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Sound Toll Registers online. Introduction and first research examples

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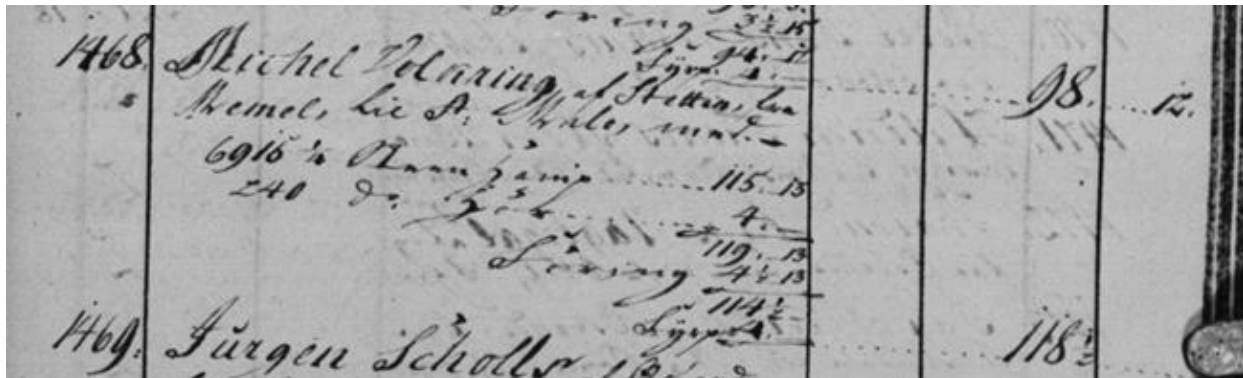
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Since 2009 the University of Groningen and Tresoar, the Frisian Historical and Literary Centre, Leeuwarden, The Netherlands, are engaged on the realization of an electronic database for the complete Danish Sound Toll Registers (STR). This endeavor is funded by the Netherlands Organisation for Scientific Research (NWO), several Frisian cultural foundations, the University of Groningen and Tresoar. The Danish National Archives (Copenhagen) and the Fryske Akademy (Leeuwarden) provide scholarly advice and support. The database, Sound Toll Registers *online*, or STRO, is accessible to all via the internet: www.soundtoll.nl. Currently it covers the period 1766-1799 containing about 287.000 passages. It is our intention to complete Sound Toll Registers *online* in 2013. By then, via STRO, the STR will be at the instant disposal of all – professional researchers, amateurs and any other interested party.

The STR are the records of the toll levied by the king of Denmark on the passage of ships through the Sound, the strait between Denmark and Sweden connecting the North and Baltic Seas. They are stored by the Danish National Archives. The more than 700 volumes of the STR that have been preserved – about sixty meters of shelf space - cover about 300 of the 360 years between 1497 and 1857, when the Sound Toll was abolished, and include a practically uninterrupted series from 1574 to 1857. They hold information on about 1.8 million passages.¹ For each individual passage, both westward and eastward, the STR contain the passage date, the

name of the shipmaster, his place of residence, his port of departure and – from the mid-1660s – his port of destination, the composition of the cargo and the toll paid (see figure 1).

Figure 1. Entry from the Sound Toll Registers



Source: www.soundtoll.nl, record 117784, 14-7-1782.

The STR are 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 the main measuring point of commodity transport in Europe and contain vital information on trade, transport, production and consumption and the origins, lives and economic activities of a host of shipmasters from many countries. They are a central source to social, economic and maritime history on all levels: global, European, national, regional and local.

Although the STR are widely known as crucial their sheer volume and detail make them virtually impossible to handle. As a partial solution to this problem, in the first half of the twentieth century, Bang and Korst published an ample summary of the STR in the shape of tables - the monumental Sound Toll Tables (STT) as they are usually called.² Ever since, these tables have been used in every major study of early modern European trade. Their enormous significance, however, should not conceal their shortcomings. The STT only cover the years 1497-1783 and only present data on a high level of aggregation. Individual passages have disappeared from

sight. In addition, the way data have been combined in categories, may not always suit the researcher and sometimes give reason for doubt about its correctness. As a result, the STT offer only limited possibilities of analysis of the original data.³

In the 1970s, Johansen, looking for ways to improve the accessibility of the STR, created an electronic database with the detailed data of all Sound passages for the period 1784-1795. He presented his analysis of these data in a monograph in 1983.⁴ The Danish Data Archive at Odense (Denmark) administers Johansen's database and puts it at the disposal of researchers. In 2009 and 2010, Welling reconstructed and edited Johansen's database and made it accessible via the internet.⁵

Not to be confused with the STR are the "Dutch Sound Registers", the lists of Sound passages which the Dutch representatives in Denmark made and sent to the Estates-General in the 18th century and are kept by the National Archives of the Netherlands in The Hague. These 'Registers' only cover the 18th century and contain much less detailed information per passage than the STR. The website of The National Archives contains a database with the relevant data of thirteen sample years.⁶

STRO is in many ways the delayed continuation of Johansen's pioneering effort. It is a relational database set up to make the STR data instantaneously available to all. It includes for each passage – in principle and basically - the following information:

- the passage date
- the shipmaster's name
- the shipmaster's domicile
- the port of departure
- the port of destination (from the mid-1660's)
- the nature and quantity of the cargo
- the toll paid

The database is designed to enable all conceivable search actions, to allow the making of all conceivable cross tabs and to facilitate statistical analysis. For this purpose, the data are entered in four basic tables: passage, cargo, taxes and images. The passage table basically contains one record per passage including fields for the date and the shipmaster's name and domicile. 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 a record for each commodity of each passage including fields for the commodity's ports of departure and destination and the tax paid per commodity. The separate taxes table contains fields for the tax, or, in many cases, the several taxes levied per passage. The images table contains fields for the scans of the relevant folio of the original source. The four tables are connectable by a common identity field.

RUG and Tresoar have outsourced the entry of the data to Breed, the social workplace at Nijmegen. Breed enters the data in the original spelling of the STR and delivers the data files to Tresoar. RUG and Tresoar accept or reject the data after a quality check by random sample. After acceptance Tresoar and RUG follow a procedure of correcting, standardizing and categorizing the data. Correction to the degree of a flawless reproduction of the original data is impossible, but the quality is such that all queries will produce accurate results. Moreover, as the image of the original is available in the database, researchers may always check results.

As there was no standard spelling in the centuries in which the STR were produced, the spelling variations of personal names, geographical names, commodity names, measures and weights are almost without limit. To facilitate the analysis of the data geographical names, commodity names and names of measures and weights will be standardized. In addition, we examine the possibilities of conversion of measures and weights to the metric system. All standard terms are entered in additional tables so that the original input is preserved. The categorization of geographical names (in regions) and commodity names (in groups of similar products) follows the same procedure. For the time being the personal names - of the shipmasters - are not standardized as the results would be unreliable. It is hard enough to standardize personal names occurring in one region, e.g. Friesland. In the case of the STR, which contain names of shipmasters from many places, regions and countries names must be differently standardized depending on the place where the men lived. Perhaps this nut will be cracked at a later stage.

The data are entered into the database in the Danish language as used in the original source. As this might render the database hard to use for many the standard terms are translated into English which allows searching the database and finding results in English. In the same way, the database may be converted in other languages.

To facilitate the use of the database by a broad audience RUG and Tresoar add a user interface allowing many queries without knowledge of database applications.

STRO is essentially an instrument of historical analysis. Its builders have tried to fit an organic historical source into a much more sterile database. To that extent STRO is an interpretation of the STR and not a direct copy or a source edition. STRO is certainly a powerful instrument, but it has its limitations. The individual researcher must be aware of this when he or she makes use of it.

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

Not all entry problems have been solved even after, in this way, extra information has been dealt with - or shed. The STR have organically developed during more than three and a half centuries so that their form and precise content change and vary from one period to the next. This means that all kinds of peculiarities must be dealt with to fit the content of the STR entries proper into the database. The three most conspicuous examples of this concern the recording of the value of a commodity, the formulas 'giør' and 'er' and references in one STR entry to another.

Usually, commodities – the components of the cargo – are recorded inclusive of the unit of measurement and the quantity: '60 læster rug.'⁷ Sometimes the unit of measurement and the quantity involve an amount of money: 'for 800 rd. kramerie.'⁸ But it also occurs that both the measure and the value of the commodity are recorded: '156 fad stads viin à 52 rd.'⁹ In this case we enter the value of the commodity into the database as part of the commodity name and treat 'stads viin à 52 rd.' as a separate commodity.

Sometimes commodities are recorded with a second measure: '42 læster rug etc. gjør 50 2/5 læst.' or '36 læster hveede er 45 læst.'¹⁰ We interpret the formulas 'giør' and 'er' as 'that is to say' or 'i.e.' We enter the second measure in a separate field as an alternative measure.

In approximately less than 0,6 % of the STR entries there is a reference to another entry, characterized with the formula ‘Vide Fol.’ followed by the relevant folio number and passage number.¹¹ These references usually involve corrections of earlier entries by other shipmasters. These references are concisely indicated in the field ‘opmerking bron’ – ‘remark to the source’ - with mentioning of the folio and passage numbers and the shipmasters name and domicile. At the present stage of the project it is up to the researcher to further process these references. Finally, despite all scrutiny that has been employed to maximize correct reproduction of the content of the STR entries, it has been unavoidable that the database contains many small errors and perhaps a few omissions. Errors in the original spelling of geographical and product names and measures and weights will be largely overcome by their standardization. In other cases the user will have to rely on his critical mind and wit to avoid mistakes and errant interpretations.

RESEARCH

No doubt STRO will prove to be a powerful instrument for historical research. Colleagues participating in two STRO workshops held in 2010 have already carried out exploratory studies which have been published as working papers at www.soundtoll.nl.¹² To demonstrate the possibilities of STRO the authors of the present paper have carried out a small study in which the recruitment of sailors for the Dutch East India Company (VOC) is compared with the recruitment of sailors for the Dutch merchant marine active in European waters. The results of that study are presented below. But first we shall briefly go into *The Ascent of the Frisians* which is a first coherent research project making use of STRO, carried out by the University of Groningen.

The Ascent of the Frisians

The research project dubbed *The Ascent of the Frisians. The Dutch Commercial System and the Market for Maritime Transport, 1550-1800* was embarked upon by a research group – of which the authors of the present article are members - at the University of Groningen in 2009. The project is funded by the Netherlands Organisation for Scientific Research (NWO), carried out by two PhD students, Simone Steenbeek and Jelle Jan Koopmans, and a postdoc, Werner Scheltjens. It is supervised by Jan Willem Veluwenkamp.¹³ The STR, used by means of STRO,

constitute the project's main source. To study other market segments they are supplemented with other sources like notarial archives and port books.

The scholarly goal of *The Ascent of the Frisians* is to contribute to the understanding of the structure and development of the Dutch maritime transport market as an integral part of the Dutch commercial system in the early modern period. This market has hardly been studied but the general picture quite hesitantly emerging from the historiography is that merchants, mainly based in Amsterdam and other towns in Holland, demanded transport while shipmasters, mainly based in towns and villages in Holland, Friesland and on the Wadden Islands, supplied it.¹⁴ It is not known with any precision to what extent the maritime transport market was segmented or homogeneous and to what extent its structure changed over time. Did individual shipmasters or groups of shipmasters – for example shipmasters of the same place or region – specialize in certain cargoes and/or routes? Were demand and supply unchangingly carried out by the same parties in the same places? A clear indication that a structural change did occur is the well-established historiographical notion that, in the course of the seventeenth and eighteenth centuries, the point of gravity of the domiciles of the Dutch shipmasters active in the transport to and from the Baltic as recorded in the STR shifted from Holland to Friesland. The analysis and explanation of this shift and the question to what extent it occurred in other trades, too, are subjects of ongoing historiographical debate.¹⁵ There are several possibilities. One – extreme – possibility is that there was a general shift of shipmasters' origins from Holland to Friesland. Another – less extreme – possibility is that there was a change of specializations among the shipmasters of Holland and Friesland of which the swap of their appearance in the Baltic – visible in the STR – was a component. In either case, changes in the Dutch commerce and the regional economies of Holland and Friesland must have led to shifts in the demand and supply of shipping services and, consequently, to changes in the regional distribution of the shipping industry.

In a general approach, covered by Scheltjens, *The Ascent of the Frisians* explains the development of the demand for maritime transport as a function of at least partly interconnected changes of the geography of consumer and producer markets and changes of the volume and composition of the commodities traded. One great shift perhaps occurred in the course of the seventeenth century when the principal function of Dutch commerce seems to have shifted from the distributive trade of the omnipresent international middleman to commerce relating to the

rising Dutch export industry. A second change may have occurred in the course of the eighteenth century, when a decrease of the commerce related to the export industry was probably compensated by a simultaneous increase of the trade with the German hinterland and the distribution of colonial products. This change seems to be connected with the notion of ‘external contraction’ of the Dutch European trade – the increase of the proportion of the trade with nearby countries. Similarly, *The Ascent of the Frisians* studies the development of the supply of maritime transport as a function of the changes of the relevant regional economies – mainly Holland and Friesland. These changes may be associated with the process of specialization which seems to have occurred in the maritime provinces of the Netherlands throughout the early modern period and with the different paths followed by traditional town economies characterized by secondary production on the one hand and rural economies characterized by primary production on the other.

In addition to this general approach *The Ascent of the Frisians* focuses on the development of the Frisian shipmasters communities, which constitute one of the main groups of suppliers of maritime transport and which appear prominently in the STR by the end of the seventeenth century. This part of the project, covered by Steenbeek, analyses and explains the development of the numbers of Frisian shipmasters in total and for a selection of places of residence. It also studies the extent to which they specialized with regard to destinations and/or size and/or composition of cargoes. It will make clear whether all the Frisian shipmasters more or less transported all goods to all destinations or specialized individually, locally or regionally. An explanation for these quantitative developments will be sought in the development of the Frisian economy on the one hand and the development of the Dutch commercial system on the other. The third part of *The Ascent of the Frisians*, covered by Koopmans, is a case study of the shipmasters of the Frisian village of Makkum, situated in the south-west of the province on the coast of the Zuyderzee. It analyses and explains the development of Makkum maritime shipping and the Makkum shipmasters community as a result of the development of the demand for maritime transport, the development of the Makkum economy and the commercial and social strategies of individual Makkum shipmasters. The choice for the town of Makkum is determined by the availability of the Kingma Archive, which includes the personal archives of several generations of shipmasters belonging to the Kingma family. A central question, here, is how the shipmasters tried to survive competition. The historiography shows that early modern Dutch

entrepreneurs specialized to accumulate expertise, maintained permanent relations with customers and suppliers to safeguard turnover, and handed on their expertise and relations to the next generation as important assets enabling their families to keep up their social positions. The hypothesis for this study is that the shipmasters – who may be conceived as entrepreneurs in the shipping business – acted in an analogous way.

Recruitment of Dutch sailors in the Dutch merchant navy

Related to the question of the shift of Dutch shipmasters domiciles from west to east is the question of the recruitment of sailors working on Dutch vessels in the seventeenth and eighteenth centuries and to what extent sailors were recruited in the same country or region as the one where the ship or the shipmaster was based. The generally accepted picture is that the demand on the Dutch labor market for sailors was exercised by six distinct maritime sectors and that the analysis differs per sector. The sectors included the intra-European merchant navy, the Dutch East India Company, shipping to Africa and the America's, the fishing fleet, whaling and the admiralties.¹⁶ Equally uncontested is that a high proportion of sailors on Dutch ships were foreigners, i.e. men not originating from the Dutch Republic. On the basis of figures published by others van Lottum has estimated this proportion as increasing from about 15 % in the early seventeenth century to about 30 % by 1700 and about 50 % in 1785 – followed by a sharp decrease to about 25 % in 1827. It must be noted that the relevant figures differ considerably per sector.¹⁷

Widely spread, too, is the conviction that the Dutch maritime labor market was composed of an internal and an external segment. According to Davids, the internal segment consisted of 'a core of laborers with more-or-less regular ties to particular employers'. These men were 'largely recruited from maritime communities in Holland, Zeeland, Friesland, Groningen and the Wadden Islands.' They made up 'a large part' of the crew of the merchant men sailing the European waters and (in any case in the seventeenth century) of the whalers and likewise constituted 'a large part' of the higher ranks on board of the ships of the admiralties and the VOC and in the Atlantic trade.¹⁸ They also dominated, one is inclined to add, the crews of the fishing fleet.¹⁹ The men in the external segment were rather footloose and filled the remaining places on board. Sailors of this category were enlisted from among the permanent urban population in Holland and Zeeland and from among immigrants, mainly from Germany and Scandinavia. Davids bases

these conclusions partly on the work of van Royen.²⁰ Van Royen shows among many other things that Dutch shipmasters in the cargo trade on European seas about 1700 generally preferred to hire sailors from their own geographical vicinities - the places and regions where they lived themselves.²¹

Since Davids and van Royen published their findings, two large electronic databases have become available, both accessible via the internet: *Sound Toll Registers online* (STRO) and *VOC-sea-voyagers*. STRO is gradually becoming available. When we did the research for the present article, the records for the years 1766-1799 were online and could be consulted. *VOC-sea-voyagers* contains information on about 737.000 persons on the VOC's payroll aboard the ships departing from the Netherlands to Asia in the period 1633-1794, as recorded in the ship's pay-ledgers. It is hosted by the National Archives of the Netherlands.²² In this paper, we have made use of the raw dataset of *VOC-sea-voyagers* as stored by DANS, the Data Archiving and Networked Services portal of the Netherlands Academy of Sciences.²³

STRO and *VOC-sea-voyagers* enable us to illustrate and elaborate the general picture Davids and Van Royen propose as far as Dutch seamen on board of VOC ships and Dutch 'Sound ships' are concerned. STRO provides data on – among many other things - the places where the Dutch shipmasters passing the Sound lived.¹ If we accept the argument that they mainly hired sailors from their geographical vicinities distribution of their places of residence may serve as a proxy for that of the sailors. *VOC-sea-voyagers* provides data on – among many other things – the sailors on board of the Asia bound vessels. Comparing the places of residence of the Dutch VOC seamen with those of the Dutch 'Sound shipmasters' as proxy for the Dutch 'Sound sailors' we may see what similarities and differences we can observe and what conclusions we may draw. To determine from what places of residence (towns and villages) within the Dutch Republic the VOC and the Sound sailing Dutch shipmasters recruited their crews we applied the following method. First, to create some chronological depth, we chose two five-year periods to analyze: 1767-1771 and 1790-1794. For each year and each five-year period we counted the number of times VOC sailors and Sound shipmasters were recorded per place of residence. This implies

¹ There is a protracted historiographical discussion concerning the meaning of the Danish word 'af' in the STR as used, e.g., in the formula 'Michel Volkring af Stettin' (see figure 1). Of course, 'af' means 'from'. Most likely this implies that the shipmaster lives in the place that follows, in this case Stettin. Some, however, have argued that rather the homeport of the ship is mentioned. Cf. Boon, *Bouwers van de zee* (1996) 48-49.

that we did not count individual seamen, but journeys. Many VOC sailors made several journeys and the majority of the shipmasters recorded in the STR usually made several journeys each year.

It turns out that, in 1767-1771 and 1790-1794 respectively, the Dutch VOC crew includes residents of 568 and 428 different places within the Dutch Republic and that for the Sound sailing shipmasters the corresponding figures were 69 and 68. Table 1 shows the passage numbers and the distribution of the passages over the (present-day) provinces. Figure 2 provides the same numbers in percentages.

Table 1.
Provinces of residence of Dutch VOC sailors and Dutch Sound sailing shipmasters in 1767-1771 and 1790-1794, in numbers of passages.

	VOC sailors		Sound shipmasters	
	1767-1771	1790-1794	1767-1771	1790-1794
Flevoland	1			
Drenthe	61	39		
Limburg	100	60		
Overijssel	247	157		
Gelderland	439	248	1	1
Utrecht	417	262		
North Brabant	430	207		1
Groningen	466	270	1196	2214
Friesland	714	564	5867	2304
Zeeland	1411	825	132	65
South Holland	3299	2006	484	428
North Holland	5946	3840	3863	2799
Unknown	53	20		2
Total	13584	8498	11543	7814

Sources:

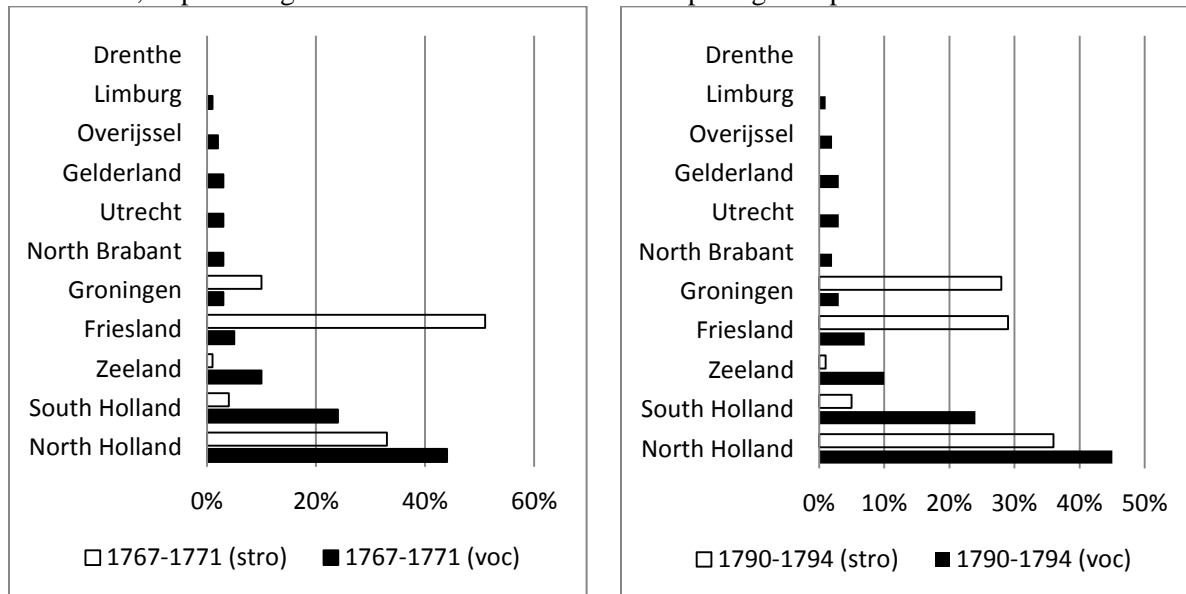
<http://www.soundtoll.nl>

<http://vocopvarenden.nationaalarchief.nl>

The total passage numbers of VOC sailors and Sound shipmasters were comparable in each five-year period. We have not identified the individual sailors and shipmasters, but it may safely be assumed that the number of individual Sound shipmasters was much smaller than that of the

VOC sailors as they averagely made far more passages. The relative smallness of their number obviously puts pressure on the number of their places of residence. But it is also true that their distribution over the provinces was very much different from that of the VOC sailors and it is clear that the places of residence of the Sound shipmasters differed markedly from that of the VOC sailors.

Figure 2.
Provinces of residence of Dutch VOC sailors and Dutch Sound sailing shipmasters in 1767-1771 and 1790-1794, in percentages of the totals of the numbers of passages as presented in table 1.



Sources:

<http://www.soundtoll.nl>

<http://vocopvarenden.nationaalarchief.nl>

While significant numbers of VOC sailors came from ten provinces – but not from Drenthe –, significant numbers of Sound shipmasters only came from five provinces: North and South Holland, Friesland, Groningen and Zeeland. By far the most Sound shipmasters came from North Holland, Friesland and Groningen while most VOC sailors originated from North Holland, South Holland and Zeeland. In the 20 years separating the two periods the well-known shift of the domiciles of Sound shipmasters from Friesland to Groningen can be observed unmistakably. The largest overlap between the places of residence of Sound shipmasters and VOC sailors occurred in North Holland. Figure 1 in the appendix shows that in North Holland Amsterdam

produced the overwhelming majority of both categories. The picture for the other provinces with overlaps was more diffuse. In Friesland small numbers of VOC sailors came from many places including Sound shipmaster residences but a significant number of them only came from the towns of Leeuwarden and Harlingen. In Groningen the situation was similar but more ‘condensed’: the places of residence of likewise small numbers of VOC sailors were less widely spread and a significant number of VOC sailors only came from the town of Groningen. In South Holland and Zeeland the situation was very much different. Large numbers of VOC sailors came from many places including the comparatively small number of – rather insignificant - Sound shipmaster residences.

On the basis of all this we may safely argue that the VOC sailors and the Sound shipmasters came from two separate, only slightly overlapping circuits and that the overlap occurred mainly in Amsterdam and, to a much lesser degree, Rotterdam, Dordrecht, Hoorn, Enkhuizen, Leeuwarden, Harlingen and Groningen. The question, now, is if the same is true for VOC sailors and the crews of the Sound shipmasters – the Sound seamen. It is evident that the figures presented here cannot support or falsify the argument that the Sound shipmasters mainly hired seamen from their geographical vicinity. Consequently, the overlap of the places of residence of the VOC sailors and the Sound seamen could be larger than the overlap of the places of residence of the VOC sailors and the Sound shipmasters shown here. But even so it can be irrefutably maintained that most major places of residence of Sound shipmasters, with the exceptions noted above, produced hardly any VOC sailors. So, even if Sound shipmasters recruited more seamen from the places of residence of VOC sailors than our figures show, it may be maintained that Dutch VOC sailors and Dutch Sound seamen on Dutch ships were recruited from different circuits.

It is tempting to conclude that our figures confirm the existence of the internal and external segments of the Dutch maritime labor market Davids distinguishes. We may, however, not simply equate our ‘circuits’ with these two segments. The Sound shipmasters certainly belonged to Davids’ internal segment, but they are only one of its categories, which constituted, it may be reminded, large parts of the crew of the merchant men sailing the European waters, the fishing fleet, the whalers (in any case in the seventeenth century) and of the higher ranks on board of the ships of the admiralties, the VOC and the Atlantic trade. The majority of the VOC sailors certainly belonged to Davids’ external segment, but they included the higher ranks, which

belonged to the internal segment. Nevertheless, the places of residence of the Sound shipmasters and the VOC sailors seem to correspond quite tightly with the those of Davids' two labour market segments. After all, Davids' internal segment is largely associated with the maritime communities in Holland, Zeeland, Friesland, Groningen and the Wadden Islands while the provenance of the Sound shipmasters in our population could be summarized as: a large number from Amsterdam; substantial numbers from many places in Friesland and from a hand full of places in Groningen; and some from a few places in both South Holland and Zeeland. Likewise, Davids' external segment is largely associated with the permanent urban population in Holland and Zeeland while the VOC sailors in our population could be characterized as originating in large numbers from Amsterdam, in substantial numbers from many places in South Holland and Zeeland and in small numbers from many places in Friesland and Groningen.

Conclusion

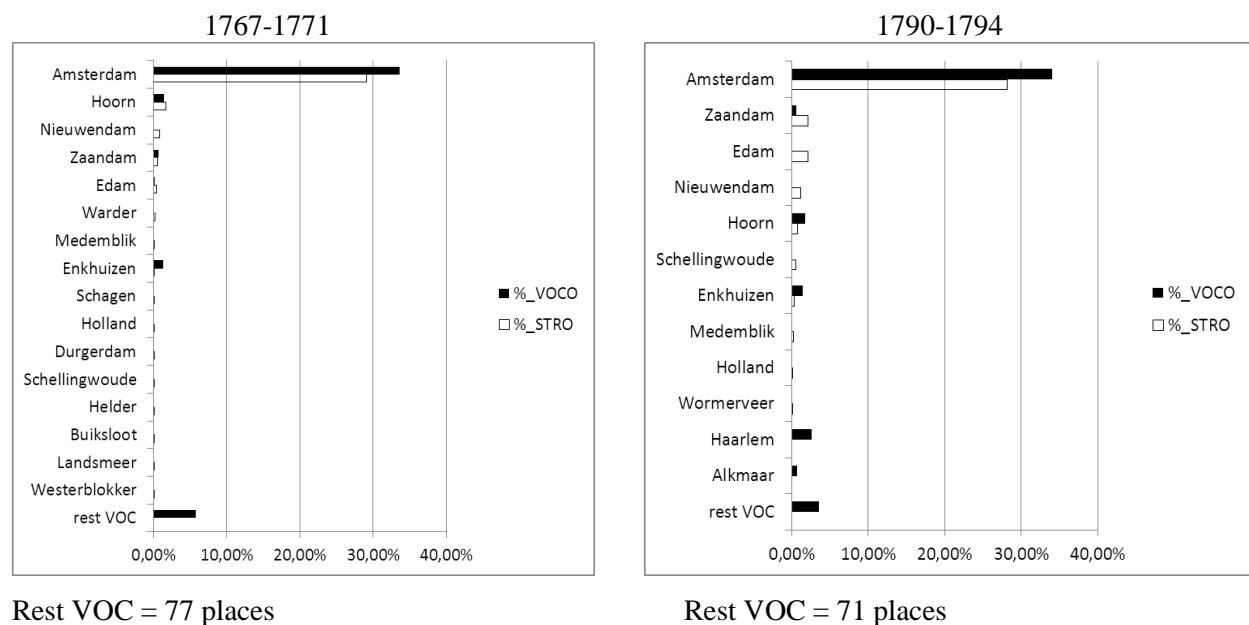
This contribution introduces *Sound Toll Registers online* as an instrument for historical research. It presents *The Ascent of the Frisians* as a first research program utilizing this instrument. And it illustrates the possibilities of both STRO and another major maritime database, *VOC-sea-voyagers*, by using them to compare the places of residence of the Dutch shipmasters sailing through the Sound with those of the VOC sailors. We did so to remind the reader that the initiators of STRO sincerely hope that many researchers will carry out research using STRO, organize conferences for the presentation of research based on STRO and to give feedback.

Appendix

The statistics in the figures below are percentages of the total numbers of passages as presented in table A. These totals are for 1767-1771 13,584 VOC passages and 11,543 Sound passages and for 1790-1794 8,498 VOC passages and 7,814 Sound passages.

Figure 1.

Places of residence in North Holland of Dutch VOC sailors and Dutch Sound sailing shipmasters in 1767-1771 and 1790-1794, in percentages of the totals of the numbers of passages.



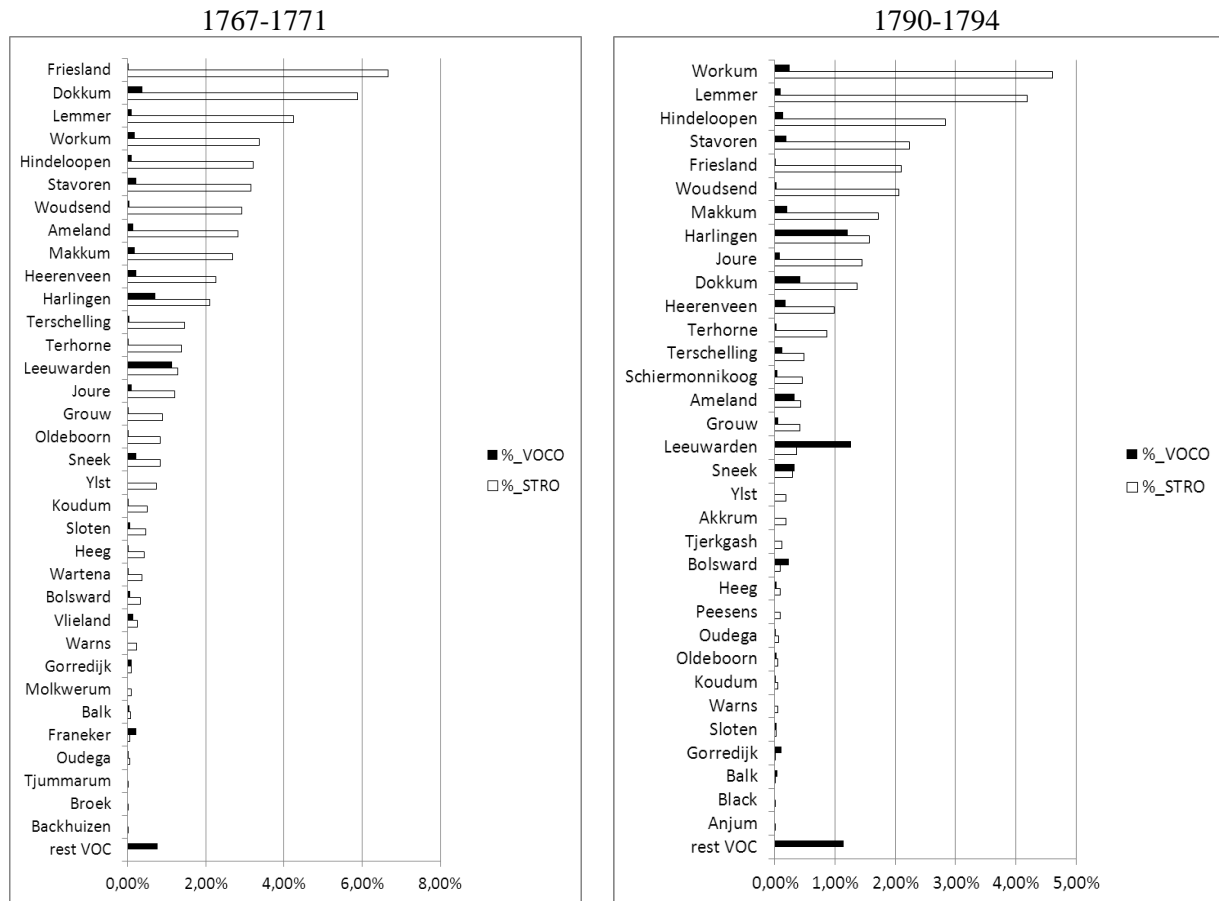
Sources:

<http://www.soundtoll.nl>

<http://vocopvarenden.nationaalarchief.nl>

Figure 2.

Places of residence in Friesland of Dutch VOC sailors and Dutch Sound sailing shipmasters in 1767-1771 and 1790-1794, in percentages of the grand totals of the numbers of passages.



Rest VOC = 35 places

Rest VOC = 27 places

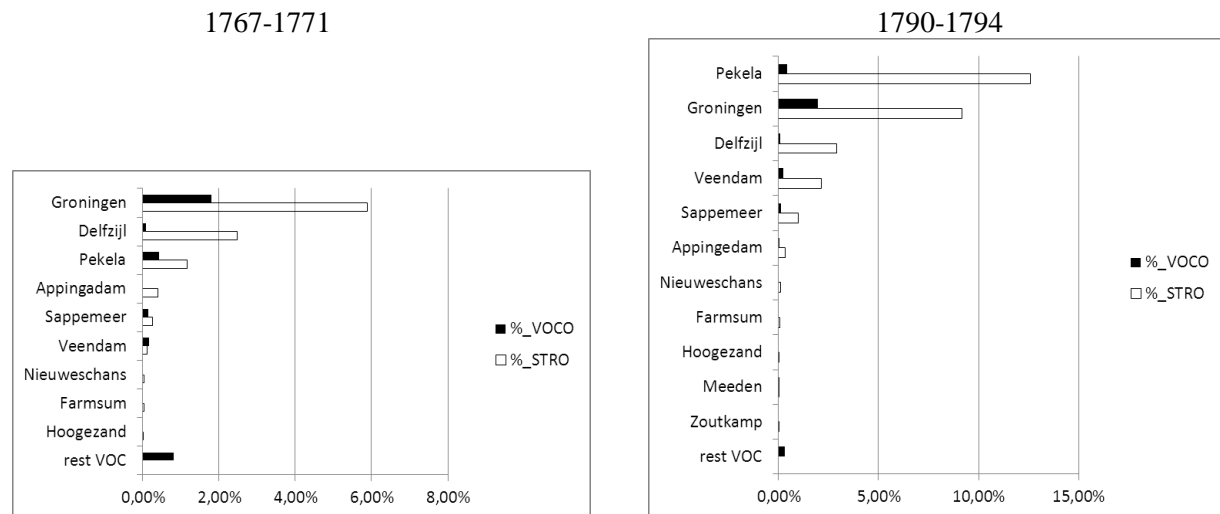
Sources:

<http://www.soundtoll.nl>

<http://vocopvarenden.nationaalarchief.nl>

Figure 3.

Places of residence in Groningen of Dutch VOC sailors and Dutch Sound sailing shipmasters in 1767-1771 and 1790-1794, in percentages of the grand totals of the numbers of passages.



Rest VOC = 30 places

Rest VOC = 13 places

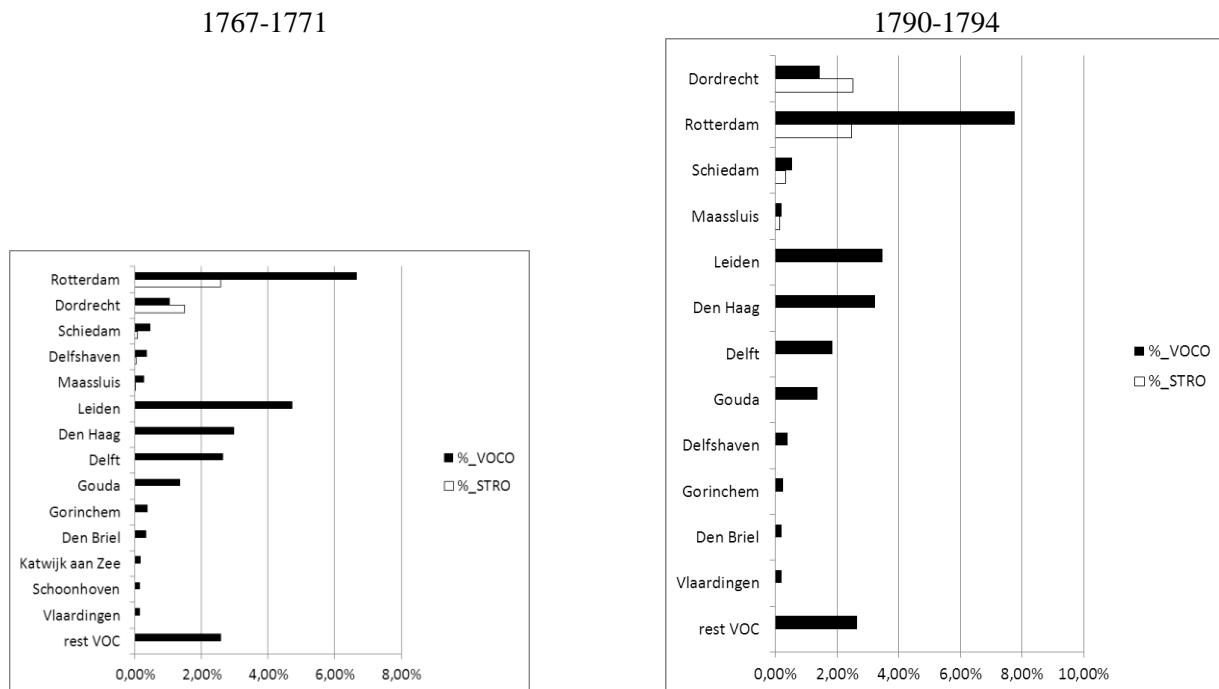
Sources:

<http://www.soundtoll.nl>

<http://vocopvarenden.nationaalarchief.nl>

Figure 4.

Places of residence in Zuid Holland of Dutch VOC sailors and Dutch Sound sailing shipmasters in 1767-1771 and 1790-1794, in percentages of the grand totals of the numbers of passages.



Rest VOC = 93 places

Rest VOC = 76 places

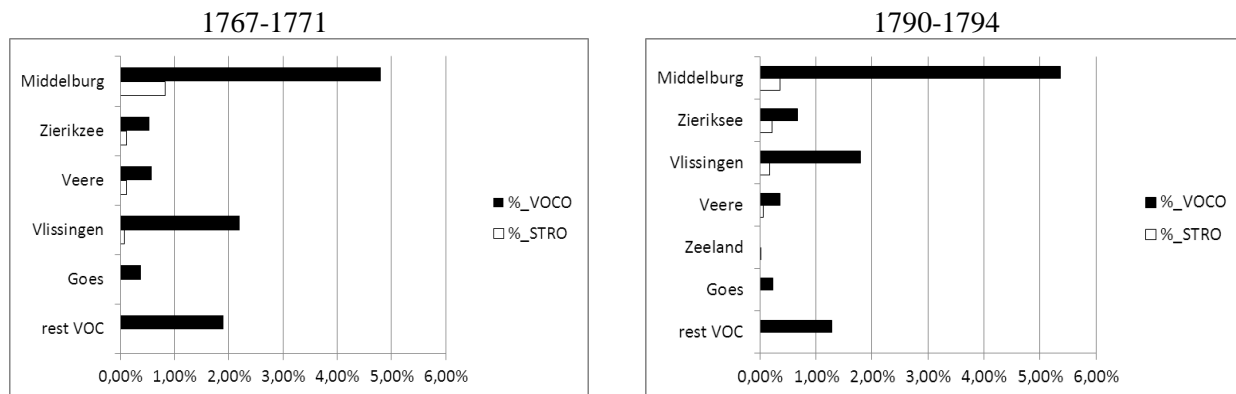
Sources:

<http://www.soundtoll.nl>

<http://vocopvarenden.nationaalarchief.nl>

Figure 5.

Places of residence in Zeeland of Dutch VOC sailors and Dutch Sound sailing shipmasters in 1767-1771 and 1790-1794, in percentages of the grand totals of the numbers of passages.



Rest VOC = 44 places

Rest VOC = 35 places

Sources:

<http://www.soundtoll.nl>

<http://vocopvarenden.nationaalarchief.nl>

Literature

- Bang, N.E., and K. Korst, *Tabeller over skibsfart og vaeretransport gennem Oeresund 1497-1783* [7 volumes] (Copenhagen and Leipzig 1906-1953).
- Boon, Piet, *Bouwers van de zee. Zeevarenden van het Westfriesse platteland, c. 1680-1720* (Den Haag 1996).
- Bruijn, J.R., 'Scheepvaart in de Noordelijke Nederlanden 1650-1800' in: *Algemene Geschiedenis der Nederlanden VIII* (Haarlem 1979) 209-238.
- Buck, P. de, and J.Th. Lindblad, 'Navigatie en negotie. De Galjootsgeldregisters als bron bij het onderzoek naar de geschiedenis van de Oostzeehandel in de achttiende eeuw', *Tijdschrift voor Zeegeschiedenis* 9 (1990) 27-48.
- Davids, K., 'Maritime labour in the Netherlands, 1570-1870' in: Royen, P.C. van, J.R. Bruijn en J. Lucassen ed., "*Those emblems of hell*"? *European sailors and the maritime labour market, 1570-1870*, *Research in Maritime History* 13 (St. John's, New Foundland 1997) 41-71.
- Faber, J.A., *Drie eeuwen Friesland. Economische en sociale ontwikkelingen van 1500 tot 1800*, 2 delen (Leeuwarden 1973).
- Faber, J.A., 'Friesland and the Baltic trade' in: Heeres, W.G., e.a. ed., *From Dunkirk to Danzig. Shipping and trade in the North Sea and the Baltic, 1350-1850* (Hilversum 1988) 13-21.
- Gøbel, E., 'The Sound Toll Registers Online Project, 1497-1857', *International Journal of Maritime History* XXII, 2 (2010) 305-324.
- Jeannin, P., 'Les comptes du Sund comme source pour la construction d'indices généraux de l'activité économique en Europe (XVIe-XVIIe siècle)' in: idem, *Marchands du Nord. Espaces et trafics à l'époque moderne* (Paris 1996) 1-62.
- Johansen, H.C., *Shipping and trade between the Baltic and Western Europe, 1784-95* (Odense 1983).
- Lindblad, J. Th., and P. de Buck, 'Shipmasters in the Shipping between Amsterdam and the Baltic, 1722-1780', in: *The Interactions of Amsterdam and Antwerp with the Baltic Region, 1400-1800/De Nederlanden en het Oostzeegebied, 1400-1800* (Leiden 1983) 133-152.
- Lottum, J. van, *Across the North Sea. The impact of the Dutch Republic on international labour migration, ca. 1550-1850* (Amsterdam 2007).

- Lottum, J. van, J. Lucassen and L. Heerma van Voss, 'Sailors, national and international labour markets and national identity, 1600-1850' in: R.W. Unger, *Shipping and economic growth 1350-1850* (Leiden and Boston 2011) 309-351.
- Royen, P.Ch. van, *Zeevarenden op de koopvaardijvloot omstreeks 1700* (Amsterdam 1987).
- Vries, J. de, and A. van der Woude, *Nederland 1500-1815. De eerste ronde van moderne economische groei* (Amsterdam 1995).
- Woude, A.M. van der, *Het Noorderkwartier. Een regionaal historisch onderzoek in de demografische en economische geschiedenis van westelijk Nederland van de late middeleeuwen tot het begin van de negentiende eeuw*, 3 delen (Wageningen 1972).

Internet sites

<http://www.dans.knaw.nl>
<http://www.gahetna.nl/collectie/index/nt00338>
<http://www.let.rug.nl/welling/sont/johansen.htm>
<http://www.nwo.nl>
<http://www.soundtoll.nl>
<http://vocopvarenden.nationaalarchief.nl/>.

Notes

- ¹ Cf. Gøbel, 'The Sound Toll Registers Online Project' (2010) 305, 308.
- ² Bang and Korst, *Tabeller* (1906-1953).
- ³ Cf. Gøbel, 'The Sound Toll Registers Online Project' (2010) 321-322 ; Jeannin, 'Les comptes du Sund' (1996).
- ⁴ Johansen, *Shipping and trade* (1983).
- ⁵ <http://www.let.rug.nl/welling/sont/johansen.htm>.
- ⁶ <http://www.gahetna.nl/collectie/index/nt00338>.
- ⁷ www.soundtoll.nl, record 152363, 25-8-1783.
- ⁸ www.soundtoll.nl, record 81863, 11-11-1783.
- ⁹ www.soundtoll.nl, record 96205, 16-5-1783.
- ¹⁰ www.soundtoll.nl, record 75437, 23-3-1783 ; record 82520, 5-5-1783.
- ¹¹ For example www.soundtoll.nl, record 119865, 21-8-1783.
- ¹² See menu : Workshops and papers.
- ¹³ http://www.nwo.nl/projecten.nsf/pages/SPPD_7BKJ66?open&show=100946.
- ¹⁴ De Vries and van der Woude, *Nederland 1500-1815* (1995) 411-417, 469-480; Faber, 'Friesland' (1988) 13-21; van Royen, *Zeevarenden* (1987) 26-41.
- ¹⁵ Boon, *Bouwers van de zee* (1996) 187-214; de Buck and Lindblad, 'Navigatie en negotie' (1990) 43; van Royen, *Zeevarenden* (1987) 26-41; Lindblad and de Buck, 'Shipmasters' (1983) 135-148; Bruijn, 'Scheepvaart' (1979) 212; Faber, *Drie eeuwen Friesland* (1973) 272-273, 277, 284, 602; van der Woude, *Het Noorderkwartier* (1972) 382-398.
- ¹⁶ Cf. van Lottum, Lucassen and Heerma van Voss, 'Sailors' (2011) 318-319; Davids, 'Maritime labour' (1997) 42, does not distinguish the Atlantic navigation.
- ¹⁷ Cf. van Lottum, Lucassen and Heerma van Voss, 'Sailors' 321-322 (2011); van Lottum, *Across the North Sea* (2007) 136-137; cf. Davids, 'Maritime labour' (1997) 49-56.
- ¹⁸ Davids, 'Maritime labour' (1997) 62.
- ¹⁹ Cf. Davids, 'Maritime labour' (1997) 53.
- ²⁰ Davids, 'Maritime labour' (1997) 62.
- ²¹ Van Royen, *Zeevarenden* (1987) 106-111.
- ²² <http://vocopvarenden.nationaalarchief.nl/>.
- ²³ www.dans.knaw.nl.