

Sound Toll Registers Online¹

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TSEG 18 (1): 147–160

DOI: 10.18352/tseg.1203

In 2020, the University of Groningen and Tresoar, the Frisian Historical and Literary Center in Leeuwarden, completed the online database providing instant and free access to the complete Sound Toll Registers. This database, Sound Toll Registers Online (STRO), is already available to everyone at www.soundtoll.nl. Huygens ING is now taking over STRO from Tresoar and the University of Groningen to ensure its quality, accessibility and continuity. The realization of STRO has been funded by the Dutch Research Council (NWO), several cultural foundations, the Samenwerkende Maritieme Fondsen (Cooperating Maritime Funds), ING Huygens, the University of Groningen and Tresoar. The keeper of the Sound Toll Registers, the Danish National Archives, has supported us with encouragement and scholarly advice while building the STRO database.

1 This article intends to give greater publicity to Sound Toll Registers Online and to promote its use for research. It is an independent and complete paper, although, in the course of the last several years, we published other articles with the same purpose and with largely the same content. Sometimes, in these articles, we also presented results of research using STRO. Accordingly, earlier versions of this article have been published as J.W. Veluwenkamp, 'Sonttolregisters Online', *Tijdschrift voor Zeeschiedenis* 38:2 (2019) 75-78; W. Scheltjens, J.W. Veluwenkamp and S. van der Woude, 'A closer look. STRO as an instrument for the study of early modern maritime history', in: J.W. Veluwenkamp and W. Scheltjens (eds.), *Early modern shipping and trade. Novel approaches using Sound Toll Registers Online* (Leiden and Boston 2018) 1-18; J.W. Veluwenkamp, "Die Sound Toll Registers Online" als Instrument für die Erforschung des frühneuzeitlichen Ostseehandels', in: P. Rauscher and A. Serles (eds.), *Wiegen – zählen – registrieren. Handelsgeschichtliche Massenquellen und die Erforschung mitteleuropäischer Märkte (13.-18. Jahrhundert)* (Innsbruck [etc.] 2015) 365-384; and as parts of W. Scheltjens and J.W. Veluwenkamp, 'Sound Toll Registers Online. Introduction and first research examples', *International Journal of Maritime History* XXIV:1 (2012) 301-330.

The Sound Toll Registers and the Sound Toll Tables

The Sound Toll Registers (STR) are the records of the toll levied by the kings of Denmark on the ships passing through the Sound, the main strait connecting the North Sea and the Baltic Sea. For centuries, the kings' bureaucrats administered this Sound Toll – *Øresundstolden* in Danish – in the small town of Helsingør, north of Copenhagen, where the strait is at its narrowest. The accounts of the toll have been preserved for intermittent years between 1497 and 1573, and practically entirely for the period from 1574 to 1857, when the Sound Toll was abolished. They cover about 300 of the 360 years between 1497 and 1857. The Sound Toll Registers – or *Øresundstoldbøgerne* – contain information on about 1.8 million passages. They are stored by the Danish National Archives in Copenhagen, where more than 700 volumes occupy about 60 meters of shelf space.²

The information the kings' bureaucrats entered in the registers for each ship's passage was initially limited to the passage year, the name of the shipmaster, his place of residence, the toll amount paid and, when relevant, the toll amount paid for any cargo of wine. Information increased with the gradual introduction of additional tolls in the course of the centuries. It reached its more or less definitive form by the eighteenth century, when for each individual passage, both westward and eastward, the STR contain the declaration date, the name of the shipmaster, his place of residence,³ his ports of departure and destination, the composition of the cargo and the toll paid.

The STR are well known as one of the great serial sources of early modern history and the only one with rich and detailed information on European shipping and trade that spans a period of four centuries. They are a central source for social, economic and maritime history on all levels: global, European, national, regional and local.⁴ In the first half of the twentieth century, the Danish historians Nina Ellinger Bang and

2 E. Gøbel, 'The Sound Toll Registers Online project', *International Journal of Maritime History* XXII:2 (2010) 305-324, there 305-308.

3 There is a protracted historiographical discussion concerning the question if the STR actually list the shipmasters' places of residence. The – Danish – wording in the source is, for example: *Willem Blocker af Horn*. It is our interpretation that – generally – the shipmaster lived in the place mentioned – in this case Hoorn. Some, however, have argued that the toponym refers to the homeport of the ship. Boon discusses the matter briefly in P. Boon, 'Dutch connections to Scandinavia. The case of the West Frisian seaman abroad and at home', in: M. Guldberg, P. Holm and P.K. Madsen (eds.), *Facing the North Sea. West Jutland and the world* (Esbjerg 1993), 87-101, there 95-98.

4 Scheltjens, Veluwenkamp and Van der Woude, 'A closer look', 2.

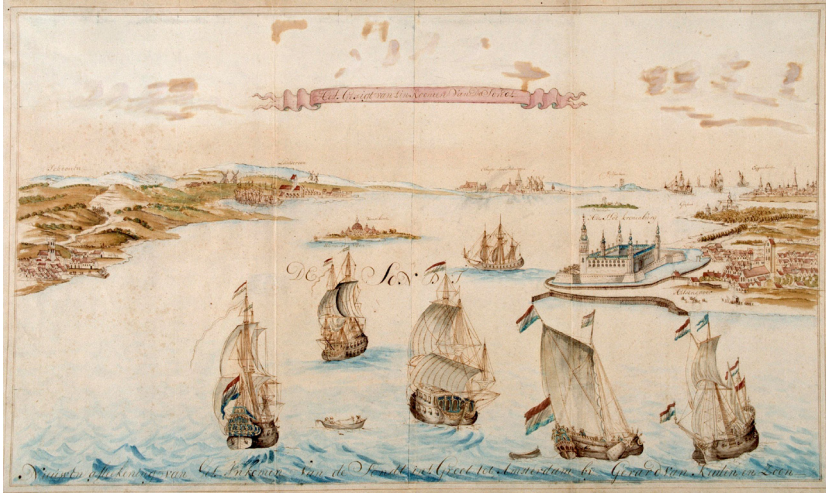


Illustration 1 Gerard van Keulen & son, *The Sound in bird's eye view, seen to the south, Amsterdam 1727* (source: Nederlands Scheepvaart Museum).

Knud Korst published a monumental seven-volume work providing an ample summary of the STR: *Tabeller over skibsfart og varetransport gennem Øresund*, internationally known as the Sound Toll Tables (STT).⁵ Ever since the publication of the first volume of the STT in 1906, these tables, rather than the STR themselves, have been used in almost every major study of early modern European transport and trade; only a few researchers have dived into the original source.⁶

Sound Toll Registers Online

Sound Toll Registers Online was initiated in 2006, by a project team from Tresoar and the University of Groningen, to improve access to the

5 N. Ellinger Bang and K. Korst, *Tabeller over skibsfart og vaertransport gennem Oeresund 1497-1783*, 7 volumes (Copenhagen and Leipzig 1906-1953).

6 See also M. van Tielhof, *The 'mother of all trades': The Baltic grain trade in Amsterdam from the late 16th to the early 19th century* (Leiden [etc.] 2002). Christensen has used both the STT and the STR in A.E. Christensen, *Dutch trade to the Baltic around 1600* (Copenhagen and The Hague 1941). The same is true for Boon in P. Boon, 'West Friesland and the Sound (1681-1720)', in: W.G. Heeres et al. (eds.), *From Dunkirk to Danzig. Shipping and trade in the North Sea and the Baltic, 1350-1850* (Hilversum 1988) 171-189. Scheltjens uses the STR in, for instance, W. Scheltjens, 'The changing geography of demand for Dutch maritime transport in the eighteenth century', *Histoire et Mesure* XXVII:2 (2012) 5-47. Ahonen uses the STR extensively in K. Ahonen, *From sugar triangle to cotton triangle. Trade and shipping between America and Baltic Russia, 1783-1860* (Jyväskylä 2005).

data included in the Sound Toll Registers.⁷ After securing the necessary funding, we constructed the database in two phases. From 2009 to 2013, we outsourced the data entry to Breed, the sheltered workplace for Nijmegen and the surrounding area. We accepted or rejected the records Breed produced after a quality check by random sample.⁸ Initially, we accepted an error rate of two percent, allowing two out of every hundred records Breed produced to contain serious faults. When it became evident that this quality level was set too high, we increased the accepted error rate to five percent. After accepting a batch of records, we corrected the data and added them to the online database.

In 2013, the cooperation with Breed was ended by mutual agreement. One of the reasons was of a financial nature, due to the unexpected workload required. In the years from 1633 to the nineteenth century, the information for each individual passage was recorded in one entry in the original Sound Toll Registers and, consequently, was entered in one record of the database. However, when Breed began to work on the registers from the years before 1634, it became clear that, in those years, it often occurred that the information for an individual passage was recorded in several entries in the STR and, consequently, had to be entered in several records in the database. This meant that to enter the data for the 300,000 passages that remained at that moment and to complete the database, an estimated 700,000 entries had to be completed. Since we had no budget for that, we had to organize the data entry in another way.

We turned to volunteers. To facilitate this, we contracted the Meertens Institute to create a data entry application, which allowed participants with a laptop and internet connection to work from home. In October 2013, a few volunteers began entering data and testing the system live.⁹ When it was clear that the system worked properly, we began to recruit volunteers on a larger scale. By the spring of 2016, a stable group of about 50 participants had formed and was entering data. Many of them regularly attended the instruction and consultation meetings we held every week in Leeuwarden and Groningen, and every other week in Zwolle and Amsterdam. Here, we taught them how to

7 Jan Willem Veluwenkamp (University of Groningen) and Siem van der Woude (Tresoar) managed the project. George Welling (University of Groningen) designed the database in the application phase. Douwe de Vries (then Director of Tresoar) and the late Rienk Wegener Sleeswijk encouraged and supported us.

8 Mark de Lannoy, Johan Steendam and Ubo Kooijnga (Tresoar) carried out the checks.

9 Volunteers Siep Maat, Klaas Dantuma and Anneke Westerhuis did excellent work at that stage.

read the old Danish handwriting, discussed problems with reading and entering data, and gave feedback on the work they had delivered. Again, we added records to the database after checking them.

Sound Toll Registers Online includes for each passage¹⁰ the following information:

- the passage date
- the shipmaster's name
- the shipmaster's place of residence
- the port of departure
- the port of destination (from the mid-1660s; before that, they were not recorded in the STR)
- the nature and quantity of the cargo
- the toll paid

The data was entered into the database in the Danish language as used in the original source, including all early modern spelling variants to avoid contamination by premature interpretation. The spelling variations of personal names, geographical names, commodity names, measures and weights are almost without limit. Obviously, standardized spelling facilitates data analysis, but so far we have only standardized the spelling of the geographical names, while preserving the original input in the database and keeping it accessible there.¹¹

The database has four basic tables: passage, cargo, taxes and images. The *passage table* basically contains one record for each passage, including fields for the date and the shipmaster's name and place of residence. It does not contain fields for the cargo and the ports of departure and destination, as many ships carried several commodities and the ports of departure and destination could differ per commodity. Accordingly, the *cargo table* contains per passage records for each commodity mentioned there, including fields for the commodity's ports of departure and destination and for the tax paid per commodity. The separate *taxes table* contains records with fields for the tax or, in many cases, the several taxes levied per passage. The *images table* contains records with a field that connects the passage record with the scans of the relevant folio of the original source. The four tables are connectable by a common identity field.

¹⁰ More precisely: for each STR entry. As discussed in the main text, passages were often recorded in more than one entry in the STR before 1634.

¹¹ George Welling (University of Groningen) and Frank Bosmans (Tresoar) standardized the geographical names.



*Illustration 2 Data entry for Sound Toll Registers Online at Tresoar, Leeuwarden, 2015.
(© Bob de Boer Photography).*

STRO is essentially an instrument for historical research. It allows one to make all conceivable cross tabs and to carry out any statistical analysis.¹² It includes a user interface, facilitating the selection of passage records by applying search terms for time periods, shipmaster names and places of residence, ports of departure and destination, and cargoes.¹³ Researchers may download the results and process them with applications like Microsoft Excel and Access.

From the STR via the STT to STRO

The Sound Toll Registers are an extremely valuable source, but their sheer volume and detail make them virtually impossible to handle. It was in their effort to make the STR more suitable for researchers that Ellinger Bang and Kort produced the Sound Toll Tables (STT). As mentioned above, historians have indeed preferred using the STT to the STR. Accordingly, the STT have had enormous significance for historical research.

¹² Welling and Bosmans also designed the database.

¹³ Bosmans produced the user interface in the execution phase.

The importance of the STT, however, should not conceal their shortcomings. These limitations have been extensively discussed in the historiography.¹⁴ First of all, the STT only cover the years 1497-1783 while the STR also include the years 1784-1857. Second, they only present data on a high level of aggregation, so that individual passages have disappeared from sight. Third, the way they combine commodities in categories is sometimes quite haphazard and blurs details. As a result, the STT offer only limited possibilities for analyzing the original data.¹⁵ These complications have even led many scholars to content themselves with consulting the articles Unger published when new volumes of the STT first were published, and which included condensed tables based on the STT.¹⁶

The unwieldiness of the STR and the limitations of the STT were among the reasons we built STRO. That does not mean that STRO is without intricacies or that it can be used thoughtlessly. It should be handled with care and with an understanding of its potential and its limitations. The individual researcher must be aware of these when using it. A few remarks explaining some of the complications of the STR and STRO offer clarification.

14 See, for example: Gøbel, 'The Sound Toll Registers Online project'; P. Jeannin, 'Les comptes du Sund comme source pour la construction d'indices généraux de l'activité économique en Europe (XVIe-XVIIe siècle)', in: P. Jeannin, *Marchands du Nord. Espaces et trafics à l'époque moderne* (Paris 1996) 1-62; A.E. Christensen, 'Der handelsgeschichtliche Wert der Sundzollregister. Ein Beitrag zu seiner Beurteilung', *Hansische Geschichtsblätter* 59 (1934) 28-142; E.F. Heckscher, 'Öresundsräkenskaperna och deras behandlings', *Historisk Tidskrift* (1942) 170-186.

15 Gøbel, 'The Sound Toll Registers Online project', 321-322; Jeannin, 'Les comptes du Sund'.

16 W.S. Unger, 'De Sonttabellen', *Tijdschrift voor Geschiedenis* 41 (1926) 137-155; W.S. Unger, 'De publikatie der Sonttabellen voltooid', *Tijdschrift voor Geschiedenis* 71 (1958) 147-205; W.S. Unger, 'Trade through the Sound in the seventeenth and eighteenth centuries', *The Economic History Review*, New Series 12:2 (1959) 206-221. A few examples of the use of the STT and Unger's articles in Dutch historiography are: C.J. van Bochove, *The economic consequences of the Dutch. Economic integration around the North Sea, 1500-1800* (Utrecht 2008) 264-265; Van Tielhof, *The 'mother of all trades'*, 43, 49, 51, 53, 55, 59, 70, 73; R.W. Unger, 'The Dutch trade in rye. Comparative capital requirements in the seventeenth and eighteenth centuries', in: C.A. Davids, W. Fritschy and L.A. van der Valk (eds.), *Kapitaal, ondernemerschap en beleid. Studies over economie en politiek in Nederland, Europa en Azië van 1500 tot heden. Afscheidsbundel voor prof.dr. P.W. Klein* (Amsterdam 1996) 121-140, there 127; J.I. Israel, *Dutch primacy in world trade, 1585-1740* (Oxford 1989) 57, 93, 118, 129, 139, 144, 202, 214, 216-217, 301, 366, 381; J.A. Faber, 'Friesland and the Baltic trade', in: Heeres et al. (eds.), *From Dunkirk to Danzig*, 13-21; E. Harder-Gersdorff, 'Avoiding Sound traffic and Sound toll. Russian leather and tallow going West via Archangel and Narva-Lübeck (1650-1710)' in: Heeres et al. (eds.), *From Dunkirk to Danzig*, 237-261, there 242-244; F. Snapper, 'Commerce, ships and war in the Baltic from the rise of the Hanseatic League till the French Revolution' in: Heeres et al. (eds.), *From Dunkirk to Danzig*, 405-428, there 420-422.

The reliability of the Sound Toll Registers

The Sound Toll Registers are a fiscal source. The Danish bureaucrats kept them not to produce statistics for future researchers but to give an accounting of the toll they levied to the king. The STR have been the subject of extensive source criticism. The discussions amount to three main concerns about their reliability. First, there were other routes from Western Europe to the Baltic Sea area, including the ones through the Little Belt and the Great Belt, the overland route, the sea route to Russia via the North Cape and, from 1784 on, the Schleswig-Holstein Canal. Although each of these routes may not have offered a serious alternative to the Sound, taken together they should not be omitted from the analysis of trade flows.

Hardly anything is known about the traffic through the Little Belt except that this strait was hard to navigate because of its winding channels and strong currents, and using it implied a long detour for ships sailing to and from the Baltic Sea.¹⁷ It was, probably, only significant for local transport.¹⁸ Only a minority of the shipmasters sailed the Great Belt, as this channel was much harder to navigate than the Sound, while the same toll tariffs were applied in both straits.¹⁹ The traffic here was mainly regional, predominantly connecting Lübeck and Rostock with Danish and Norwegian ports. The overland route to present-day eastern Germany, Poland and Russia was only relevant for the transport of low-weight, low-volume and expensive commodities.²⁰ The Schleswig-Holstein Canal between Tönning on the North Sea and Kiel on the Baltic Sea was opened in 1784, but only small ships could pass through it and it never attracted a lot of traffic.²¹ Finally, the sea route to Russia via the White Sea port of Archangel was the main gateway to Russia during the long seventeenth century, when Russia did not have its own Baltic port. It was the main and preferred alternative for the routing of Russia's foreign trade via the Baltic Sea and the possessions of Sweden and other lands between the sea and Russia. Vital as it was to Russia, this route involved usually much less than ten percent of the Sound traffic.²²

17 Gøbel, 'The Sound Toll Registers Online project', 319-320. Gøbel mentions that toll registers of the Little Belt have been preserved for the years 1816-1857; Jeannin, 'Les comptes du Sund', 12.

18 Jeannin, 'Les comptes du Sund', 12.

19 Gøbel, 'The Sound Toll Registers Online project', 319; Jeannin, 'Les comptes du Sund', 12.

20 Jeannin, 'Les comptes du Sund', 4, 6, 12.

21 Gøbel, 'The Sound Toll Registers Online project', 319-320.

22 Jeannin, 'Les comptes du Sund', 4-5.

The second concern about the STR's reliability involves fraud. This did not mean stealing through the Sound without paying the toll. The chance of success in this respect was very low, as officials observed and guarded the strait from Kronborg castle and with the royal guard ship cruising it. It is widely accepted that all ships that sailed through the Sound in the years covered by the STR were recorded. Shipmasters, nevertheless, certainly evaded payment of part of the toll due by making false declarations of the commodities. Clearance was based on the ships' documents, such as the bills of lading, though the customs officers were entitled to search the ships. Obviously, this did not stop all shipmasters from trying their luck. Comparison with other sources, especially customs accounts from individual ports – the dependability of which is incidentally problematic, too – has shown that the information on cargoes in the STR is generally correct but not complete.²³ The extent of the fraud differed per period and per commodities category. Expensive commodities of small volume were always more subject to fraud.²⁴ For bulky commodities like grain, flax and hemp, the picture is slightly different. Here, before 1618, especially in the period 1580-1618, fraud was enormous, fluctuating perhaps between 25 and 50 per cent. This may be explained by the fact that the customs officers seem hardly to have checked the declarations. In 1618, this changed. From then on, the customs officers carried out more systematic checks, reducing fraud for conspicuous bulk goods.²⁵

A third reason that the STR must be handled with care is the fact that sometimes parties were exempted from paying the toll. This applies to Danish ships and goods throughout the period and to Swedish vessels and commodities between 1650 and 1710.²⁶ Exempted passages were recorded, though often without mention of the relevant cargoes, and, in any case, usually without mention of their quantities. Nonetheless, alternative routes, fraud and exemptions cannot alter the fact that the STR are a great source and starting point for the study of trade and transport during the period covered. As always, the researcher must be aware of the limitations of the source, in this case especially with regard to cargoes.²⁷

23 Gøbel, 'The Sound Toll Registers Online project', 319-321.

24 Jeannin, 'Les comptes du Sund', 33, 38; Van Tielhof, *The 'mother of all trades'*, 42.

25 Jeannin, 'Les comptes du Sund', 21, 37-39.

26 Jeannin, 'Les comptes du Sund', 39-40.

27 Gøbel, 'The Sound Toll Registers Online project', 319.

The intricacies of Sound Toll Registers Online

STRO is an interpretation of the STR and not compiled as a source edition. It is constructed as an organic historical source fitted into a much more sterile database. With the source criticism of the STR in mind, the researcher also needs to understand the details of STRO. Only the most obvious of these can be briefly discussed here.

First and foremost, we have only entered the STR toll collection entries proper into the database and have omitted a large quantity of additional information. This mainly involves the recurrent introductory, accounting and justifying texts the toll officials noted. In addition, as the database has a strict format, we could not include the extra information the officials sometimes added in the passage entries. This information is diverse. It may involve the owner or addressee of part of the cargo, a ship having been stranded, or a rotted part of the cargo. In order not to completely lose sight of that information, we have, as a rule, put a reference in the field ‘*opmerking bron*’ – ‘remark on the source’. This reference is often worded only as ‘*stuk Deense tekst*’ – ‘piece of Danish text’ – with no further details.

Not all entry problems were solved after extra information had been dealt with – or disposed of – in this way. The STR developed organically over more than three and a half centuries so that their form and precise content changed and varied from one period to the other. This means that we had to handle all kinds of peculiarities to fit the content of the STR entries proper into the database. The three most conspicuous examples are connected to the recording of the value of a commodity, the formulas ‘*gior*’ and ‘*er*’, and references in one STR entry to another. We briefly discuss them in the following paragraphs.

Usually, the STR record commodities – the components of the cargo – by stating the quantity, the unit of measure and the commodity, e.g., *60 læster rug* (60 lasts of rye).²⁸ Sometimes the unit of measure and the quantity involve an amount of money, e.g., *for 800 rd. kramerie* (for 800 rixdollars peddler’s wares).²⁹ The value per unit of the commodity is also sometimes recorded, for example: *156 fad stads viin à 52 rd.* (156 casks of town wine at 52 rixdollars per cask).³⁰ In this case, we enter the value per cask into the database as part of the commodity: ‘*stads viin à 52 rd.*’ Sometimes, the STR record commodities with a second meas-

28 www.soundtoll.nl, record 152363, 25 August 1783.

29 www.soundtoll.nl, record 81863, 11 November 1783.

30 www.soundtoll.nl, record 96205, 16 May 1783.

No.	Description	Toll	Total
71	Droch Læster hveede	42	15 6
	200 lb rye	23	
	200 lb wheat	23	
	100 lb rye	11	
	100 lb wheat	11	
	50 lb rye	5	
	50 lb wheat	5	
	2 lb pepper	100	
	1 lb pepper	100	
	1 lb pepper	100	
72	Reus 8 Hveede		0 6
	Willow, Clouke, etc.		
	100 lb rye	6	
73	Reus 9 Ditte		1 4
	Reus 9 Ditte		
	100 lb rye	14	
74	Reus 10 Ditte		2
	Reus 10 Ditte		
	100 lb rye	2	
75	Reus 11 Ditte		2
	Reus 11 Ditte		
	100 lb rye	2	

Illustration 3 Entry from the Sound Toll Registers, 1734 (source: Danish National Archives, Copenhagen).

ure, e.g., 42 læster rug etc. *giør* 50 2/5 læst (42 lasts of rye etc., i.e., 50 2/5 lasts) or 36 læster hveede er 45 læst (36 lasts of wheat, i.e., 45 lasts).³¹ We have interpreted the formulas ‘*giør*’ and ‘*er*’ as ‘that is to say’ or ‘i.e.’. In these cases, we have entered the second measure in a separate field as an alternative measure.

In approximately less than 0.6 percent of the STR entries, there is a reference to another entry, characterized by the term ‘*Vide Fol.*’ and followed by the relevant folio number and passage number.³² These references usually involve corrections of or additions to earlier entries. We have indicated these references concisely in the field ‘*opmerking bron*’ – ‘remark on the source’ – as well as mentioning the folio and passage numbers and the relevant shipmaster name and place of residence. It is up to the researcher to further work through these references.

Finally, despite all efforts to maximize correct reproduction of the content of the STR entries, it is inevitable that the database contains many small errors and perhaps a few omissions. However, errors in the original spelling hardly affect the substance of the information. In other cases, the user will have to rely on their critical mind and knowledge to avoid mistakes and errant interpretations. We are confident that the

31 www.soundtoll.nl, record 75437, 23 March 1783; record 82520, 5 May 1783.

32 For example www.soundtoll.nl, record 119865, 21 August 1783.

quality of the information in the database allows all queries to produce accurate results. Moreover, the digitized originals in the database allow researchers to verify the information.

Research and research prospects

Before STRO was available, historians used the STR and the STT mainly to produce statistics of rather generally categorized ship movements and commodity flows. Now, STRO allows the researcher to exploit easily the richness of the STR to a depth that used to be hardly attainable. Analyses that were previously almost inconceivable can now be carried out quickly and easily, and the STR's different dimensions – particularly place, time, cargoes and shipmasters – can be instantly combined in all the detail of the original source and on every conceivable level of aggregation.

Most evident is the utilization of STRO for the research of basic structures and developments of trade and transport of individual commodities or commodity categories on a local, regional, national or global level. An early publication exploring these possibilities discusses the flow of coffee to the Baltic region countries in the eighteenth century, including the breakdown into the countries from where the carrying ships left and where they were destined.³³ Another article analyzes Stockholm's foreign trade in the period from 1770 to 1790, including the breakdown into commodity categories per country of origin and destination.³⁴ Basic analyses like these also provide indications of the size, development and shifts of production and consumption of raw materials, textiles, luxuries, foodstuffs and many other things.³⁵ Consequently, they can help to study broader problem areas of social and economic history, like the industrial and industrious revolutions. An obvious point of departure in this respect is the development of the transport of industry-related commodities such as coal, machines and cotton through the Sound.³⁶

33 M. Draper and J.W. Veluwenkamp, 'Sound Toll Registers Online and the eighteenth century Baltic coffee commerce', *Groniek* 200 (2014) 279-294.

34 S. Lilja, 'The Sound Toll Registers as a mirror of Stockholm's foreign trade c. 1770-1790', in: Veluwenkamp and Scheltjens (eds.), *Early modern shipping and trade*, 41-58.

35 See for example the analysis of the rhubarb and sarsaparilla traffic through the Sound in: J.W. Veluwenkamp and W. Scheltjens, 'Baltic drugs traffic, 1650-1850. Sound Toll Registers Online as a source for the import of exotic medicines in the Baltic Sea area', *Social History of Medicine* 31:1 (2018) 140-176.

36 Ahonen, *From sugar triangle to cotton triangle* could have been a fine example, but that study appeared years before the start of the STRO project and Ahonen uses the original STR.

STRO is a gold mine for detailed in-depth exploration and analysis. Micro-historical research employing STRO can focus on many things. A single port of departure or destination, one place of residence, however big or small, a route, a commodity, even the itineraries of any individual shipmaster may be the starting point for innovative research and contribute to the social and economic history of the early modern and modern periods. One example is an article presenting a methodology for estimating the volume of timber shipped from the Baltic Sea area to Spain in the period 1670-1806.³⁷ The history of the countless and clustered shipmaster communities all along the coasts of Europe and America lies largely fallow but can be fruitfully explored using STRO, as two studies on the shipmaster communities in the Dutch province of Friesland in the early modern period exemplify.³⁸ Apart from its significance for local and regional history, the study of these communities can contribute to understanding the structure and the development of the maritime labour market and national and international infrastructures and logistics and, consequently, to gaining insights into social and economic developments in general.³⁹

Similarly, STRO can also help gauge the impact of political decisions and developments on international trade, revealing short-term crises and spikes in commodity flows and facilitating studies on the impact of trade blockades, port sieges, war and the threat of war on transport through the Sound. Indeed, practically any analysis of traffic using STRO will show the effects of war, with the French Revolutionary and Napoleonic Wars standing out.⁴⁰ Possibilities in this field are also shown in an analysis of the way the partitions of Poland and the connected mercantilist policies of Prussia and Russia rechannelled the trade flows between Western Europe and the Baltic Sea's southern ports.⁴¹

STRO is not a research agenda but a research instrument which is being used already. Examples are provided by two edited books, which

37 N. Gallagher, 'A methodology for estimating the volume of Baltic timber to Spain using the Sound Toll Registers: 1670-1806', *The International Journal of Maritime History* 28:4 (2016) 752-773.

38 J.J. Koopmans, *Vrachtvaarders van Europa. Een onderzoek naar schippers afkomstig uit Makkum in Friesland van 1600 tot 1820* (Hilversum 2020); S. Steenbeek, *Schipperen in Friesland. De ontwikkeling van maritieme schippersgemeenschappen in Friesland in de vroegmoderne tijd* (Groningen 2017).

39 An example is W. Scheltjens, *Dutch deltas. Emergence, functions and structure of the Low Countries' maritime transport system ca. 1300-1850* (Leiden and Boston 2015).

40 This is illustrated by J.W. Veluwenkamp, 'Pekelder schippers in de achttiende eeuw. Van turfvaart naar kustvaart', *Jaarboek Noordelijk Scheepvaartmuseum* 2016 (Groningen 2017) 25-31.

41 M. Ressel, 'The impact of the Partitions of Poland on the structure of Baltic trade', in: Veluwenkamp and Scheltjens (eds.), *Early modern shipping and trade*, 21-40.

were published in 2018 and 2019.⁴² We hope that researchers will continue to take advantage of STRO for a long time to come and trust that they will continue to find new topics and questions to study with the use of the database. It will stay in safe keeping with Huygens ING. Sound Toll Registers Online is now complete. It is available at any time for anyone to write history. If it were a ship, we would wish it a prosperous voyage!

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⁴² Veluwenkamp and Scheltjens (eds.), *Early modern shipping and trade*; M.-W. Serruys (ed.), *Proceedings of the sixth Sound Toll Registers Online conference, Antwerp, Belgium (22-23 October 2015)* (Antwerp 2019).