports of the Baltic are underreported in the Sound toll accounts. The accounts do however at least give us minimum figures for the volumes imported into the Baltic sea region.

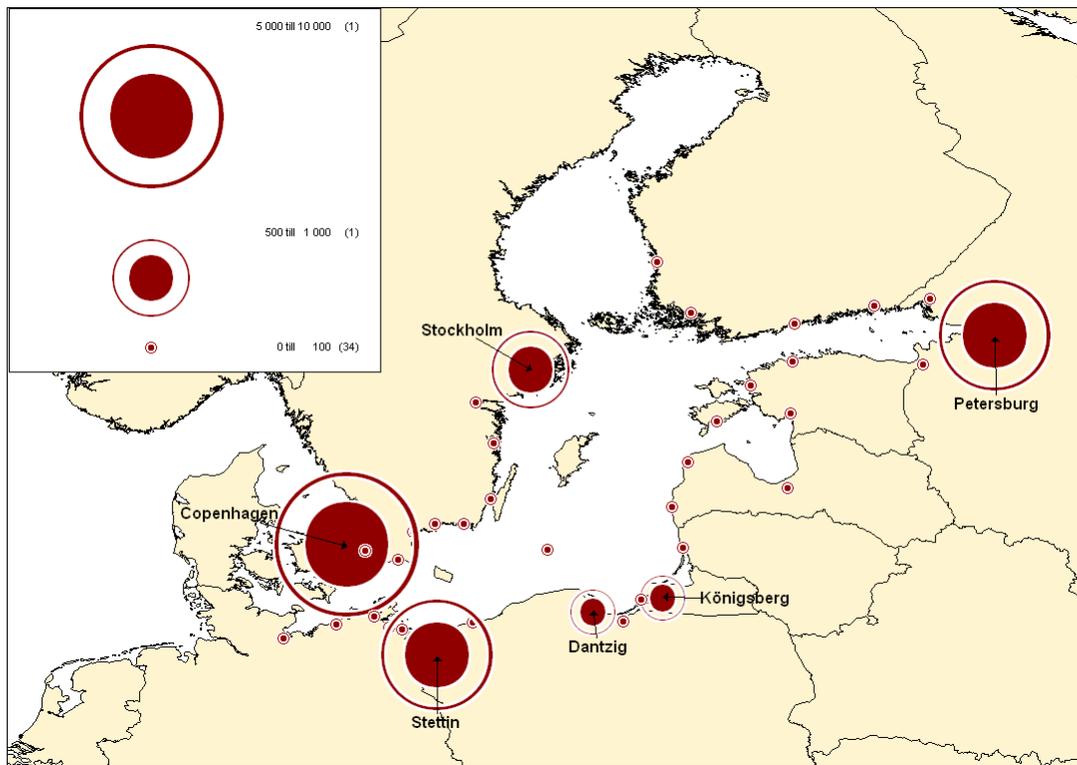
the value of bar iron exported from the Baltic Sea region during the late 18th and early 19th century, even during the period when the export of iron from the Baltic peaked in the last decades of the 18th century.⁶ By the end of the 18th and early 19th centuries, sugar alone thus paid for all of the iron exported from the Baltic Sea, and then some.⁷

If we look at the single commodity of sugar, three ports around the Baltic Sea were responsible for a dominant share of the total volumes imported: Copenhagen, Stettin and Petersburg (see graph 1). During the period 1775–1779, for example, these three ports together accounted for 90% of all the imports through the Sound. Copenhagen alone accounted for slightly more than half of all imports through the Sound. Three further ports – Stockholm, Dantzig and Königsberg – also imported smaller amounts (together some 8% of total imports through the Sound), while the imports into all the other ports around the Baltic Sea in general are negligible.

⁶ Evans & Rydén 2007, chapter 4

⁷ This is pretty similar to the picture shown by Peter Kriedte for the period at the end of the 16th century, when European imports of spices from Asia or precious metals from the Americas were worth significantly much more than all the European imports of cereals from the Baltic, even though the volume of the former was only a small fraction of the latter, see Kriedte 1980, p 41.

GRAPH 1. *Imports of sugar through the Baltic Sound (tons), 1775/1779.*



Source: see appendix A.

The volumes imported to Copenhagen came almost exclusively from the Danish colonies in the West Indies. The Danish presence on the islands was first established in the late 17th century, but development of plantations intensified from the 1730s onwards when Denmark acquired the comparatively large Caribbean island of St Croix. All the other ports around the Baltic Sea got their imports from the major European colonial powers. Prior to the 1790s, most of the imports came from French ports. After the outbreak of the French Revolutionary Wars, and the revolution in Haiti, French merchants did not manage to continue re-exporting colonial commodities. The position was therefore, for a time, filled by British – and later on also American – ports.

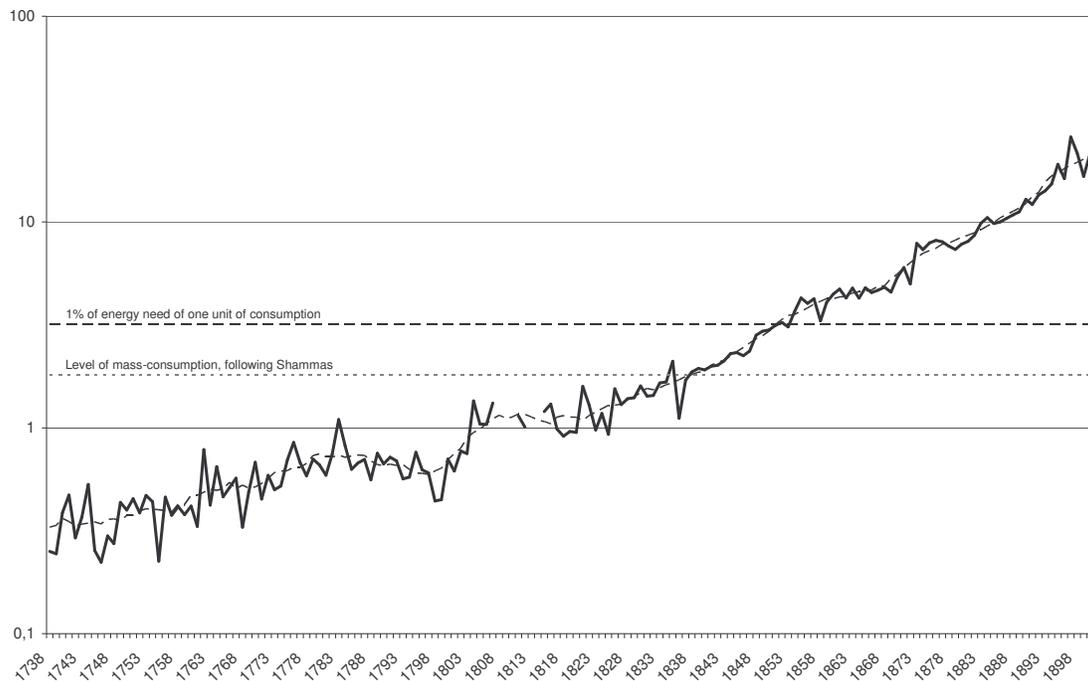
During the late 18th century, Danish merchants (with the support of the Danish state) had the ambition of making Copenhagen a staple port for colonial commodities, perhaps especially sugar, for the Baltic sea region, much as Amsterdam had been for large parts of northern Europe earlier. Looking at the available statistics, this strategy was successful at least for a handful of years during the late 18th century. Prior to the American Revolution,

the amounts of sugar re-exported from Copenhagen seem negligible. From the time of the American Revolution to the end of the 19th century, however, Copenhagen re-exported approximately 40 per cent of the volumes officially imported. The share of sugar re-exported peaked during times of conflict in Europe, such as during the American Revolution.

3. The consumption of sugar in Sweden & Denmark

Since medieval times, the consumption of sugar had increased in Europe.⁸ In Sweden, the earliest reference to sugar that we know about is from the account of the funeral of the chief judge (*lagman*) Birger Petersson, in 1328.⁹ Consumption would however remain extremely marginal in Sweden at least until the 18th century. Starting by 18th century, graph 2 shows the per capita consumption of sugar in kg/capita, computed from the (official) net imports of sugar, and in time also including domestic production of beet-sugar.

GRAPH 2A. *The consumption of sugar in Sweden, 1738–1900 (annual data and 9-year moving average, kg per consumption unit, logarithmic scale)*



Sources: see appendix B

⁸ Stols 2004

⁹ Sjöberg 1981/82, p 92

By the early 18th century, the average annual per capita consumption of sugar was around a quarter of a kilo. Consumption increased slowly (on average 1–2 per cent annually) for several decades, but the trend took a downturn during the 1780s, and especially the 1790s, when prices rose as an effect of the French Revolutionary wars. After the end of the Napoleonic wars, consumption of sugar started to increase faster in Sweden – on average an increase of about 3.5 per cent annually during the 19th century. It does not seem far-fetched to assume that consumption of sugar increased in Sweden following the industrial take-off or the introduction of sugar-beet. This is also what many scholars have assumed previously.¹⁰ Somewhat surprisingly, there was no take-off or boom in the trend of the growth during the 19th century, neither around the time when Swedish economic growth started to take off (in the 1850s) nor around the time of the introduction of beet sugar (particularly in the 1880s), but rather a quite steady and gradual growth all throughout the century. In absolute terms, this steady percentage growth does however translate into very big absolute increases in per capita consumption by the late 19th century, giving a somewhat misleading impression that this is the time when consumption of sugar really takes off.¹¹

The Danish data available enable us to do some comparisons with the Swedish data. As in the case of Sweden, the amount consumed is estimated through calculating net imports of sugar. In the case of Denmark, however, the historical data available are far from ideal. What data we have are therefore puzzled together from a couple of different sources, and even then only for a shorter period of time so far. The estimates for net imports, and thereby for per capita consumption, must therefore be treated with caution.

¹⁰ For example, both Caroline Arcini (Arcini 2003, p 59) and Fredrik Björk (Björk 2007, p 288) argue that consumption increased by the late 19th century following the introduction of sugar beet. None of them do however investigate the issue very closely, but mention the issue briefly while focusing on other issues. In an essay, Peter Englund writes that sugar consumption started to increase in Sweden during the 18th century, but does wrongly attribute this to the introduction of the sugar beet (Englund, 2005, 160). Sugar beet was not introduced in Sweden until the late 19th century.

¹¹ The figures reported in graph 1 are consistently lower than the per capita consumption figures estimated in Kartell- och trustutredningen, for the years they report such data i.e. 1870–1900 (Kartell- och trustutredningen 1913, appendix table II). Kartellutredningen's estimates are some 5–30 per cent higher than the current author's. Kartellutredningen does not report exactly how they compute their figures, but only state that they are based on official statistics. Since the data on the trade in and domestic production of sugar are the same in both calculations, the lower per capita figures in Kartellutredningen must be due either to them using lower figures for the size of the total population, or them also including treacle in the calculation of the per capita consumption, or some unknown combination of the two.

GRAPH 2B. *The consumption of sugar in Denmark, 1755–1794 (annual data and 9-year moving average, kg per consumption unit, logarithmic scale)*



Source: see appendix B. During the years 1756–1766, the estimated average consumption is interpolated from the available data.

The available statistics show that already by the middle of the 18th century, the Danish imports of sugar had reached a level of approximately 1,8 kg per capita and year – significantly higher than the consumption in Sweden at the same time. This would increase further, reaching a peak of some 6–8 kg per capita and year during the late 18th century. As can be seen in the graph, international conflicts had a major impact upon Danish consumption of sugar – both through decreasing imports and increasing re-exports of sugar from Denmark at the same time. Further work will look at how the Danish consumption developed during the 19th century, but preliminary results show that it increased so that the Danish people on average consumed approximately 13–14 kg of sugar per capita by the middle of the 19th century.

How large was the Scandinavian consumption, in comparison with the consumption in other European countries? Many scholars have tried to estimate the per capita consumption of sugar in Britain, and have reached quite different results. By the early decades of the 18th century, consumption in Britain had reached a level of 4–5 kg of sugar

per capita per year, i.e. around 20 times as much as in Sweden, and perhaps two to three times the amount consumed in Denmark, at the same time. Starting from a very low level of per capita consumption, growth of consumption was rapid in Scandinavia during the century, so that by the end of the 18th century, the gap had closed – British consumers by this time used approximately 5–10 kg of sugar per year, i.e. approximately the same amount as Danish consumers, and around 10 times as much as Swedish consumers by the same time. The Swedish consumers would continually catch up with the British – by the middle of the 19th century, people in Britain consumed approximately 15 kg of sugar per capita per year, i.e. 5 times the amount consumed in Sweden at the same time.

Carole Shammas assumes that to be able to sweeten food and drink “regularly”, a person would need approximately 24 lb. (approximately 11 kg) of sugar per year. In order to qualify as a “mass-consumed” commodity, however, Shammas thinks it suffices that approximately 25 per cent of the adult population (viz approximately 1/6 of the total population in Britain) is estimated to consume the product regularly – which would require a per capita average consumption of 4 lb. (approximately 1,8 kg) of sugar per year. According to Shammas, Britain reached the lower figure already by the end of the 17th century, and the higher figure a century or so later.¹² Jones & Spang have argued that around the time of the French revolution, sugar had become so widespread – and so ‘necessary’ – even among the labouring classes in France, that rising prices of sugar did spark riots among the *sans-culottes*.¹³

Shammas’ figure for regular consumption of sugar seems quite arbitrarily chosen. Another measure might be when average consumption reaches a level equivalent to a certain percentage of the energy need (measured in kcal) of a grown-up person. If we, for example, assume that a grown-up man consumes food equivalent to 3500 kcal everyday, it would require approximately 9 grams of sugar per day to supply 1 per cent, and 43 grams of sugar per day to supply 5 per cent, of the energy consumed. On an annual basis, that would translate into 3.2 and 15.8 kilograms of sugar, respectively.

In the case of Denmark, the amounts of sugar consumed had reached the levels that Shammas’ describe as “mass consumption” already by the middle of the 18th century, as can be seen in graph 2B. The criteria of an energy intake of at least 1% originating from sugar was reached quite soon after that as well, and by the late 1760s, the amounts

¹² Shammas 1990, p 81.

¹³ Jones & Spang 1999

consumed account for what might have amounted to approximately 2% of the total energy intake of the population. Further research will try to look into how consumption developed in Denmark during the 19th century, but the preliminary results suggest that the higher benchmark values might have been reached soon after the middle of the 19th century in Denmark.

Sweden for a long time had a far lower consumption per capita than Denmark – only by the late 1830s consumption levels reached 1.8 kg per capita and year – as is shown by the lower dotted line in graph 2A. From this time onwards sugar could thus be called a ‘mass-consumed’ commodity in Sweden, if we accept Shammas’ lower requirement. If we instead put the benchmark of ‘mass-consumption’ at 1 per cent of the total energy consumed, i.e. 3.2 kg of sugar annually, Swedish average consumption reaches this level by the early 1850s, as is shown by the second dotted line in the graph. The average consumption level only reached Shammas’ higher figure, of 11 kg per consumption unit and year, by the late 1880s, and 5 per cent of total energy consumed a couple of years later.

4. Just how luxurious was sugar in Scandinavia?

There is no doubt that sugar was a luxury commodity during the early modern era. But just how luxurious was sugar to a consumer in Scandinavia? Prior to the introduction of sugar, honey had been the most common sweetener. According to Erik Husberg, consumption of honey was quite considerable in Sweden already during medieval times.¹⁴

Graphs 3A–3B might perhaps give an indication of how luxurious sugar was, putting the price of sugar in relation to the price of two other basic food items – cereals and butter – in both Sweden and Denmark.¹⁵ In the graph, the price of sugar is divided by the price for the same weight of butter and cereals, respectively, giving an indication of the alternative cost of sugar.

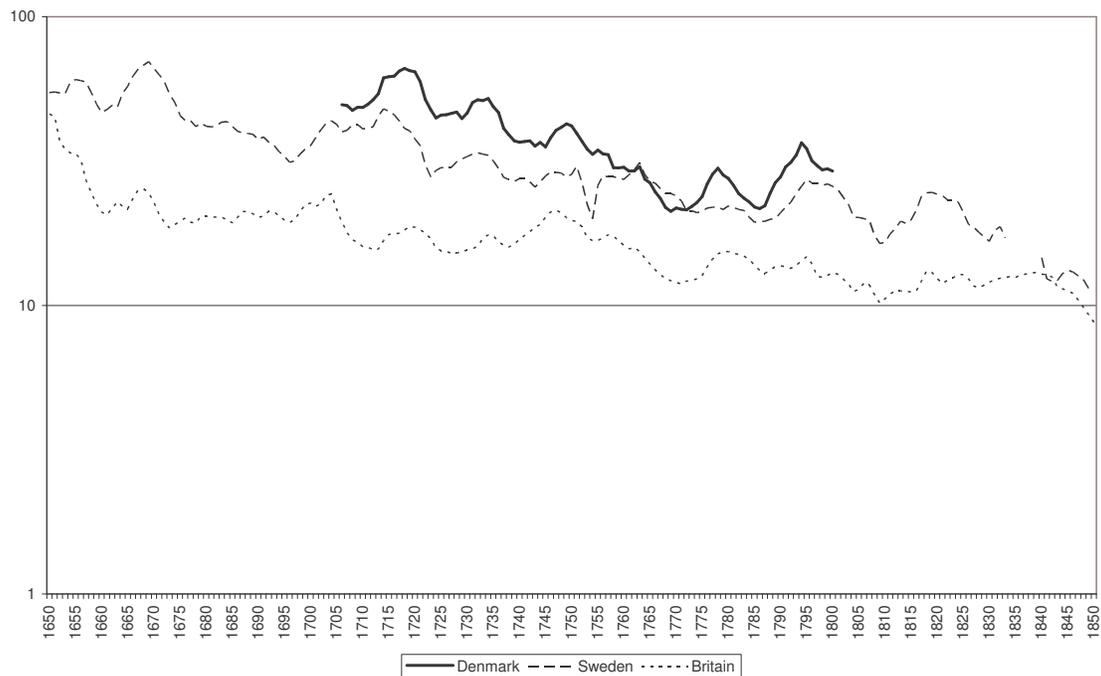
As can be seen in graph 3A, sugar is in Sweden approximately 50–70 times as expensive as the same weight of cereals, around the middle of the 17th century. The ratio falls significantly over time, so that sugar is approximately 10 times as expensive as cereals by the early 19th century. The same case appears when looking at the price ratio between sugar and butter in Sweden: there is a steady fall in the ratio, meaning that sugar is becoming ever cheaper relative to the other commodities. In the case of

¹⁴ Husberg 1994

¹⁵ See appendix C for sources

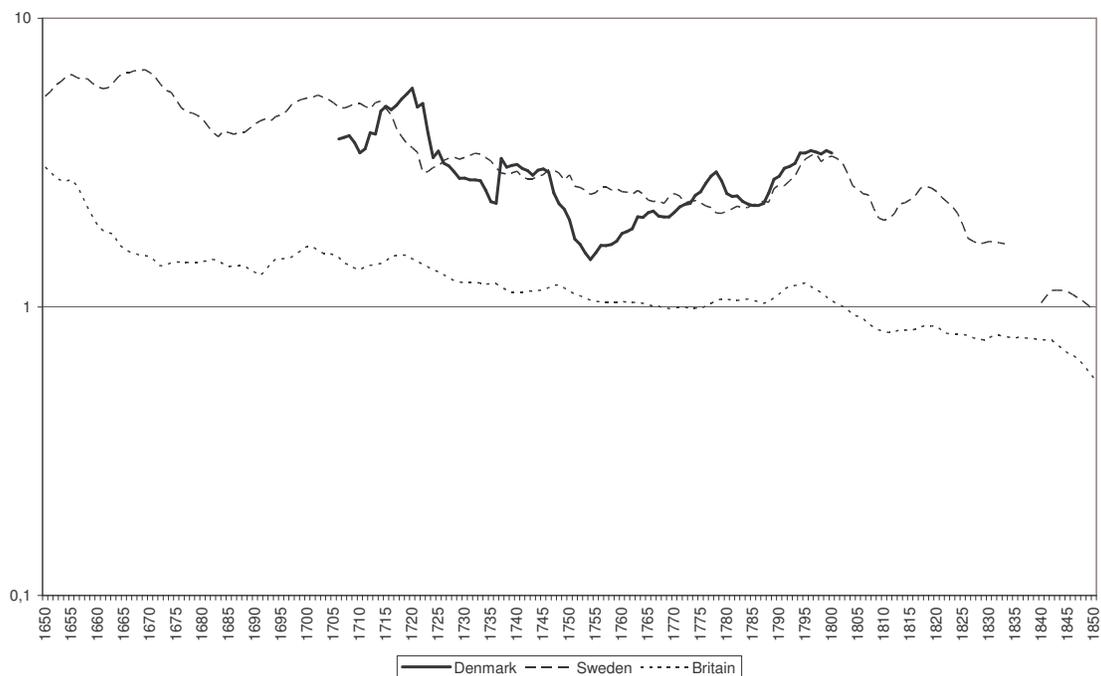
Denmark the available data seem to show the same trends: the price differential between sugar on the one hand, and both cereals and butter on the other, is falling significantly during the first part of the 18th century. During the second half, however, this trend changes – first in relation to butter, but later also in relation to cereals. The relative price of sugar thus starts to rise somewhat at least by the late 18th century in Denmark.

GRAPH 3A. *Price ratio between sugar and cereals in Sweden, Denmark and Britain, 1650–1850 (9-year average prices, logarithmic scale)*



Sources: for Sweden and Denmark see appendix C; British data from Clark 2007

GRAPH 3B. *Price ratio between sugar and butter in Sweden and Denmark, 1650–1850 (9-year average prices, logarithmic scale)*



Source: for Sweden and Denmark see appendix C; British data from Clark 2007

Interestingly, the price level of sugar relative to other commodities is remarkably similar in Sweden and Denmark over the long term – by the early 18th century, one kilogram of sugar was worth approximately 40–50 kg of cereals in both countries, or 4–5 kg of butter. A century later, this ratio has fallen in both countries, so that a consumer would have to abstain from approximately 30 kg of cereals, or approximately 3 kg of butter, to buy one kg of sugar. The price ratio is in both countries also consistently higher than the corresponding price ratio in Britain, as can be seen in the graphs. The relative price of sugar was thus higher in both Sweden and Denmark, than it was in Britain. There does not seem to be any significant long-term difference in price level between the two Scandinavian countries.

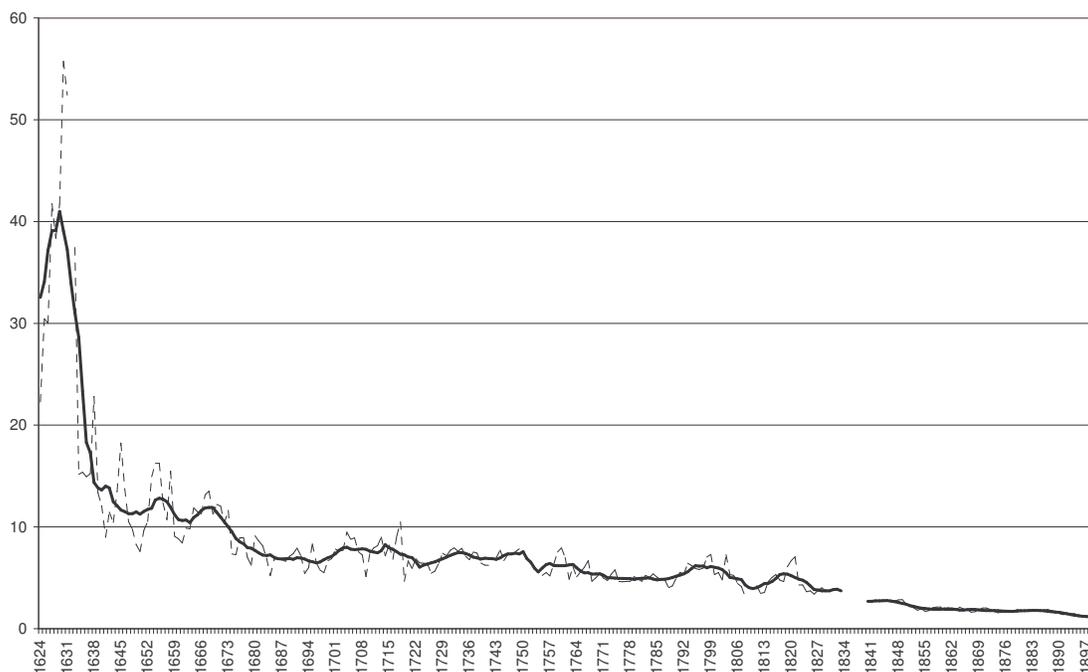
Today, few people would think of sugar as a substitute for other, more nutritious foodstuffs – at least not a good one at that. Carole Shammas has however argued that this was not how many people at the time considered it, at least not in Britain. Many people of the labouring classes in Britain did actually substitute potentially more nutritious foodstuffs for sugar and tea, and used sugar as a quick and easy source of

energy – despite the low nutritional value. This reduced the total calorie intake of labouring classes in Britain, Shammass argues, since the calories one could get per penny was lower for sugar than for most other foodstuffs.¹⁶ It does not seem unreasonable that at least a share of the population in Scandinavia, even though smaller than in Britain, substituted foodstuffs in a similar manner.

5. The cause of growth of consumption

What would explain this gradual increase in consumption of a luxury such as sugar? There are many plausible explanations, the most important of which seem to be increasing income, changing consumer preferences and/or falling prices. In an earlier paper, this author has shown that in the case of Sweden a falling price was a major explanation to the increasing consumption.¹⁷

GRAPH 4. *The price of sugar in relation to consumer price index, 1624–1900 (sugar price relative 1900=100, CPI 1900=100, individual years and 9-year moving average)*



Sources: see appendix C

In Sweden, the relative price of sugar was falling quite steadily for much of the period for which we have data, as can be seen in graph 4. There is a major fall in the price of sugar

¹⁶ Shammass 1990, p 137 & table 5.6

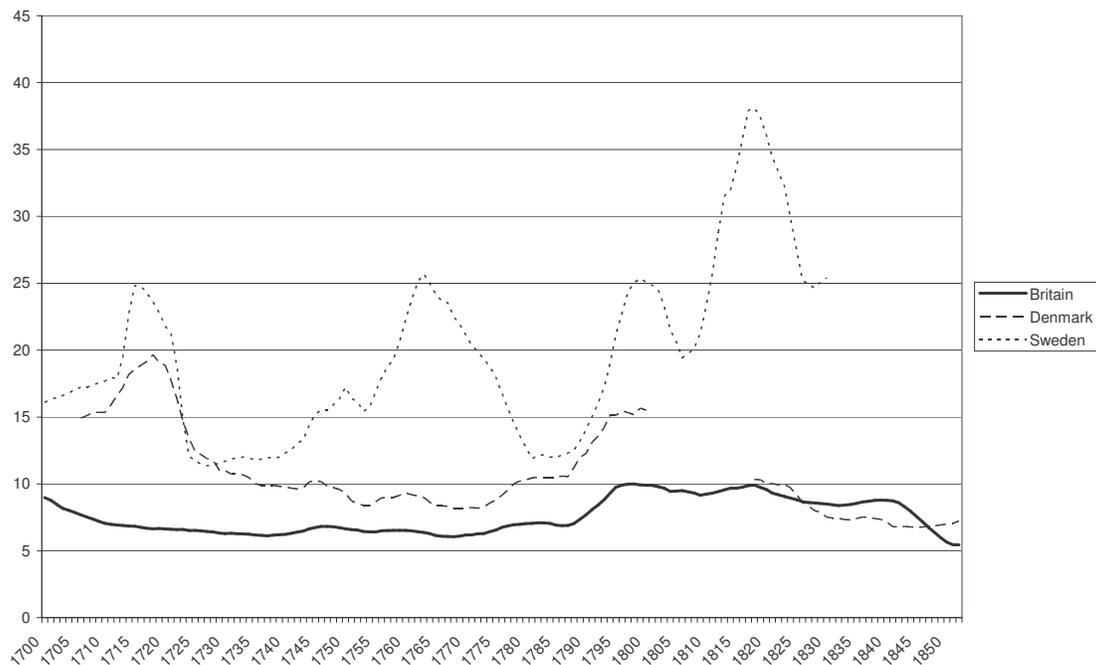
¹⁷ Rönnbäck 2007b

during the second half of the 17th century, until around 1680. For quite a long period of time, until the middle of the 18th century, the price fluctuated quite much, especially during the Great Nordic war as would be expected, but there is no clearly discernable trend. Starting by the middle of the 18th century, and the following 150 years, finally, the price of sugar was yet again falling (and after the end of the Napoleonic wars falling very steadily, too) relative to the price of other products.

It does seem reasonable to assume that the prices had a major impact on consumption in the case of Denmark as well, since the relative price of sugar in Denmark was falling at least from the beginning of the 18th century, until the 1770s, as was shown earlier in graph 3B. From the 1770s onwards, however, the price of sugar in Denmark again starts to rise, which fits well with and to a large part might explain the stagnation in consumption that Denmark experienced during the same time.

To put the Scandinavian price in relation to the European ones, one would have to convert the nominal price in the Scandinavian currencies into some internationally comparable unit. One possibility of doing this is by using silver as an international measurement, i.e. transforming the price of sugar measured in for example silver daler per Swedish pounds (*skålpund*) into grams of pure silver per kilogram of sugar. The results must be interpreted with caution since it is problematic to convert the price of sugar into a silver-price. Graph 5 does anyway show an estimated silver-price of sugar in Sweden and Denmark, in relation to the silver-price in Great Britain.

GRAPH 5. *Silver-price of sugar in Sweden, Denmark and Britain, 1700–1850 (g silver/kg sugar)*



Sources: Swedish and Danish prices see appendix C; British prices from Clark 2007,

As can be seen in graph 5, prices in Britain and Denmark seem to converge during much of the 18th century. The Danish possession and development of the Danish West Indian colonies did thus give the Danish merchants access to increasingly cheaper sugar during much of the 18th century. Prices in Sweden do, on the other hand, behave very differently than the prices in the other countries. The silver-price of sugar in Sweden fluctuates quite wildly over time, which to a large extent is attributable to monetary effects. We can however safely conclude that the nominal silver-price of sugar was significantly lower in Denmark than it was in Sweden for the whole of the period for which we have data.

5. Conclusions

This paper has tried to answer a couple of questions: How did the market for sugar develop in the Baltic Sea region? When did sugar experience the shift from luxury to everyday commodity in the two Scandinavian countries? What factors are important to explain the shift? What impacts did institutional differences between the two countries, regarding the production of and trade in the commodity, have upon the development?

Three ports around the Baltic Sea dominated the trade in colonial sugar: Copenhagen, Stettin and Petersburg. Of these, Copenhagen alone accounted for approximately half of

the imports through the Baltic Sound by the late 18th century. Much of the imports to Copenhagen were later re-exported to other ports around the Baltic Sea. The shipments of sugar were considerable, and were alone able to pay for all the exports of iron from the Baltic Sea region through the Sound, and then some.

Some people assume that the shift from luxury to mass-consumption happened in the case of sugar either following the Scandinavian industrialization, as an effect of increasing incomes among the population, or following the introduction of beet-sugar in Europe, by the late 19th century. This paper shows that both these ideas are faulty. In Denmark, consumption levels per capita grew rapidly following the development of the Danish West Indian colonies (especially St Croix) around the middle of the 18th century. Consumption was on par with the level in Britain already by the late 18th century. In Sweden, there was a more protracted and gradual breakthrough in the consumption of sugar especially during the 19th century. Following the definition of Carole Shammas, sugar had become a product of mass-consumption in Denmark already during the 18th century, well before Danish industrialization, and in Sweden some decade before Swedish economic growth started to take off in the 1850s. The introduction of beet-sugar could in both countries take over and capitalize on a demand that was already well established.

The most important factors behind the shift was therefore not increasing income among the consumers, but decreasing relative price of sugar during the late 18th and early 19th centuries. One of the most important explanations behind the increasing sugar consumption might then be market integration, causing the Scandinavian price of sugar to converge with international prices. Once people had acquired a taste for sugar, however, increasing incomes during the 19th century would boost the consumption even further.

Denmark did possess colonies producing sugar in the West Indies, in contrast to Sweden. An effect of this was that Copenhagen could develop into a staple port for sugar, at least for certain periods of time, re-exporting parts of the produce to other countries around the Baltic Sea and elsewhere. Swedish merchants were for their part for a long time forced to import the commodity through secondary ports, such as Copenhagen, rather than immediately from the areas of production. For the domestic consumers, however, the institutional differences do not seem to have mattered much. The silver-price of sugar was consistently higher in Sweden than in Denmark during the period for which we have data. This does however largely seem to be a monetary effect. When the price of sugar is put relative to the price of other commodities, such as cereals or butter, the relative price of

sugar was remarkably similar in both countries. The consumers in Denmark do at least thus not seem to have gained very much from the fact that Denmark was a colonial power.

Appendix: a note on sources

A. Source for Baltic Sound imports of sugar

The data on goods transported through the Baltic Sound is assembled from the accounts of the Sound toll, in the Danish National Archive. For much of the period of the Sound toll, the accounts are only kept in raw format, i.e. reporting the passing of individual ships without annual or monthly summaries of the goods carried. Nina Bang and Knud Korst have tried to summarize these accounts in an impressive set of volumes.¹⁸ For the purpose of this paper, however, their summary is not ideal since they add together a range of different colonial commodities under the same heading. During the period 1773–1856, however, the chamber in charge of collecting the Sound toll did produce annual summaries of the goods passing through the Sound (*Øresunds toldkammer – Vareregistre fra Nord- og Østersøen*), which have been used for this paper.

B. Sources for per capita consumption of sugar estimates

The Swedish import and export data of sugar is gathered from the annual reports on external trade by the Swedish Board of Trade (*Kommerskollegium årsberättelser Utrikeshandel*), series 2 & 4. Different sources state quite different figures for how big the loss of weight is during refining of sugar – something between 10 and 40 per cent loss is quite normally stated, the higher loss figures referring to older data, especially from the 17th century. The weight loss is also a matter of decision and market demand. It is perfectly possible to consume both raw and semi-refined sugar, and many people actually did, although most people often preferred refined versions if they could afford them. Data for the domestic production of beet sugar is taken from Kartell- och trustredningen (1913), appendix table I, along with data from Sylwan 1932 for the early years of production. Data on the population in Sweden from Statistics Sweden (SCB 2006).

In the case of Denmark, national trade statistics are not available until the middle of the 19th century. In this paper, the imports have been estimated using the data on volumes passing the Baltic Sound (see appendix A above), with destination Copenhagen (the volumes going to other Danish ports in the Sound toll records are negligible). This has

¹⁸ Bang & Korst 1936–1953

been compared to the data on exports from the Danish West Indian islands, taken from the local toll accounts (*Reviderede regnskaber – Toldregnskaber Dansk Vestindien*). The data is very consistent between the two sources, making us rather confident that the data on imports is quite reliable. The data on re-exports from Copenhagen is taken from the local toll accounts from Copenhagen (*Generaltoldkammeret – Dansk konsumtionskontor*). Data on the population in Denmark is taken from figures reported by Statistics Denmark (*Danmarks Statistik*) for a couple of benchmark years during the 18th century. Data has been interpolated for other years between the benchmarks.

C. Sources for the price of sugar and other commodities

The source and methods for the price of sugar in Sweden is described in detail in an earlier working paper (Rönnbäck 2007a), so I will here only mention this source briefly. The price of sugar is assembled from the accounts of the kitchen of the royal court of Sweden, 1624–1900 – the Court archive (*Slottsarkivet*), Hovförtäringen, series I A, I B, I D & III D. The price is a weighted average price of a couple of different sorts of sugar, in practice very closely correlated to the price of refined, white sugar. The currencies have been converted into kronor and ören in the way recommended by Jörberg (1972). The price series for butter and cereals is constructed by assembling the prices from Stockholm reported in Jansson & Söderberg (1991) for the period until 1731, and in Jörberg (1972) from 1732 onwards. In the latter case, the price of cereals used here is constructed as an average of the prices Jörberg reports for rye and barley, to be able to compare it with the figures in Jansson & Söderberg, which apparently is an average of these two cereals. The prices are formally converted into kronor and öre/kg in the same way as the sugar prices are. Jörberg reports no price of honey from Stockholm, so the price included here is the price from the province of Halland. Consumer price index, finally, is preliminary data from Rodney Edvinsson (2007a).

In the case of Denmark, price data has been gathered from the data reported by Andersen & Pedersen 2004. This author has also assembled data from the accounts of the royal kitchen of the Danish royal court, in order to see if this has any effect upon the comparison with the prices from the Swedish royal court. The data from the Danish royal court is however very consistent with the prices from the estate accounts assembled by Andersen & Pedersen.

The prices have been converted into silver-prices using data in Wallroth 1918, and Wilcke 1927 & 1929, respectively.

Sources and literature

Primary source material

- Danish National Archive (*Rigsarkivet*), general customs chamber (*Generaltoldkammeret*), Danish chamber for consumption (*Danske konsumtionskontor*), alphabetical commodity records over commodities passing by the Copenhagen toll booth 1763–1794 (*Alphabetiske vareregistre over in- og udførte varer ved Københavns toldbod 1763–1794*).
- Danish National Archive (*Rigsarkivet*), revised accounts (*Reviderede regnskaber*), toll accounts from the Danish West Indies (*Toldregnskaber Dansk Vestindien*), series from St Croix, St Thomas, Christiansted and Frederiksted.
- Danish National Archive (*Rigsarkivet*), Sound toll chamber (*Øresunds toldkammer*), commodity records from the North- and Baltic Sea, 1773–1856 (*Vareregistre fra Nord- og Østersøen 1773–1856*).
- Swedish National Archive (*Riksarkivet*), Chamber of Commerce (*Kommerskollegium*), annual reports on foreign trade (*Årsberättelser Utrikeshandel*).
- Swedish Royal court archive (*Slottsarkivet*), accounts from the Royal kitchen (*Hovförtäringen*), series IA, IB, ID & IIID.

Unprinted sources

- Clark, Gregory (2007): *English prices and wages, 1209–1914*. Data-file provided on the IISG-website, <http://www.iisg.nl>.
- Danmarks Statistik (2008): *Folketal efter hovedlandsdele (summeriske tal fra folketællinger)*. Available on <http://www.statistikbanken.dk>
- Edvinsson, Rodney (2007a): preliminary CPI-data from project “Sveriges bruttonationalprodukt 1668–2005”, provided by the author.
- Edvinsson, Rodney (2007b): *BNP per capita i Sverige 1720–2000 i 2000 års referenspriser*. Data-file provided on <http://www.historia.se>
- SCB (2006): *Befolkningsutveckling: födda, döda, in- och utvandring, gifta, skilda 1749–2006*. Data-file available on <http://www.scb.se>.

Printed sources and literature

- Ahonen, Kalevi (2005): *From sugar triangle to cotton triangle. Trade and shipping between America and Baltic Russia, 1783–1860*. University of Jyväskylä, Jyväskylä.
- Andersen, Dan & Erik Helmer Pedersen (2004): *A history of prices and wages in Denmark 1660–1800. Volume II. Prices and wages in Danish estate accounts*. University of Copenhagen, Copenhagen.
- Arcini, Caroline (2003): *Åderförkalkning och portvinstår – Välfärdsjukdomar i medeltidens Åhus*. Riksantikvarieämbetet, Stockholm.
- Arcini, Caroline (2006): “Offer för pest, svält och tobak” in Caroline Arcini et al (2006): *Pestbacken*. Riksantikvarieämbetet, Stockholm.
- Bang, Nina & Knud Korst (1936–1953): *Tabeller over skibsfart og varetransport gennem Øresund 1661–1783*. Gyldendal, København.
- Björk, Fredrik (2007): “Arbetare eller konsument i folkhemmet? – en paradoxal historia” in Victor Lundberg (ed, 2007): *Arbetshistoria i brytningstid*. Centrum för arbetshistoria, Landskrona.
- Evans, Chris & Göran Rydén (2007): *Baltic iron in the Atlantic world in the eighteenth century*. Brill, Leiden.
- Husberg, Erik (1994): *Honung, vax och mjöd. Biodlingen i Sverige under medeltid och 1500-tal*. Historiska institutionen, Göteborgs Universitet, Göteborg.

- Jansson, Arne & Johan Söderberg & Lennart Palm Andersson (1991): *Dagligt bröd i onda tider – Priser och löner i Stockholm och Västsverige 1500–1770*. Institutet för lokalhistorisk forskning.
- Jones, Colin & Rebecca Spangen (1999): “Sans-culottes, sans café, sans tabac: shifting realms of necessity and luxury in eighteenth-century France” in Maxine Berg & Helen Clifford (eds, 1999): *Consumers and luxury. Consumer culture in Europe 1650–1850*. Manchester university press, Manchester.
- Jörberg, Lennart (1972): *A history of prices in Sweden 1732–1914*. Gleerups, Lund
- Kartell- och trustutredningen (1913): *Socketindustri och sockerbeskattning i Sverige samt Danmark och Tyskland*. Stockholm.
- Kriedte, Peter (1980): *Peasants, landlords and merchant capitalists. Europe and the world economy 1500–1800*. Berg publishers, Leamington Spa.
- McKendrick, Neil (1982): “Commercialization of fashion” in Neil McKendrick, John Brewer & J.H. Plumb (eds, 1982): *The birth of a consumer society – The commercialization of eighteenth-century England*. Europa publications, London.
- Rönnbäck, Klas (2007a): *The price of sugar in Sweden. Data, source & methods*. Göteborg Papers in Economic History, no 10.
- Rönnbäck, Klas (2007b): *From extreme luxury to everyday commodity. Sugar in Sweden, 17th to 20th centuries*. Göteborg Papers in Economic History, no 11.
- SCB (1969): *Historisk statistik för Sverige. Befolkning: 1720–1967*. SCB, Stockholm.
- Shammas, Carole (1990): *The pre-industrial consumer in England and America*. Clarendon press, Oxford.
- Sjöberg, Gustav (1981/82): “Socketindustrins historia i Sveirge intill frihetstiden”, *Karolinska förbundets årsbok*, 1981/82, pp 90–148.
- Sombart, Werner (1967): *Luxury and capitalism*. University of Michigan press, Ann Arbor.
- Stols, Eddy (2004): “The expansion of the sugar market in Western Europe” in Stuart Schwartz (ed, 2004): *Tropical Babels – Sugar and the making of the Atlantic world, 1450–1680*. University of North Carolina press, Chapel Hill.
- Sylwan, Eilif (1932): *Den svenska betsockerindustrien I: Före Svenska Sockerfabriks Aktiefabrikets bildande 1907*. SSA, Malmö.
- Wallroth, K-A (1918): *Sveriges mynt 1449–1917. Bidrag till en svensk mynthistoria*. Numismatiska meddelanden XXII, Svenska numismatiska föreningen.
- Wilcke, J (1927): *Kurantmonten 1727–1788*. GEC Gad, København.
- Wilcke, J (1929): *Specie-, kurant- og rigsbankdaler. Montvaesenets sammenbrud og genrejsning 1788–1845*. GEC Gad, København.
- Woloson, Wendy (2002): *Refined tastes – Sugar, confectionery, and consumers in nineteenth-century America*. John Hopkins university press, Baltimore.