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Tallinn's Balance of Trade in the 17th Century*

by Enn Küng

Handelsbilanz Tallinns im 17. Jahrhundert

Abstract: Der mittelalterliche Handel Tallinns (Reval) hatte Waren aus Nordwestrussland und Livland nach Westeuropa weitergeführt. Dabei ist die Handelsbilanz der Stadt im Ost-West-Handel als positiv eingeschätzt worden. Mit dem 1558 ausgebrochenen Russisch-Livländischen Krieg und der Eingliederung der Stadt in das Schwedische Reich lösten sich die Verbindungen zum russischen Markt auf. Tallinn wurde zum Ausfuhrhafen für die landwirtschaftlichen Produkte Estlands, Livlands und Finnlands, v. a. Getreide. Die Handelspartner Revals wechselten: Die Lübecker wurden von den Niederländern verdrängt. Vor diesem Hintergrund nimmt der vorliegende Artikel die Handelsbilanz von Tallinn im 17. Jh. in den Blick, ihre Entwicklung und die Frage, ob und inwiefern das Gleichgewicht der Ein- und Ausfuhr erzielt wurde. Die Datengrundlage stellen die dortigen Pfundzollbücher, die mit nur wenigen Lücken vorhanden sind. Aus diesen Büchern geht hervor, dass die positive Handelsbilanz des Mittelalters auch im 17. Jh. für Tallinn charakteristisch war. Während der Kriege am Anfang des 17. Jh.s war die Handelsbilanz Tallinns noch negativ, ab 1622/23 wurde sie aber positiv. Neue Rückschläge erlitt der Handel der Stadt wegen der Kriege Schwedens mit seinen Nachbarstaaten Russland, Polen und Dänemark in der Mitte des 17. Jh.s. Wegen der Missernten der ersten Hälfte der 1660er Jahre wurde die Getreideausfuhr aus Reval verboten. In der Mitte der 1690er Jahre war das Hinterland Tallinns ebenfalls von großen Missernten betroffen, die Hunger mit sich brachten. In diesen Perioden sowie während des 1700 ausgebrochenen Großen Nordischen Krieges war die Handelsbilanz der Stadt negativ. Einer allgemein positiven Handelsbilanz sind also Kriege, Missernten und daraus folgende Getreideausfuhrverbote als zeitweise Störfaktoren des Handels gegenüberzustellen.

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The balance of trade¹ is a central question of international economics, one closely related to the balance of payments, since payments are always in balance, but exports of goods can easily outweigh imports and vice versa, the gap being bridged by payments of one sort or another. The central task of economic historians is to map out when a particular region's balance of trade was negative or positive and to investigate the reasons for this as well as the methods used to balance deficits. Although the empirical data is decidedly scanty, it has generally been accepted that from the 13th century onwards, the value of goods shipped from the east to the west in the Hanse's Baltic trade outweighed that of the merchandise shipped in return.² The trade balance of Tallinn, situated in the eastern region of the Baltic Sea and exporting commodities from North-western Russia and from Tallinn's hinterland in Livonia – modern day south Estonia and northern Latvia – (grain, wax, tallow, various furs and skins and other such items) to Western Europe, has generally been assessed as having been positive.³

The Russian-Livonian War that broke out in 1558 and Tallinn's incorporation into the Swedish realm in 1561 brought dramatic changes to the economy of this former Hanseatic city. International transit trade fell off sharply. On the one hand, starting in the second half of the 16th century, Tallinn had to compete with the neighbouring towns of Narva and Vyborg for staple rights (*ius emporii*) in the Russia trade. On the other hand, the protectionist economic policy of the Muscovite state – which preferred to trade through Archangel rather than via the Baltic – restricted Tallinn's access to North-western Russia in the 16th and 17th centuries. Thus, the city was transformed into a grain export port for the

¹ The term economists employ is 'current account.'

² According to Lübeck's pound toll registers, the value of trade that passed through the city from March 1368 to March 1369 was 546,000 Lübeck marks, of which 339,000 marks was the value of imports and 207,000 marks was the value of exports. In 1492, the total value of Lübeck's Baltic trade was 660,000 marks, of which 218,000 marks worth of goods were exported and 442,000 marks worth of goods were imported: Dollinger 1976, p. 281.

³ Michael North found on the basis of Lübeck's pound toll from the 1490s that while in 1492 more goods arrived in Tallinn from Lübeck than were imported from Tallinn in return, then export from Tallinn to Lübeck was greater in 1493 and 1494: in 1492, Lübeck's export and import percentages were 78.3 % / 21.7 %, in 1493 – 34.4 % / 65.6 %, and in 1494 – 34.6 % / 65.4 %. There are several additional secondary archival sources – lists of goods from shipwrecked ships, the account books of merchants, and other such sources – that indicate that Tallinn's exports to Lübeck exceeded imports from there (North 1990, pp. 142–147). Concerning Tallinn's trade in the first half of the 16th century, Gunnar Mickwitz has argued that Tallinn's trade balance with the Netherlands was also positive while at the same time, the trade balance of individual Tallinn merchants with Lübeck could have been negative. Mickwitz has also shown that gold (*untzengold*) and silver wire arrived in Tallinn as commodities of trade, most of which was traded onward to Russian merchants: Mickwitz 1938, pp. 64–65, 163, 217 ff.

agrarian hinterland of Swedish Estonia (modern day north Estonia), Livonia and Southern Finland. Local grain was Tallinn's most important export in the Early Modern period. Russian goods – flax, hemp, furs and skins and tallow – were clearly secondary.⁴ The structure of Tallinn's import trade also changed to a certain extent: salt and herring remained Tallinn's primary imports, but their share in re-export to Russia declined. New goods such as tobacco were also added to the array of import goods.⁵ Tallinn's primary trading partners also changed. While in the Middle Ages Tallinn interacted primarily with Hanseatic towns, notably Lübeck, the Dutch won the competition for Tallinn's trade on the cusp of the 17th century.⁶ These changes were broadly characteristic of the Baltic Sea region as a whole. As with other staple towns of the Swedish realm, state economic policy must be taken into consideration in the case of Tallinn. The state's economic policy could have both favourable and stifling effects on the city's economic environment.⁷

What effect did this shift in economic conditions have on Tallinn's balance of trade in the 17th century? To date, this question has not been comprehensively studied, even though Tallinn's 17th century pound toll registers,⁸ which record the types and amounts of merchandise shipped, name the harbours whence exports were destined and detail the gross customs receipts, have survived with only a few gaps. These registers make it possible to study Tallinn's balance of trade in detail. In addition, it is imperative to place the developments in Tallinn's balance of trade in the broader context of eastern Baltic commerce, in particular to compare it to Riga.

Following introductory remarks on the state of research on Tallinn's overseas trade in the 16th and 17th centuries, this article studies Tallinn's pound toll registers in order to determine how customs charges were calculated on imported and exported goods (*ad valorem* or by standardized valuation) as well as the customs rates themselves. This forms the basis for an assessment of Tallinn's balance of trade as revealed by the data. Finally, we will investigate

⁴ For the composition of Tallinn's export in the first half of the 16th century, see Mickwitz 1938, pp. 65–82; and for changes in the latter half of the 16th century and in the 17th century Attman 1973, pp. 35–42.

⁵ Soom 1969, pp. 34–45; Piirimäe (Пийримяэ) 1968, pp. 112–116.

⁶ Piirimäe 1970a, p. 14.

⁷ Soom 1963, pp. 183–222.

⁸ Tallinn's pound toll registers from the period 1605–1710 are located in: Estonian National Archives (= RA), EAA.1.2.764–771, 773, 774; EAA.278.1.XXII:139, XXII:140, XXII:142–XXII:145, XXII:147–XXII:149, XXII:152–XXII:155, XXII:157, XXII:159; Swedish National Archives (= SRA), Östersjöprovinsernas tull- och licenträkenskaper, vol. 2–7, 26, 27, 31, 35, 37; Tallinn City Archives (= TLA), 230.1.Ag.1–3, 6–9, 11–53, 55–66, 73–78, 80–84, 87–89, 91–97, 99–102, 106, 108–111, 113–128, 130–146; TLA, 230.1.Ba 16.

the factors which affected the balance of trade, and what mechanisms were used to balance out trade deficits.

1 State of Research

Economic historians have paid a great deal of attention to the balance of east-west transit trade in the Early Modern period. One of the first scholars to deal with this topic was Aksel Erhard Christensen. In his study (1941) of Dutch traffic in the Sound (Øresund strait), he demonstrated that the export of goods to the west was dominant. In relation to value, imports to the Baltic constituted 30 % of the total, exports 70 %.⁹ Artur Attman (1944) turned his attention to the trade balance of Vyborg, Narva, Tallinn and Riga, all cities associated with the Russian market. According to Attman, exports clearly outweighed West European imports in all of these cities on the cusp of the 17th century.¹⁰ Using surviving customs invoices to analyze Narva's trade in 1583–1588, 1595–1598 and 1605–1608, he determined that the town's balance of trade was in surplus: over +30 % in the first and second periods and over +13 % in the third period. In individual years, the export surplus was even higher, exceeded 50 % in 1587 and 1598. Imports outstripped exports in Narva in only three years out of fourteen: 1588 (+17.4 %), 1595 (+6.8 %) and 1608 (+5 %). Attman also proposed a number of explanations for how this surplus of exports over imports might have arisen – differences in prices and the use of land routes alongside seaways – and how transfers of coin and bullion and bills of exchange bridged the gap.¹¹ Attman later examined the balance of Polish maritime towns' trade with the Russian market¹² and extended the investigation to include the markets on the eastern coast of the Mediterranean Sea (Levant) and Asia. In doing so, he traced the movement of American precious metals needed to make up for the deficit by way of Spain and Portugal to France, England and Holland, whence the metals then made their way eastward in the course of further transactions.¹³

In the case of Riga, Attman did not look beyond the conclusion reached by Georg Jensch and Edgars Dunsdorfs, namely that maritime imports to Riga from the West were clearly overshadowed by exports from Riga.¹⁴ Note, however, that neither author dealt specifically with the question of Riga's

⁹ Christensen 1941, p. 428.

¹⁰ Attman 1944, pp. 84–93.

¹¹ Attman 1944, pp. 84–93.

¹² Attman 1973, pp. 145–151.

¹³ Attman 1981; Attman 1983; Attman 1986.

¹⁴ Attman 1944, p. 94.

balance of trade in the 17th century.¹⁵ The first to examine this issue was Vassili Doroshenko, who used excise tax data to show that Riga's exports were 1.5–2 times greater than its imports in the period 1637–1705. The years 1655 and 1658–1664 were exceptions when imports from Western Europe dominated, a result of the wars and the economic depression that affected Riga's hinterland.¹⁶ The question of Riga's balance of trade in the 18th century was also considered.¹⁷

In the early 1970's, a great deal of attention was paid to the balance of trade between Western Europe and Polish towns on the cusp of the 17th century, and more broadly towns in North-eastern and Central Europe. Topics considered were: the size of the import deficit, the reasons for its occurrence and the methods employed to bridge the gap between imports and exports. Maria Bogucka,¹⁸ Miroslav Hroch¹⁹ and Antoni Mączak²⁰ contributed to the discussion. More recently, Michael North has traced the flow of gold and silver from the Netherlands to the eastern Baltic and analyzed coin finds in order to determine the relative weight of currencies circulating in Poland.²¹ In addition, North considered the flow of bullion to the Baltic in comparison to the Asian markets.²² While eastern Baltic towns had a trade surplus, Lübeck ran a deficit in the 17th century, the value of goods imported from the east, notably Russia, amounting to more than double that of goods exported in return. In 1636–1700, exports accounted for only 28.9 % of Lübeck's trade with Russia, imports for 71.1 %.²³

Returning to the state of research on Tallinn's Early Modern balance of trade, it is to be noted that the earliest of Tallinn's customs registers to have survived cover the years 1583–1587 and 1600. Note, too, that in Attman's estimation these do not permit the sort of detailed analysis which is possible in the case of Narva.²⁴ However, his claim that Tallinn's exports exceeded its imports is based on fragmentary data from the 17th century found in the Swedish National Archives. These show that in 1640, goods worth 142,154 riksdalers were exported from

¹⁵ Jensch 1938, p. 464.

¹⁶ Doroshenko (Дорошенко) 1985, p. 169.

¹⁷ See for instance Doroshenko 1988, pp. 44–51; Doroshenko 1982, pp. 103–153; Harder-Gersdorff 1983, pp. 171–180; Harder-Gersdorff 1993, pp. 105–120.

¹⁸ Bogucka 1971, pp. 47–55.

¹⁹ Hroch 1971, pp. 1–27.

²⁰ Mączak 1970, pp. 107–129; Mączak 1971, pp. 28–46.

²¹ North 1989, pp. 57–63.

²² North 1991, pp. 185–193.

²³ Harder-Gersdorff 1970, pp. 40–41; Harder-Gersdorff 1978, p. 135.

²⁴ SRA, Östersjöprovinsernas tull- och licenträkenskaper 1583–1707, vol. 1–2.

Tallinn, in comparison to imports worth 111,083 riksdalers, and that in 1670, the corresponding values were 207,110 and 176,295 riksdalers.²⁵ Arnold Soom repeated this data in his history of Tallinn's trade in the 17th century.²⁶ Helmut Piirimäe added data on Tallinn's trade balance from the first half of 1683, when exports were valued at 135,081 riksdalers and imports at 84,600 riksdalers.²⁷ Evald Blumfeldt analyzed Tallinn's balance of trade for a period of twenty years (1609–1629) on the basis of the customs registers deposited in Estonian archives and found that up until 1622/23, more goods were imported to Tallinn than were exported. Thereafter the city started exporting more.²⁸ Analyzing Tallinn's customs registers from 1617–1623, Wolf-Rüdiger Rühle found that both customs revenue and merchandise valuations point to the conclusion that the value of imports exceeded that of exports in Tallinn during those years. The only exception was 1622.²⁹ Tallinn's balance of trade for the remainder of the 17th century has not been investigated. Turning to the 18th century, Gottfried Etzold analyzed the years 1723–1753, demonstrating that Tallinn's maritime trade during that period was clearly an import business.³⁰ Hannes Vinnal also investigated Tallinn's balance of trade in the 18th century, with an emphasis on the mechanisms (notably the transfer of funds, as recorded in the papers of the merchant Thomas Clayhills) used to balance out the deficit in the current account.³¹

2 The Data: Tallinn's 17th century Pound Toll Books

The pound tolls, whose registers provide the data of this paper, had a long tradition as a tax on overseas trade. In the Middle Ages, when Tallinn was part of the Hanse, seaborne trade was not regularly taxed.³² However, the city still had to participate from time to time in various joint undertakings of the Hanseatic League, for which special funding was required. Thus, beginning

²⁵ Attman 1944, pp. 94–95; Attman 1973, p. 139.

²⁶ Soom 1969, pp. 15–16.

²⁷ Piirimäe 1964, pp. 110–111.

²⁸ Blumfeldt 1935, p. 58.

²⁹ Rühle 1989, pp. 246–247.

³⁰ Etzold 1975, pp. 135–140.

³¹ Vinnal 2011, pp. 265–268.

³² In 1273, King Erik V of Denmark (1246–1286) granted duty-free status and legal protection to all foreigners in Tallinn, and guaranteed this separately to persons from Lübeck in 1278. Thus, the monarch renounced the opportunity to tax trade in the interest of the state treasury. In principle, the city of Tallinn did not wish to restrict the movement of goods by the imposition of tolls: Johansen 1973, p. 70.

in 1361, when the Hanseatic League declared war against Valdemar IV of Denmark (1340–1375), pound tolls were collected from ships that did not belong to the Hanseatic League, and this was repeated again and again in the following decades.³³ As territorial lord, the Teutonic Order did not collect customs on Tallinn's trade,³⁴ and Tallinn's town council claimed in later centuries that the state had never taxed Tallinn's trade before the advent of Swedish rule. Indeed, in 1561, when Tallinn submitted to Sweden, the new authorities vowed not to collect any new taxes.³⁵ However, finding itself in a difficult economic situation in 1568, Tallinn itself decided to start collecting tolls on goods passing through the city on a regular basis, reserving all revenue to itself. Yet when King John III (1568–1592) decided to open up Narva's trade to foreigners in 1583, Tallinn's town council offered the king part of its toll revenues in return for regaining its monopolistic status as a staple town.³⁶

Hence, by decision of John III on 25 August 1584,³⁷ royal customs – first called pound toll (*Pfundzoll*) and then port duty (*Portoriumzoll*) – were established in Tallinn. In the early years, the town retained only one third of the revenues to cover its expenditures,³⁸ the rest going to the king.³⁹ Utilizing customs data, scholars have determined the quantities of goods passing through Tallinn and their distribution between different countries and towns.⁴⁰ Yet Wolf-Rüdiger Rühle – using customs revenue in the period 1617–1623 – is the only one to have calculated the value of the goods that passed through Tallinn.⁴¹ Unfortunately, in the case of Tallinn, calculating

³³ This tax was collected on ten occasions between 1361 and 1400, and even more frequently in the 15th century: Vogelsang 1972, p. 699; Ritscher 1998, p. 187. According to Dollinger the pound toll was collected in Hanseatic towns in times of war from all incoming and outgoing ships: Dollinger 1976, pp. 99–100, 276.

³⁴ Johansen 1973, p. 74.

³⁵ Bunge 1847, p. 159.

³⁶ Explanation of Tallinn's town council to King Charles IX concerning the introduction of the pound toll, in Tallinn on 23 August 1608 – TLA, 230.1.Ba 16.

³⁷ Bunge 1847, p. 181; Rühle 1989, p. 194.

³⁸ On state duties, including the port duty in the towns of Sweden's Baltic Sea provinces from Riga to Narva and Nyen, see Küng 2015, pp. 115–162.

³⁹ Initially the state took two thirds of customs income for itself and left one third for the city. From St. John's Day (June 24th) of 1594 to 1617, the city's share was increased to half. In 1618–1621, Tallinn once again received only one third of customs revenues. Beginning in 1622, customs duty revenues were once again divided equally. This equitable distribution remained in effect until the end of the period under consideration here.

⁴⁰ For the years 1609–1629, see Blumfeldt 1935, pp. 49–63; for the entire 17th century, Soom 1969, pp. 27–45; Piirimäe 1968, pp. 95–116.

⁴¹ Rühle 1989, p. 247.

the precise value of goods is fraught with grave difficulties. First, the fact that Tallinn and the state normally divided up the customs revenue must be borne in mind. Second, one has to know what customs rates were currently in force, since they changed over time and different commodities might be subject to different rates at any given time. In order to promote transit trade, port duty on goods being shipped between Russia and Western Europe was reduced to 1 % *ad valorem* in 1648. However, this did not apply to salt and wine if they were destined for the local market, i. e. intended for consumption. In this case, port duty had to be paid at the rate of 3 %. Domestic goods produced in Tallinn and its hinterland were also subject to higher customs.⁴² Here the primary commodity was grain, which alongside salt and wine was one of Tallinn's main articles of trade. In addition, some goods were not subject to customs duty at all. For instance, no duty was charged on the so-called royal grain. Goods which had been customed elsewhere in Swedish harbours were duty-free upon arrival in Tallinn, and were accordingly sometimes not even recorded in the customs books. Third, it is essential to know how customs were calculated. Was duty charged on the basis of invoices or bills of lading, thus reflecting changes in the prices of goods, or was the value of goods fixed at some point in time, thus disregarding fluctuations in prices?

It is important to note that while all imported and exported goods were in principle subject to port duty in Tallinn, at the outset of the 17th century, some goods were charged customs on an *ad valorem* basis and others according to fixed valuations. Customs were collected *ad valorem* on broadcloth, hides and furs, hemp, flax, tallow, wax, soap and spices. Fixed customs duties applied to beverages (wine, beer), grain, malt, tar, butter, seal blubber (train oil), fish, Mediterranean fruit and other foodstuffs.⁴³ From 1648, customs were normally collected at fixed rates, which did not reflect changes in prices over time. If the price of a commodity fell sufficiently over time, the actual rate of customs might be significantly higher than the original *ad valorem*

⁴² Port duty was initially collected in Tallinn at a rate of 1.5–2 % of the value of the goods, a rate raised to 3 % in 1623. The port duty, however, was reduced to one percent of the value of the goods by the commercial agreement concluded between the City of Tallinn and Sweden's central authorities in 1648. The same customs rate was set for Tallinn, Narva and Nyen on 31 July of that same year except for joint customs arrangements: Stiernman 1750, pp. 532–575; Bunge 1847, pp. 181, 213–214, 253–271; Soom 1940, pp. 144–145; Rühle 1989, pp. 194–195; Gierlich 1991, pp. 135–137. In addition to the port duty, a licence duty of 1 % and sundry so called allowances also had to be paid (*Ungelder*).

⁴³ Rühle 1989, p. 194.

rate of 1 %.⁴⁴ Only in the case of merchandise for which no fixed valuation had been established did customs continue to be collected *ad valorem* at 1 % of value calculated on the basis of bills of lading or invoices.

It must also be noted that different sources give different figures for the total income from port duty. The amounts stated to have gone to the city and the state often differed, even though they should have been identical.⁴⁵ This may have resulted from folding the receipts from a small tax into the gross customs revenue. In 1617, one source notes explicitly that a certain amount of money was added to the portion of the port duty that went to the state. Worse yet, the sources do not even agree on sum totals. In 1644 the state recorded Tallinn's port customs revenue as 8,541 riksdalers (in the report for Riga's chamber of customs and licence), but according to Tallinn's customs books it was only 7,799 riksdalers. In 1657, the corresponding amounts were 7,248 and 6,316; in 1689 – 16,231 and 15,376; in 1690 – 17,558 and 15,639; in 1703 – 6,935 and 5,770; in 1704 – 8,781 and 7,809; and in 1707 – 8,777 and 6,912 riksdalers. While the reports of the Riga chamber of customs and licence on the customs revenue of the Baltic Sea provinces were based on verified data, the customs books were drawn up as a running account and are not particularly precise. One reason for these divergences is that small domestic craft – barges – that docked in Tallinn were initially not generally recorded in the customs books. Nonetheless, the data for some individual years of the 1670's and 1680's show that they paid something on the order of 100–300 riksdalers annually in customs. It was only at the end of the 17th century that domestic small craft arriving in Tallinn started being systematically recorded, paying customs in significant amounts. Thus 1,586 riksdalers were received in Tallinn from domestic vessels in 1695; 2,844 in 1698; 1,535 in 1699; 2,682 in 1702; 1,645 in 1703; and 2,065 riksdalers in 1704. The fact that these domestic vessels usually arrived in Tallinn from Sweden and Finland must also be taken into account because customs duty was as a rule paid at the port of departure. Thus, customs on Russian transit goods that arrived in Tallinn before being shipped onwards was generally paid in Narva or Nyen and was not recorded in the Tallinn registers. Moreover, goods were also transported to Tallinn overland. Very little information has survived concerning this overland trade. Smuggling

⁴⁴ For instance, Narva merchants complained on 29 April 1691 to Jöran Sperling, the governor-general of Ingria, that instead of the original 2 % customs rate (the port duty and the licence duty together), they had to pay 4 % and even more of the value of their goods for many articles of trade due to the customs tariff that was fixed in 1648; SRA, Kommerskollegium, huvudarkivet, kungl. brev och remisser, E I a. vol. 12 (1691).

⁴⁵ See n. 39.

also took place. In particular, owners of manors sold grain directly to the Dutch who exported it via prohibited secondary harbours in Northern and Western Estonia. This illegal trade was, clearly, not registered in Tallinn's customs accounts. Finally, people cheated on their customs, underdeclaring the value of goods. All of these factors skew the picture.

Yet there are far more serious shortcomings in Tallinn's customs books. For instance, there is no information for some years concerning the arrivals and departures of foreign ships, a prime source of port duty revenue. In 1660 there is no information on the arrival of domestic vessels or on the departure of foreign ships. Just how much is missing from the record may be judged if we compare the total customs receipts – 7,186 riksdalers – recorded for that year in the customs book to the half of the customs revenue – 5,873 riksdalers – received by the city according to Riga's customs and licence chamber: goods paying 4,560 riksdalers in customs (38.8 % of the total) are missing from the customs book. Only the data for departure of foreign ships is known for 1662. Information on the arrival of both foreign and domestic ships is missing for 1668, and only the departures of foreign ships are recorded from 1693. Customs officials also made errors, as became apparent in the course of auditing. In 1642, for instance, it was found that 311 riksdalers had gone unaccounted for, and this continued in 1643 (380 riksdalers) and 1645 (277 riksdalers).⁴⁶ Unfortunately, information about audits has not survived from later years.

These discrepancies in reported gross customs revenue might derive from simple differences in calculating the number of öres in a riksdaler by the Tallinn customers and by the central authorities. For instance, in 1613 Tallinn's customs books used two different rates to calculate how many öres were contained in one riksdaler: 40 and 48 öres per riksdaler. While the state calculated 48 öres to the riksdaler in 1648–1653, in Tallinn one riksdaler was held to be equivalent to 50 öres. Tallinn's harbour office adopted the rate of 48 öres to the riksdaler in 1653/54 and this rate remained in effect until the end of Swedish rule. At the same time, the number of öres to the riksdaler started growing in the state's calculations from 1664 onwards, reaching 64 öres by 1683.⁴⁷ Although it is not the aim of this article to trace inflation, in comparison to inflation indicators in the Swedish motherland, the same tendencies become evident in Tallinn. Compared to the end of the 16th century, the purchasing power of the riksdaler was relatively stable in the 17th century.⁴⁸

⁴⁶ RA, EAA.1.2.878, 879 and 880.

⁴⁷ Küng 2013, pp. 198–200.

⁴⁸ Leimus 1995, pp. 41–50; Edvinsson 2011, pp. 276–279; 285.

These circumstances must be borne in mind when using customs information to calculate Tallinn's export-import balance. Moreover, trade policy also has to be taken into consideration. According to economic notions prevailing in 17th century Sweden, trade could only flourish in those countries and towns where it did not rely on outdated medieval institutions, legal systems and economic thought, and where royal power was capable of imposing its will on the economy.⁴⁹ By way of contrast, transit and local trade in Sweden's Baltic Sea provinces, primarily in Tallinn, was monopolised in the hands of local citizens, who stubbornly clung to their hidebound privileges from the Hanseatic era, which were becoming increasingly obsolete in the early modern economy and ultimately crippled Tallinn's trade. This "obstinacy" of Tallinners was reinforced by the fact that the Swedish authorities had recognised the city's historical privileges in return for the city's voluntary submission in 1561. The state's attempts to stimulate Tallinn's trade did not succeed and various measures intended to foster transit trade through Tallinn failed to produce noticeable results.

Given that the grain trade was of paramount importance to Tallinn, any shock in this sector had direct effects on trade as a whole. Grain accounted for 63.8 % of Tallinn's exports in 1620–1624; 53.3 % in 1629; 86.4 % in 1640; and 62.2 % in 1670.⁵⁰ At the same time salt accounted for around 17 % of the gross value of imports in the 1620's, about 14 % in the 1630's; 25 % in the first half of the 1640's; and 21 % in the first half of 1683.⁵¹ In the event of wars, difficult economic conditions, crop failure, and other such conditions, the state could restrict or altogether prohibit the export of grain⁵² and proceed to buy up the grain itself. This so-called royal or state grain was often duty-free when exported. Thus, prohibitions of grain export (which were frequent) directly affected the overall balance of trade. Additionally, the fact that grain and salt were closely connected to each other must be taken into account – when the export of grain was prohibited, it was difficult to obtain salt in return. Many a ship laden with salt passed Tallinn's roadstead in search of better market opportunities.

⁴⁹ For example, see the memorandum of 10 June 1653 by Swedish economic politician Philip von Krusenstiern who lived in Tallinn: SRA, Livonica II, vol. 649.

⁵⁰ Attman 1973, p. 40.

⁵¹ Piirimäe 1968, pp. 112–113; Piirimäe 1970b, pp. 46–47; Rühle 1989, p. 234; Gierlich 1991, p. 130.

⁵² Sweden's central authorities prohibited or restricted grain exports from Tallinn in the first third of the 17th century, in the early 1660s, in the latter half of the 1670s and 1695–1710: Soom 1961, pp. 22–71; Küng 2018, pp. 17–32.

On a couple of occasions during the 17th century, Tallinners were able to take over the customs administration in other towns in return for a fixed fee. The most important customs farm was in effect from St. Bartholomew's Day (24 August) of 1623 to St. Bartholomew's Day of 1629. During that period, Tallinn, which had won the competition with neighbouring towns, obtained from the Swedish central government the right to collect the customs in Narva-Ivangorod, Helsinki, Porvoo and Koporye harbours and of the Neva River Delta in addition to its own customs. Thus, the customs revenues of those towns were added to Tallinn's pound toll income. According to the agreement, no foreign ship arriving in the Gulf of Finland was permitted to visit harbours to the east without first passing through Tallinn (with the exception of those destined for Vyborg, which was already lost in terms of the Russia trade). While the port duty remained at 3 % in Tallinn, the residents of other towns along the Gulf of Finland had to pay 6 % when shipping goods westward, the receipts being transferred to Tallinn. Yet goods could also be brought to Tallinn, where 3 % customs duty would have to be paid before the goods could be shipped onward. The annual fee for the customs farm was set at 12,000 silver thalers (at 32 öres per silver thaler). If revenue rose above 12,000 thalers, half of the surplus went to the crown. Yet if the amount received was less, Tallinners still had to pay the full fee for the customs farm.⁵³

Let's sum up this section. The registers only provide us with the sum total of crown revenue in a given year, distinguishing between the gross customs receipts for imports and exports. However, we cannot determine the total value of imports and exports by simply multiplying these figures by the inverse of the customs rates. There are a number of reasons for this.

- Town and crown normally divided up the customs revenue, in some years equally, in others in a 1:2 ratio
- Customs rates, usually 3 % ad valorem, could be reduced for certain products (e. g. goods in transit between Russia and Western Europe which paid 1 %) and exemptions were granted (e. g. for royal grain in times of famine and goods customed elsewhere in Swedish harbours). This clearly reduces gross customs receipts and skews the picture
- It is essential to know how customs rates were calculated, i. e. on the basis of current market prices or an ossified official valuation
- Small taxes were sometimes included in the crown's gross customs receipts, thus inflating them

⁵³ Melander 1912, pp. 237–272; Troebst 1997, pp. 134–135; Kotilaine 2002, pp. 51–72; Küng 2017, pp. 33–37.

- Town and crown were not always agreed on gross customs revenue. This could result either from sloppy recording by the customers or the non-recording of goods imported in small domestic craft
- Overland trade to Tallinn was similarly not reflected in the gross customs receipts
- The perennial problems of gaps in the records, smuggling and undervaluation of goods also skew the picture
- Town and crown were not always in agreement on how many öres constituted a riksdaler
- From time to time (notably 1623–29) Tallinn farmed the customs of other ports in return for a fixed fee. Revenue collected there was simply added to Tallinn's customs receipts, again skewing the picture

Thus, the gross customs receipts as recorded in the sources provide, at best, a proxy for the true value of imports and exports. External shocks – war, famine and the crown's mercantilist policies – could skew the picture, but these are generally minor and temporary. Systematic bias – e. g. the use of ossified official valuations of goods in calculating customs charges – also muddies the picture. However, I am confident that, taken as a whole, the sources provided a true picture of the relative weight of imports and exports in Tallinn's trade, even if we cannot determine their value down to the last farthing.

3 Balance of Trade? Tallinn's imports and exports in the 17th century.

We can now turn to the analysis of the data. How did the balance of trade develop and what factors were at play? As can be seen from figure 1, which is based on gross customs revenues, Tallinn's imports and exports were not in balance in the 17th century (see also appendix tab. 1). Throughout the century, Tallinn's exports were clearly more volatile than its imports. Nonetheless, Tallinn's overall balance of trade with Western Europe was positive during this period. However, this does not hold true for the first decades of the 17th century: here more goods were imported to Tallinn than were exported. This arose from frequent grain export prohibitions, and Sweden's wars against its neighbours, especially Poland and Russia, which disrupted the departure of goods to Tallinn. A positive balance of trade was achieved at the beginning of the customs farm (1623) and persisted in spite of smaller setbacks until the wars of the late 1650's. The fact that Livonia ceased to be a theatre of war in the Swedish-Polish War in 1626 was also helpful, since it gave the manorial estate economy in Tallinn's hinterland a chance to recover.

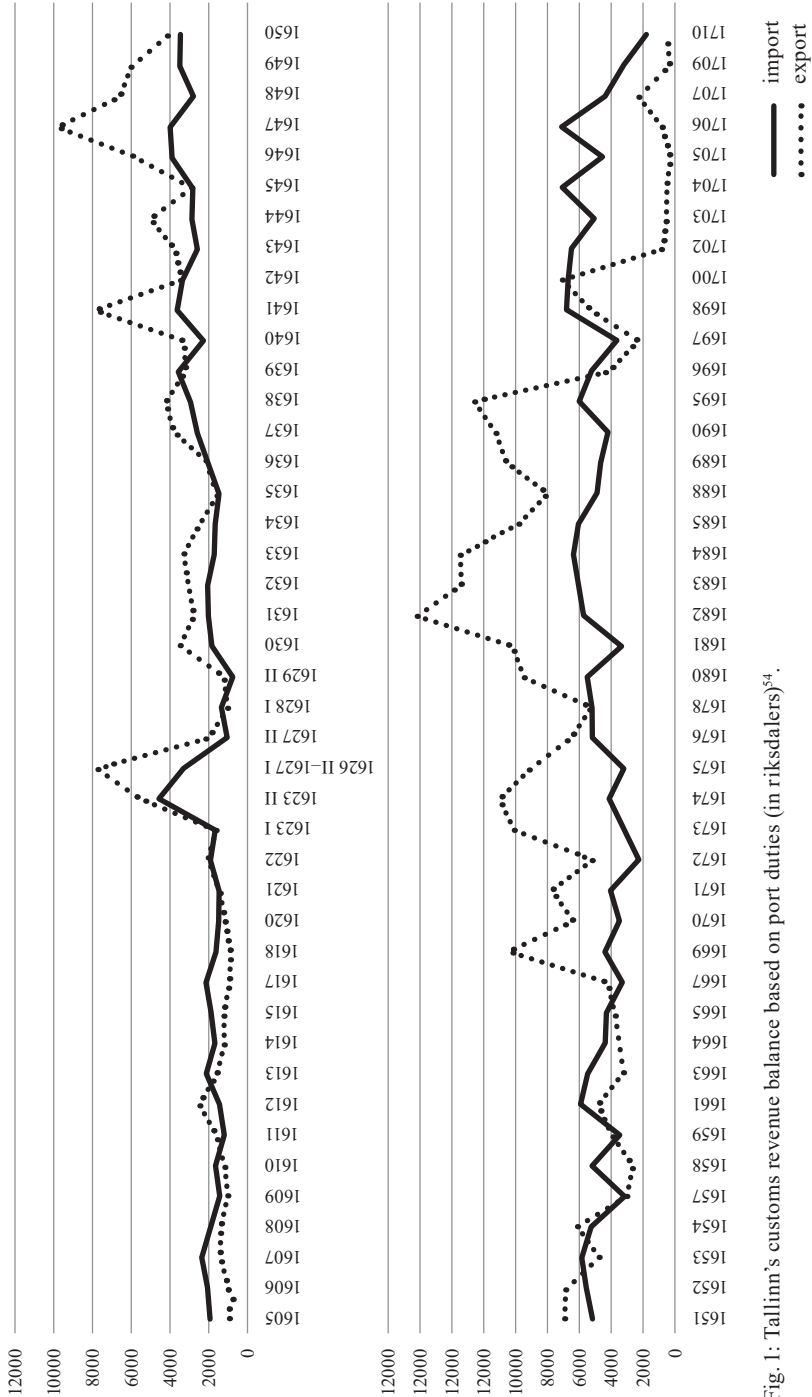


Fig. 1: Tallinn's customs revenue based on port duties (in rixsdalers)⁵⁴.

⁵⁴ RA, EAA.1.2.764-771, 773, 774; EAA.278.1.XXII:139, XXII:140, XXII:142-XXII:145, XXII:147-XXII:149, XXII:152-XXII:155, XXII:157, XXII:159; SRA, Östersjöprovinsernas tull- och licenträskskaper, vol. 2-7, 26, 27, 31, 35, 37; TLA, 230.1.Ag.1-3, 6-9, 11-53, 55-66, 73-78, 80-84, 87-89, 91-97, 99-102, 106, 108-111, 113-128, 130-146; TLA, 230.1.Ba 16.

Both Russian transit goods and local produce were shipped to the Baltic, including Tallinn, with particularly large volumes being recorded in the latter half of the 1640's and the first half of the following decade. Part of Tallinn's hinterland was once again occupied in the course of the Russian-Swedish War that broke out in 1656. Sweden's other wars of the mid-17th century against its neighbours Poland and Denmark also had a stifling impact on Tallinn's trade. Repeated crop failures befell Swedish Estonia and Livonia in the first half of the 1660s, which occasioned grain export prohibitions. A positive balance was once again achieved at the end of the 1660's and this persisted until 1695. Thereafter, the balance of trade once again became negative, evidently due to the famine that had spread throughout the region, and the resulting grain export prohibitions. The Great Northern War, which broke out in 1700, inhibited exports even further. Tallinn's balance of trade remained negative until the end of Swedish rule. It is to be noted that the same tendencies can be observed in Riga's balance of trade with its extensive hinterlands in Poland-Lithuania, Courland and Livonia, from the middle of the century onwards, as Vassili Doroshenko's data show.⁵⁵

As can be seen from figures 2 and 3, Tallinn's balance of trade with Russia, an important trade partner, was negative in the first quarter of the 17th century.⁵⁶ In addition to the amounts of duty received, information is available on the value of Russian goods imported and exported in 1605–1622 (see also appendix tab. 2). It is not possible statistically to ascertain how Russian trade continued to develop in Tallinn on the basis of customs books because from the second half of 1623 onward the import and export of Russian goods was no longer recorded. It should also be borne in mind that some Russian goods arrived in Tallinn along land routes, for instance by way of Narva, and in such cases customs were paid in Narva. This means that the duties recorded give us only a rough indication of Tallinn's trade with Russia.

⁵⁵ Riga's trade balance was positive over the period 1637–1655, negative in 1658–1665 and positive from 1667 until the end of the period under consideration, including the time of the Great Famine and the Great Northern War: Doroshenko 1985, p. 169.

⁵⁶ Russian trade in Tallinn during the first two decades of the 17th century has been examined for 1609 by Blumfeldt 1935, pp. 60–61; for 1606–1612 by Attman 1944, p. 102; Attman 1973, p. 154 and for 1600, 1605–1618 by Kotilaine 2000, p. 32. However, the data of different authors diverge regardless of the fact that they all use as their basis one and the same pound toll or port duty accounts for Tallinn. The authors referred to have also do not show the income from duties on Russian goods.

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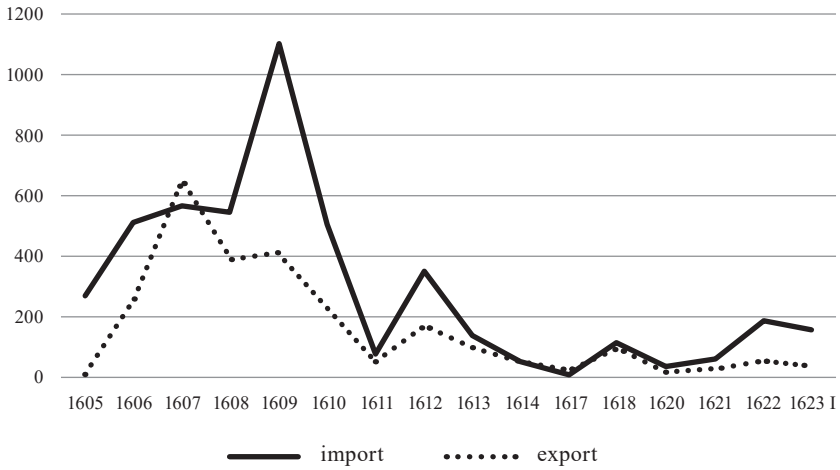


Fig. 2: Tallinn's Russian trade balance on the basis of port duties (in riksdalers)⁵⁷.

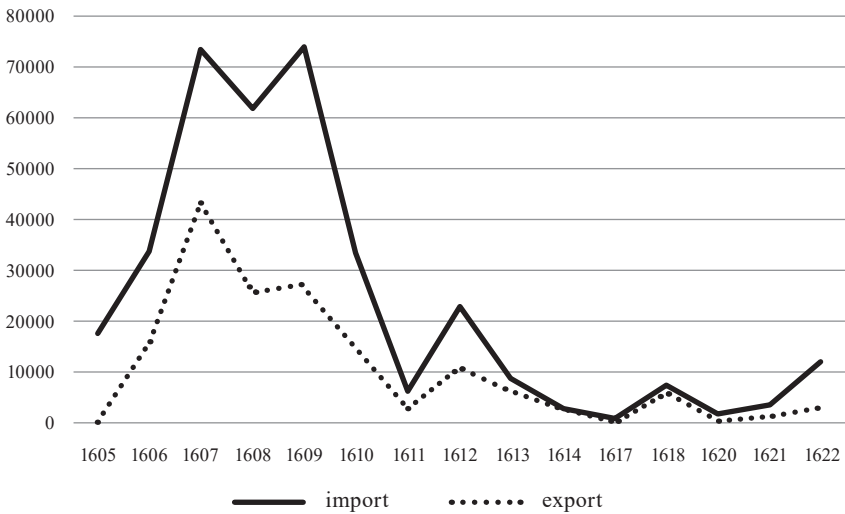


Fig. 3: Tallinn's Russian trade balance on the basis of total value of import and export (in riksdalers).

⁵⁷ RA, EAA.1.2.764–768; SRA, Östersjöprovinsernas tull- och licenträkenskaper, vol. 2–5; TLA, 230.1.Ag.1–3.

One fascinating question in the history of trade is how payments were effected in order to balance out surpluses and deficits in the current account. In the case of 17th century Tallinn and other towns of the eastern part of the Baltic Sea, it has been noted that merchants from the west offered not only money, but also pearls and bullion to achieve a balance in payments. Trading with Russia generated a great need for silver coins, although barter trade was common on the Tallinn, Riga and Narva markets.⁵⁸ Thus Tallinners and foreign merchants interested in trading with Russia needed money and precious metals for doing business because falling into debt was a real possibility when trading with Russia. There is little concrete source material for assessing this process more precisely. Individual business partners could eliminate a shortfall not only by paying in money or precious metals but also by sending goods from Tallinn to the destination market along some alternative trade route, for instance, straight to Russia by way of Narva. A trade deficit could also be occasioned by old debts. For instance, Tallinn's town council informed the governor of Swedish Estonia, Bengt Horn, on 10 October and 7 November 1659 that a large number of ships laden in ballast had recently arrived in Tallinn from Lübeck and that they were loaded up in Tallinn with large quantities of grain which had not been purchased on the local market. Instead, the cargo was intended to cover old debts. The town council wanted the governor to issue an ordinance to put an end to this practice because it meant that neither salt nor wine would be brought to Tallinn, which, in turn, would occasion new debts and increase the cost of living. Since at the moment a war was being waged in which the Netherlands and Denmark were the enemies of Tallinn's sovereign Sweden, Tallinn suspected that the Lübeck merchants were passing the grain they brought from Tallinn on to Sweden's enemies. Instead arriving in ballast, they argued, ships ought to transport useful goods to Tallinn. In his response dated 22 October, Horn stated that grain must not be laden onto ships that arrived in Tallinn in ballast.⁵⁹

There are also examples from Tallinn and its neighbouring towns of money being sent to merchants. For instance, Christer Horn, the Governor-General of Livonia, wrote to King Charles XI of Sweden (1660–1697) on 20 September 1682 that Dutch and English ships had arrived in Riga and brought cash for local merchants but had neglected to pay customs on this money, for which reason Riga's licence inspector impounded the cash. The Riga merchants appealed to the governor-general in order to gain access to the money, which, after all, they were owed. Both the merchants and the governor-general were of

⁵⁸ Attman 1986, pp. 79–86; on Tallinn see: Soom 1969, pp. 13–15.

⁵⁹ TLA, 230.1.Aa.155, pp. 103–104, 111–112.

the opinion that obstructing the movement of money in this manner was detrimental to Riga's trade.⁶⁰

According to Vassili Doroshenko, the arrival of money and bullion in Riga is not reflected in the city's customs books, though traces can be found in the business papers of local merchants.⁶¹ When the Swedish-Dutch War broke out in 1675 and the Swedish authorities began to investigate the business connections between the merchants of maritime cities and Dutch merchants, it emerged that Riga merchants had consistently received money from Amsterdam merchants and other western trade partners.⁶² Similarly, the authorities uncovered credit relations between merchants of Narva and the Netherlands.⁶³ The shipment of money and gold to Riga merchants also emerged from the postal system audit of 1688.⁶⁴ Attman noted that Narva's customs invoices from the beginning of the 17th century include notices of the shipment of money, on which customs were charged. While Attman states that there are no such notices in Tallinn's early customs books,⁶⁵ Soom cites entries concerning the import of bullion and money intended for payment to be found in later 17th century customs books.⁶⁶

The import of gold wire (*untzengold*) for Tallinn's merchants was nevertheless recorded in some years in Tallinn's port duty registers in the period 1618–1626, but gold is no longer to be found in the customs books in subsequent years as an article of commerce (see tab. 1). Without exception, gold was only shipped to Tallinn from Lübeck, although Dutch traders were also active in Tallinn at that time. Coins are not noted alongside gold bullion as an article of import, and only once is a small quantity of silver to be found. On the other hand, the import of pearls is registered in Tallinn's customs duty books in 1605–1611 (see tab. 2). However, we do not know how the gold and pearls that were received were used: how much of it remained in the local market, and how much was shipped onward to Russia? There is information indicating that gold wire was forwarded from Tallinn to Narva on the Russian border (see tab. 3), from where it could have been sent onward to the Russian market. Goods forwarded to Russia constitute a separate subcategory in Tallinn's customs books during those years, yet among the goods listed there, the shipment of 1.5 pounds of silver to Novgorod is noted only once, in 1623.

⁶⁰ Latvian National History Archives (= LVVA), 7349.1.106a, pp. 132–132v.

⁶¹ Doroshenko 1985, pp. 173–177.

⁶² Doroshenko 1985, p. 176.

⁶³ Küng 2005a, pp. 194–217.

⁶⁴ Küng 2005b, p. 23.

⁶⁵ Attman 1944, pp. 86, 102.

⁶⁶ Soom 1969, p. 15.

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Year	gold wire	Year	gold wire	Year	gold wire
1600	983	1609	406	1620	21.5
1605	377	1610	10	1621	2
1606	1,037	1611	20	1622	78.75 + 1 bundle of gold wire
1607	1,409	1613	90	1623	67 + ?
1608	130	1618	6	1626	150

Tab. 1: Import of gold wire to Tallinn based on port duty books (in pounds).⁶⁷

Year	value	Year	value	Year	value
1605	1,700	1608	446	1611	900
1606	2,000	1609	?		

Tab. 2: Import of pearls to Tallinn based on port duty books (in riksdalers).⁶⁸

Year	gold wire	Year	gold wire	Year	gold wire
1606	562	1611	41	1618	3
1607	1,098	1612	40	1619	10
1608	414.5	1613	59		
1609	116 + 65 lots of pearls	1614	8		

Tab. 3: Forwarding of gold wire from Tallinn to Narva based on port duty books (in pounds).⁶⁹

The arrival of large sums of money in Tallinn from both Lübeck and Amsterdam is recorded in the port duty books towards the end of the 17th century. For instance, shipmaster Pieter Jans Mouten, who sailed from Amsterdam and unloaded two sacks containing 2,000 riksdalers in Tallinn, is registered on 3 December 1698, and shipmaster Martin Klickman arrived in Tallinn from Lübeck on 1 May 1699, carrying 700 riksdalers for the Tallinn merchant Henrich Höppener.⁷⁰ A particularly good example is shipmaster Peter Peterson, who arrived in Tallinn from Lübeck on 1 August 1700 – immediately before Russia declared

⁶⁷ RA, EAA.1.2.765–771; SRA, Östersjöprovinsernas tull- och licenträkenskaper, vol 1–5; TLA, 230.1.Ag.1–9.

⁶⁸ RA, EAA.1.2.764; SRA, Östersjöprovinsernas tull- och licenträkenskaper, vol. 2–5.

⁶⁹ RA, EAA.1.2.764, 765; SRA, Östersjöprovinsernas tull- och licenträkenskaper, vol. 2–5; TLA, 230.1.Ag.2.

⁷⁰ TLA, 230.1.A.g. 114.

war on Sweden, thus starting the Great Northern War – and brought cash for Tallinn merchants: 500 riksdalers for Jobst Dunten, 1,440 riksdalers for Peter Mahn, 400 riksdaler carolins for Arend von Münden, 375 albertus-riksdalers for Hans Kock, 300 riksdaler carolins for Hinrich Höppener, and one sack of money for Hinrich Cahl.⁷¹ Attman estimates that in the mid-1680's about one million riksdalers went to the Baltic market each year, primarily to Riga.⁷²

4 Summary

Although we do not have data at our disposal on the value of transit goods and local goods that passed through Tallinn's harbour in the 17th century, it is possible, using the port duty registers, to trace changes in the balance of trade by using the data on gross customs revenues from imports and exports. This material shows that Tallinn generally had a positive balance of trade. The same was true of other port towns in the eastern Baltic, provided economic conditions were stable. Thus, the general trend established in the Hanseatic era continued. However, Early Modern Tallinn's trade hinterland shrank, increasingly focusing narrowly on its immediate hinterland (Swedish Estonia, Livonia and Southern Finland) in place of the earlier, much larger Russian market. Nonetheless, no drastic changes took place in the assortment of goods traded. The city's main export good continued to be grain, while salt dominated imports.

Tallinn's balance of trade was generally negative in the first two decades of the 17th century, which is the period of the Swedish-Polish and Swedish-Russian Wars. The balance turned positive in 1622/23. One factor that contributed to this development was the exclusion of Western Europeans from other towns along the shores of the Gulf of Finland, first and foremost Narva, for six years and the channelling of their customs revenues to Tallinn. The end of hostilities in Livonia between Sweden and Poland in 1626 enabled the economy of the manorial estates in Tallinn's hinterland to recover. However, it was precisely in the 1620s that both Tallinn's town council and the Swedish central authorities restricted the export of grain or prohibited it altogether, which reduced commercial turnover. The subsequent setbacks in Tallinn's trade are tied to Sweden's wars against its neighbouring countries Russia, Poland and Denmark in the mid-17th century. The plundering that accompanied the Russian-Swedish War struck directly at Tallinn's hinterland. The grain harvests of the first half of the 1660s failed and grain exports were again prohibited. Extensive crop failure once again struck Tallinn's hinterland in

⁷¹ TLA, 230.1.A.g. 119.

⁷² Attman 1983, p. 40.

the mid-1690s, bringing famine and interrupting this part of Tallinn's export trade. The city's trade balance turned negative once again during those years and remained so during the Great Northern War that broke out in 1700. Thus, wars and crop failures, and the restrictions and prohibitions on grain exports they occasioned, affected Tallinn's trade and its balance negatively. The absence of grain considerably reduced Western European merchants' interest in the Tallinn market. The volume of imports also decreased.

Although the weakening of Tallinn's links to the Russian market was a great economic loss for the city, Russia's trade policies had no decisive effect on the development of Tallinn's balance of trade. Data on the balance of trade with Russia are found in the port duty registers only from the first quarter of the 17th century. During this period, Russian goods imported into Tallinn exceeded Tallinn's exports to the Russian market in terms of both customs revenue and the value of the goods.

Trade deficits were balanced out by various means, such as transfers of money and precious metals, trading on credit, and other such measures. Western European merchants used all of these options in Tallinn in the 17th century, as did Tallinn's merchants when trading in the Russian market. However, we have no information on how Tallinners balanced their trade deficits with Western merchants. Since there was a chronic shortage of specie in Tallinn, one option was to take grain yields for the coming years as debt collateral.

It was the years with a positive balance of trade that provided Tallinn's market with additional monetary resources and enabled the city's merchants to expand their business activities. The mercantilistically oriented Swedish central authorities were also interested in ensuring that the trade balance of the state and its cities be positive. In addition to the influx of monetary resources, this reduced Tallinn's merchants' dependence on foreign partners. In order to generate an export surplus, wide-ranging measures designed to foster trade were carried out at the state level. In the case of Tallinn, one step was the reduction of customs duty rates, which, in the long term, led to an increase in trading opportunities and trade volume. However, forward-looking economic policy did not always coincide with the state's *Realpolitik*.

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Appendix

Year	Import	Export	Balance	Year	Import	Export	Balance
1605	1,901	905	- 996	1654	5,372	6,246	+ 874
1606	2,050	932	- 1,118	1657	3,194	3,122	- 72
1607	2,296	1,352	- 944	1658	5,337	2,736	- 2,601
1608	1,844	1,343	- 501	1659	3,542	4,072	+ 530
1609	1,397	974	- 423	1660	5,349	–	?
1610	1,591	1,138	- 453	1661	5,994	4,916	- 1,078
1611	1,166	1,575	+ 409	1662	–	4,348	?
1612	1,393	2,455	+ 1062	1663	5,574	3,317	- 2,257
1613	2,085	1,526	- 559	1664	4,473	3,628	- 845
1614	1,640	1,142	- 498	1665	4,379	3,883	- 496
1615	1,846	1,177	- 669	1667	3,394	4,346	+ 952
1617	2,101	880	- 1,221	1668	–	6,937	?
1618	1,603	831	- 772	1669	4,513	10,475	+ 5,962
1620	1,436	1,113	- 323	1670	3,576	6,475	+ 2,899
1621	1,414	1,388	- 26	1671	4,132	7,803	+ 3,671
1622	1,891	2,013	+ 122	1672	2,411	5,212	+ 2,801
1623 I half-year	1,621	1,588	- 33	1673	3,279	10,239	+ 6,960
1623 II half-year - 1624 I half-year	4,567	5,468	+ 901	1674	4,266	11,033	+ 6,767
1626 II half-year - 1627 I half-year	3,265	7,762	+ 4,497	1675	3,300	9,136	+ 5,836
1627 II half-year	990	1,950	+ 960	1676	5,264	6,594	+ 1,330
1628 I half-year	1,307	953	- 354	1678	5,287	5,329	+ 42
1629 II half-year	710	1,175	+ 465	1680	5,600	9,608	+ 4,008
1630	1,805	3,443	+ 1,638	1681	3,417	10,252	+ 6,835
1631	1,977	2,723	+ 746	1682	5,783	16,280	+ 10,497
1632	2,009	3,015	+ 1,006	1683	6,101	13,440	+ 7,339

Tallinn's Balance of Trade in the 17th Century

Year	Import	Export	Balance	Year	Import	Export	Balance
1633	1,684	3,266	+ 1,582	1684	6,445	13,501	+ 7,056
1634	1,631	2,442	+ 811	1685	6,142	9,817	+ 3,675
1635	1,427	1,459	+ 32	1688	4,995	8,063	+ 3,068
1636	2,033	1,966	- 67	1689	4,746	10,630	+ 5,884
1637	2,547	3,746	+ 1,199	1690	4,312	11,325	+ 7,013
1638	2,924	4,198	+ 1,274	1695	6,129	12,612	+ 6,483
1639	3,527	3,167	- 360	1696	5,341	4,202	- 1,139
1640	2,222	3,261	+ 1,039	1697	3,716	2,414	- 1,302
1641	3,607	7,829	+ 4,222	1698	6,871	5,391	- 1,480
1642	3,314	3,368	+ 54	1699	6,180	2,316 + ?	?
1643	2,554	3,714	+ 1,160	1700	6,770	7,181	+ 411
1644	2,837	4,988	+ 2,151	1701	–	728	?
1645	2,782	2,826	+ 44	1702	6,558	882	- 5,676
1646	3 863	5,669	+ 1,806	1703	5,120	650	- 4,470
1647	3,946	9,801	+ 5,855	1704	7,183	627	- 6,556
1648	2,754	6,562	+ 3,808	1705	4,572	420	- 4,152
1649	3,473	5,989	+ 2,506	1706	7,231	907	- 6,324
1650	3,429	4,097	+ 668	1707	4,494	2,418	- 2,076
1651	5,294	6,981	+ 1,687	1708	4,856	–	?
1652	5,664	6,936	+ 1,272	1709	3,317	451	- 2,866
1653	5,948	4,842	- 1,106	1710	1,934	593	- 1,341

Tab. 4: Tallinn's customs revenue balance based on portorium duties (in riksdalers).*

Sources: SRA, Östersjöprovinsernas tull- och licenträkenskaper, vol. 2, 3, 4, 5, 6, 7; RA, EAA.1.2.764, 765, 766, 767, 768, 769, 770, 771, 773, 774; TLA, Ag.1-3, 6-9, 11-53, 55-70, 73-84, 86-93, 95, 96, 99-102, 106, 108-111, 113-146; TLA, Ba.62.

* Customs which had previously been paid elsewhere, principally in Narva, prior to arrival in Tallinn were normally included in the totals recorded for imports and exports. Only in the starred years do we have figures for customs collected on imports and exports in Narva. These figures are: 1610 – 83 riksdalers 24½ öre on imports and exports, 1612 – 31:25, 1614 – 47:17, 1617 – 13:40½, 1618 – 87:06, 1621 – 52:29½, 1622 – 183:01½; 1623 – 155:15 riksdalers. The amount of tolls paid elsewhere is not known for other years. In 1605-1613 toll was charged at the rate of 1 riksdaler = 40 öre in silver coins, starting in 1614 one riksdaler equalled 48 öre in silver coins.

Year	Import toll	Export toll	Balance	Import value	Export value	Distribution of value as percentages
1605	267	6	- 261	17,770	390	97 / 2
1606	509	249	- 260	33,757	15,722	68 / 32
1607	565	648	+ 83	73,598	43,400	63 / 37
1608	543	386	- 157	61,822	25,679	71 / 29
1609	1,111	410	- 701	73,996.5	27,316.5	73 / 27
1610	500*	215	- 285	33,349	14,348	70 / 30
1611	69	46	- 23	6,331	3,063.5	67 / 33
1612	349*	166	- 193	23,278	11,040	68 / 32
1613	135	94	- 41	8,974 + ?	6,260	?
1614	47*	47	0	3,157 + ?	3,124	?
1615	–	94	–	?	6,291	?
1617	2*	19	+ 17	1,068	303	78 / 22
1618	114*	92	- 22	7,580	6,115	55 / 45
1620	31	11	- 20	2,069.5	704	75 / 25
1621	55*	22	- 33	3,642	1,429	72 / 28
1622	183*	50	- 133	12,179	3,248	79 / 21
1623 I	155*	31	- 124	?	?	?

Tab. 5: Volume and balance of Russian trade in Tallinn based on portorium duty data (in riksdalers).⁷³

Source: SRA, Östersjöprovinsernas tull- och licenträkenskaper, vol. 2, 3, 4, 5; RA, EAA.1.2.764, 765, 766, 767, 768; TLA, Ag.1, 2, 3.

⁷³ Russian trade in Tallinn during the first two decades of the 17th century has been examined for 1609 by E. Blumfeldt (Blumfeldt, Evald. “Statistilisi lisandeid Tallinna kaubaliikluse ja meresõidu ajaloole”, 60-61); for 1606.-1612 by A. Attman (Attman, Artur. *Den ryska marknaden*, 102; Attman, Artur. *The Russian and Polish markets in international trade*, 154) and for 1600, 1605-1618 by: Kotilaine, Jarmo T. *Tallinna kaubandussidemed Moskva riigiga 17. sajandi alguses* (Tallinn’s Trade Ties with the Muscovite State at the Start of the 17th Century), 32. At the same time, the data of different authors diverge regardless of the fact that they all use as their basis one and the same pound toll, or portorium toll, books for Tallinn. The authors referred to have also not shown the income from duties on Russian goods.