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Scythe Merchants in the early 18th Century
in the Aschach Toll Registers

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To my parents, my brother, Sofia, and so many more people.

I am immensely grateful to have them in my life.

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From 2025 to 2026, I had the opportunity to work with a research team investigating the commercial world of the Upper Danube and its surrounding regions in the 17th and 18th centuries. This project is generously funded by the Austrian Science Fund (FWF) and is providing valuable new insights into the economic history of Central Europe. After my first few weeks on the project, I realized that scythe blades were one of the most important goods produced in Austria above and below the river Enns and the Styrian Duchy in the early modern European period. Many of these blades were sold to markets far from their production sites, and their reputation spread over the mountains surrounding most of the scythe smiths. Nowadays, in the post-industrial era, scythes no longer play a significant role in agriculture or any other field. However, it is the historian's role to take the past seriously from its own standpoint. This is why I decided to dedicate my Master's thesis to a better understanding of this once so important industry. Although numerous investigations have been conducted on scythes and its production in Austria above and below the river Enns and the Styrian Duchy, much remains in the dark, and this thesis can only shed light on a particular aspect. I hope it has done so with precision and dedication. I would like to take this opportunity to thank the most important person in this process: my supervisor Peter Rauscher, who was always available for advice, helped me find literature, provided valuable tips, and spent hours with me discussing new insights. I would also like to thank the rest of the team, particularly Andrea Serles and Patricia Bigl, for their fruitful discussions and social support. Finally, I would also like to thank Anka Steffen, who has encouraged me from the outset to pursue this path.

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1 Introduction*

With the 15th century, the region surrounding the Styrian Erzberg became an epicentre of scythe blade¹ production, which soon was integrated into the long-distance trade, reaching regions on the European continent and beyond.² The knowledge of the scythe smiths and their guilds gleamed far beyond this historical border region of the *Eisenwurz*, and the significance of their craft extended past the mere production of a good that could be sold on competitive markets. Karl Renner, first president of the Second Republic of Austria, remembered in his memoirs that “[...] up there [the region surrounding the Styrian Erzberg], a steel dynasty was raised – through the centuries – that needed only to scratch the steel with a pebble stone and strike it with a hammer to know what the piece was worth. A dynasty that passed down the instinct for the material from generation to generation, the strong arm and the dedicated hand, the perfect estimation of measurements and weights, making folding rules and scales almost obsolete.”³ Looking on the archival sources those craftsmen left for us, their self-perception was one of an honourable craft, aware of its economic importance for the region. That does not mean that they were not obedient towards the social structure of their time, but within it, they regularly showed their skills to negotiate and strengthen their position, as it is demonstrated in various parts of this thesis. The industry in the traditional scythe production centres of the Styrian Duchy, Austria above and below the river Enns grew steadily, reaching its peak around 1900, when around 215 workshops manufactured roughly twelve million pieces annually, which were sold around the globe. Yet, with the industrialization and new technological inventions in agriculture, scythes lost their importance over the course of the 20th century, when their production almost imploded. Up until today, only two workshops survived this transformation. They continue supplying scythes, still needed in some areas, mainly in high alpine regions, where machines fail. This is why, in 2013, the traditional craftsmanship of scythe forging received the status of

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¹ In the following, the thesis will work solemnly with the terminology of “scythes”, while particularly the scythe blades are meant. A full scythe consists out of a blade and a handle. Handles are generally made from wood and were not produced in the region under investigation. However, in most publications, “scythe” is synonymously used to “scythe blade.” This research will follow this logic to prevent confusion in the research body on scythes.

² The *Eisenwurz*-region is situated in the historical border region between the Styrian Duchy, Austria below and above the river Enns, having the *Erzberg* (a mountain containing vast amounts of iron ore) at the centre.

³ „So ward da oben [in der Region um den Erzberg] ein stählernes Geschlecht großgezogen – durch die Jahrhunderte! –, ein Geschlecht, das den Stahl nur mit einem Kiesel zu ritzen, mit einem Hammerschlag erklingen zu machen brauchte, um zu wissen, was das Stück taugte. Ein Geschlecht, das sozusagen den Instinkt des Materials von Generation zu Generation vererbte, den starken Arm und zugleich die feine Hand, die sichere Schätzung der Maße und Gewichte, die Zollstock und Waage beinahe überflüssig machte.“ *RENNER, Lebenserinnerungen*, 242–43.

intangible cultural heritage by the United Nations Educational, Scientific and Cultural Organization (UNESCO) to upkeep the knowledge that was created in the last five centuries.⁴

One main pillar of the success of this industry was the long-distance trade of scythes and its sustainable penetration of sales markets within and beyond the Holy Roman Empire. Investigating this topic is particularly relevant when considering that until the late 18th century, the Austrian lands of the Habsburg Empire were no cohesive economic zone: fragmented into small areas by numerous internal customs duties, special rights, as well as regional interests, and poorly developed in terms of transport infrastructure, the hindrances for long distance trade were omnipresent.⁵ In fact, each of the Habsburg territories constituted an own economic area. This fragmentation, coupled with Central Europe's geographical distance from the global commerce hubs on the coasts, led to comparatively low participation in global commerce at that time.⁶ Yet, the trade flow of scythes continuously expanded in terms of distance and quantity, making the product one of the most stable and important export pillars of the empire. In the network of long-distance trade in Central Europe, the Danube, as a navigable river, crossed borders and regions, linked vast parts of the continental trade, and facilitated trade flows to international market hubs. It was, furthermore, an economic highway for the scythe exportations, which, as demonstrated later, went from Austria above and below the river Enns up the current towards western and northern sale markets. However, and despite its importance, the systematic investigation of trade and transportation in Austria above and below the river Enns of the early modern period has so far produced only a limited, yet growing corpus of research and historical insight.⁷ While the history of the trade and transportation on alpine routes received more attention, the lack is particularly pertinent in the Upper Danube Region and Austria above and below the Enns. This is even more deplorable since the Danube as crucial trading route connected those regions with the further north-west situated German territories, and indirectly even the transatlantic hubs of Amsterdam and Hamburg.⁸ The emperors, who resided in Vienna and were also sovereigns of the Austrian hereditary lands, maintained close ties with

⁴ *Austrian Commission for UNESCO*, Scythe Forging.

⁵ SANDGRUBER, *Wirtschaftsgeschichte*, 112; KNITTLER, *Donaumonarchie*, 909–13.

⁶ RAUSCHER, *Kontinentaleuropa*, 471.

⁷ Especially Herbert Hassinger wrote some fundamental works in this area, such as *HASSINGER*, *Zollwesen*. While the historical material of numerous toll stations and other important sources for economic history are preserved up until today, there exist still essential lacks in this research area, especially for the former territories of Austria above and below the river Enns. *RAUSCHER*, *Mautprotokolle*, 258–60.

⁸ *Ibid.*, 258–59. Yet, systematic study of Danube trade is difficult because, unlike maritime checkpoints such as the Sound (Øresund, Öresund) between Zealand (Sjælland) and Scania (Skåne) or the limited number of Spanish ports for American commerce, particularly Cádiz, the river lacked a needle eye, i. e. a single point of control. Even the tributaries of the Danube changed the composition of the traffic on the river, as each of those introduced additional goods that were transported downstream, often by raft. *Ibid.*, 262.

the commercial and economic centres of southern Germany such as Augsburg, Nürnberg, Ulm and Regensburg; after all, they were not only geographical neighbours, but, as heads of the Holy Roman Empire, also the nominal lords of these imperial cities. The Danube and its tributaries were the physical bridges between Vienna and those cities – including Nürnberg, which had no direct access to the Danube but was connected to this transportation network via Regensburg.⁹ The river was, moreover, a connector of the most important European economic areas, linking North-western Europe with Upper Italy through intertwining the Central European trading hubs with the Alpine passes.¹⁰

In the investigation of the history of trade and transportation, records of toll stations play a crucial role, particularly when regarding the Danube.¹¹ Although the spectrum of traded goods, connections, and individuals being active in the Danube trade is manifold, this research focuses on the trade of scythes on the river and further west and north-west. This, since the investigation of the long-distance trade of scythes from Austria above and below the river Enns is in many regards not sufficiently investigated, particularly regarding the 18th century. As shown in the following paragraphs, historical research on the scythe industry in the region was vibrant in the early and middle 20th century, and later some individual historical studies were added to the field.

Acknowledging that straw knives and sickles were also important agricultural tools that were produced to a lesser extent in Austria above and below the river Enns and sold far afield, scythes ever since had an exceptional position and are considered as the main pillar of the ironware industry of the region, which is why they are at focus here.¹² Trade routes and quantities for the scythe trade from the Habsburg Empire have already been researched in some general aspects, an in-depth investigation of this important export trade yet is missing.

In 1936, Edmund Friess provided a detailed description of the long-distance transport of scythes, identifying the most important trading areas and cities for the scythe trade.¹³ Furthermore, he dedicated several works to the history of scythes and their production in the

⁹ RAUSCHER and SERLES, Wiener Niederleger, 160.

¹⁰ RAUSCHER, Mautprotokolle, 264.

¹¹ Certainly, toll registers do not have the potential to provide a comprehensive explanation and must therefore always be supplemented with as extensive a corpus of additional sources as possible. Ibid., 259.

¹² FISCHER, Blaue Sensen, Preface. As it is demonstrated later in this thesis, scythes constituted for most of the merchants the main pillar of their trade, underpinning the economic importance of this good. Furthermore, the production of knives and sickles decreased with the outgoing medieval period in Austria above and below the river Enns. KATZINGER, Handel, 104.

¹³ FRIESS, Ferntransport.

Eisenwurz-region: 1912 an investigation of the scythe production centre Waidhofen an der Ybbs from the 15th until the middle of the 17th century, in 1938 one on the economic implications of scythe exportations in times of war, since scythes were considered as having the potential being remanufactured into weapons, thus being a debated dual-use commodity for the court in Vienna.¹⁴ Lastly, he investigated together with Karl Grossmann the business processes and relations of a single scythe smith in the upper Murtal close to Judenburg in Styria based on the correspondence register of the smith's master from 1726 to 1745.¹⁵ In addition, Ferdinand Tremel's analysis of Styrian scythes from 1953 provides insight into both local and cross-regional trade.¹⁶ Also, Tremel provided in 1952 a brief overview on the history of the *Sensenappalt*, a complex instrument to generate revenue for the state, as will be explained in detail later.¹⁷ Most substantially, Franz Fischer provided a comprehensive study of scythe production and trade in 1966, focusing on the production region and the scythe smith' guild of Kirchdorf and Micheldorf in the historical region of Austria above the river Enns, in which he dedicates parts to the trade of scythes and its sale markets.¹⁸ Fischer's work continues to serve as a reference for most studies in this area, since it remains the most-up-to-date and holistic oeuvre in the field of the history of scythe production in Austria above and below the river Enns. Moreover, he investigated for the first time the Aschach Toll Registers with regard to the scythe trade, extracting valuable numbers and statistics. Although very precise in many regards, his investigations of the quantitative data from the registers are limited to 25-year interval samples, starting in 1628 and ending with 1750. Moreover, he only demonstrates the numbers of the top ten to twelve merchants, since they assembled the majority of the trade. This is not without problems as it creates certain distortions in the conclusion on those data. Whilst this thesis builds on Fischer's work in many aspects, it nevertheless regards itself as a critical reflection on and detailed elaboration of his arguments. Additionally, Fischer contributed in 1971 an article to an edition, in which he investigated the scythe exports from Austria above and below the river Enns towards northern and eastern territories during the timeframe from 1450–1650, demonstrating the growing export volumes in that direction and the importance of Wrocław (Breslau) as a trading hub for scythes.¹⁹

¹⁴ FRIESS, Hammer- und Sensengewerke; FRIESS, Sense im Kriege.

¹⁵ FRIESS and GROSSMANN, Sensenhammer.

¹⁶ TREMEL, Steirische Sensen.

¹⁷ TREMEL, Sensenappalt.

¹⁸ FISCHER, Blaue Sensen, 167–90.

¹⁹ FISCHER, Sensenausfuhr.

In 1972, Kurt Semellechner dedicated his dissertation on the scythe manufacture and trade in Waidhofen an der Ybbs from the counter-reformation (ca. 16th century) to the Josephine Reforms in the 18th century. He describes the scythe trade primarily based on secondary literature, and enriches it with primary sources from the *Hofkammerarchiv* (Court Chamber Archives) in Vienna.²⁰ In 1989 and 1996, Janina Bieniarzówna published two investigations on one of the most important sale markets in Kraków (Krakau) and the trade to it from Krems, demonstrating the significance of this connection until the late 17th century, when approximately about 25 % of all produced scythes in Austria above and below the river Enns went through this trading route.²¹ Some three years later, in 1999, Doris Alice Corradini dedicated her masterthesis on the trade and marks of the Kirchdorf-Micheldorf scythe smiths' guild, while paying particular attention to the history of different marks of individual scythe smiths with which they tried to protect the brand and quality of their scythes.²² Eventually, in 2011, Philippe Braunstein and Erich Landsteiner analysed the production system and its commercial efficiency of the Innerberg district.²³ Particularly, they investigated technological aspects, the social relations of production, and the volume and forms of trade in steel and steel objects (knives and scythes) in the mentioned region during the 16th and 17th centuries. Braunstein and Landsteiner base their analysis on Franz Fischer's figures, among other sources.²⁴ They furthermore provide a description of the most important trade routes. However, the work focuses eventually on the 16th and 17th centuries and the analysis of a commodity supply chain in the semi-peripheral region according to Immanuel Wallerstein's World-System Theory.²⁵

Thus, there exists a desideratum to refine and better contextualize existing statistics on the economic situation of the scythe trade. An examination of available sources of the scythe merchants who operated on a cross-regional basis can provide better insights into this trade. The focus has been so far very limited to the scythe production regions itself, with only few attempts to look beyond them. We know rather little about its organization, actors, legal frameworks, economic situations, and settings regarding the 18th century. Further investigation of already known, but also new archival sources have the potential to bring greater clarity to this area. Regarding the Danube as one of the main trading routes of scythes, the Aschach Toll Registers, as the principal

²⁰ SEMELLECHNER, Sensenhandel.

²¹ BIENIARZÓWNA, Handelsbeziehungen (1989); *ID.*, Handelsbeziehungen (1996); see also BRAUNSTEIN and LANDSTEINER, Production and Trade, 57.

²² CORRADINI, Handel und Marken.

²³ "Innerberg" is the historical name of the modern town of "Eisenerz" in Styria.

²⁴ BRAUNSTEIN and LANDSTEINER, Production and Trade.

²⁵ For insights into this theory, see WALLERSTEIN, Welt-System-Analyse, but also, HOPKINS and WALLERSTEIN, Commodity Chains.

primary source of this thesis, are able to shed light on key aspects of the scythe trade. This includes actors, quantities, cycles, economic situations, among others. New methods from the digital humanities have the potential to unravel information contained in the data from those registers. Since 2013, part of this series of account books has been entered into a publicly accessible database as part of the FWF-funded project ‘The Danube Trade: Sources on Austrian Economic History (17th/18th Centuries)’.²⁶ While the thesis highlights numerous individual cases, it is not situated in the field of narrative history, but aims to investigate the structural, non-narrative, i. e. the cumulative and statistical aspects.²⁷ For this, prosopographic and statistical analysis are employed to extract knowledge from the datasets and archival information of individuals.

²⁶ For more on the source and the project, see *RAUSCHER*, Mautprotokolle; *RAUSCHER* and *SERLES*, Danube Trade.

²⁷ “The two essential ways in which narrative history differs from structural history is that its arrangement is descriptive rather than analytical and that its central focus is on man not circumstances. It therefore deals with the particular and specific rather than the collective and statistical.” *STONE*, Narrative, 84–85.

2 Research Questions

To close this research gap, this study investigates the scythe trade as documented in the Aschach Toll Registers between 1706 and 1740, with the aim of understanding its economic dynamics, structural characteristics, and the role of different individuals and companies partaking in the trade. A first group of research questions convenes around a structural analysis, for which a statistical examination of the scythe trade during this period will be conducted. The questions are: How did the general economic situation of the scythe trade look like in the Aschach Toll Registers from 1706 to 1740? How did the scythe trade in this period look like regarding annual and monthly variations?

Building on this quantitative overview, a second group of research questions tries to shed light on how the scythe trade was organized, including its logistical arrangements, commercial practices, political and weather events, and legal frameworks. In order to contextualize these developments at the level of individual scythe merchants, this thesis identifies the most significant of them in the Aschach Toll Registers and analyzes their respective economic situations over the investigated period. Beyond their economic performance, the study embeds these merchants within their broader social, political, and economic environments, asking which positions they occupied within local and regional structures. Finally, the analysis considers the wider framework conditions shaping the scythe trade, such as the cross-regional trade connections that linked Aschach and its merchants to broader commercial networks. The questions of this second group are: Who were the most important scythe merchants in the period from 1706 to 1740 in the Aschach Toll Registers? How did the economic situation of the scythe trade look like in the Aschach Toll Registers from 1706 to 1740 regarding individual scythe merchants? Which social, political, and economic position did the scythe merchants hold? Which framework conditions influenced the scythe merchants and their activities? Which cross-regional trade connections did the scythe merchants have? Those questions serve as the guideline through this study, aiming to understand in more depth the scythe trade from Austria above and below the river Enns and thus contributing to a more holistic research body of the field.

3 The Aschach Toll Registers as Source

Not only can toll registers give us important insights for qualitative research, they can furthermore provide mass data with which long term economic situations and changes in the economic fabric of a region can be investigated for a time, where it was not common to record the general trade of a region via statistical means.²⁸ Although there existed numerous toll stations along the Danube and in many parts of the Habsburg Empire, only on few of them we have significant sources regarding their revenue. For the Danube, only for the Aschach toll station an almost comprehensive series for a longer period of toll registers is still existing in the archives.²⁹ This toll station, mentioned for the first time in 1196 and closed after the toll reforms of Empress Maria Theresa in 1776, remained private, while the owners changed over the centuries. The last family owning the toll station were the Counts of Harrach, and up until today, the registers are in the archive of the family, which is now located in the so-called *Depot Harrach* of the Upper Austrian Provincial Archives in Linz.³⁰ Since 2013, this books have been entered for the years 1706 to 1740 into a publicly accessible database as part of the Austrian Science Fund-project ‘The Danube Trade: Sources on Austrian Economic History (17th/18th Centuries)’.³¹ This starting point is therefore advantageous for researching the scythe trade, as major parts of it were conducted via the Danube.³²

The source itself consists of three levels, which are registered accordingly into the database: the first level includes the archival information, i. e. the archive reference number of the toll register, the fiscal year, and the number of the edited folio. The second level consists of the type and number of vessels that transported goods, the name of the operator of the vessel and the starting

²⁸ The German cameralist Wilhelm von Schröder already knew in the 17th century: “Dann gesetzt, es wäre durchgehends / ein general=klagen im lande wegen abgang und / abnehmen des handels, niemand wüste aber, / wo es stücke, oder wo der fehler wäre, obgleich / den schaden jedermann fühlete, so schläget das / mauth=register auf [...]” *SCHRÖDER*, *Schatz= und Rent=Cammer*, 85; *RAUSCHER* and *SERLES*, *Danube Trade*.

²⁹ *Protokollbücher der Maut zu Aschach (1627–1775)*, OÖLA, Linz, Depot Harrach, Hs. 5–198. It is almost comprehensive, with some lacks. Records are still incomplete up to the 1680s, except for the 1670s, where six out of ten years survived. From the 1690s to the 1760s, the documentation is much better, with at least six years preserved in each decade, including a complete series from 1727 to 1751.

³⁰ *RAUSCHER*, *Mautprotokolle*, 268–69.

³¹ *RAUSCHER* and *SERLES*, *Danube Trade*. Currently, the research project is in its third phase, entering the toll registers from 1691 to 1704 into the database. The toll registers for the years from 1706 to 1740 are already publicly available.

³² Scythes were not only traded via the Danube and thus had to pass the toll station of Aschach. As Fischer was able to show in his investigation on the scythe trade from Kirchdorf and Micheldorf, they also took their way by land via the toll stations Haslach, Mondsee, and Frankenmarkt. Yet, while the Aschach toll station registered thousands of scythes per merchant and year, the other toll station only registered a few dozens to hundreds per merchant and year demonstrating the importance of the Danube as trading route of scythes. *FISCHER*, *Blaue Sensen*, 179. This is also observable in a protocol extract treating this topic from 1722: Amount of scythes that passed the four border toll stations towards Regensburg (1720–1722), OÖLA, KA 9, ZA 6, Kiste 15, fol. 226r–232v.

point of the journey. In this level, details on the number and type of vessels, e. g. a raft, and the toll charged for each vehicle is noted. In some cases, but by no means all, the destination is specified. By noting the number of draft horses used for upstream journeys, the direction of travel can be determined. The third and last level contains information on passengers and/or on the goods transported on the vessel. Passengers were differently registered, either with their name, their function, their status, e. g. pilgrims, or just with their gender or, particularly jews, regarding their religion. The goods, on the other hand, were registered based on a manual written for the tollkeeper, the “Mautvectigal” (tariff list), identifying which goods were subject to customs duties and at what tariff.³³ They are furthermore always marked with the owner of it, which is a crucial source for investigations.

Even though these specifications appear clear and simple at first glance, a closer examination of the toll registers reveals various problems. These are due to the fact that not all goods are always registered using the same unit of measurement and that we often only find generalised terms for goods, which do not provide precise information about its qualities. Moreover, we often do not exactly know, who the person was, which was registered as the “owner” of the good. This person may have been the recipient, the sender, a merchant or someone else who was connected to the goods in some way. Only by consulting additional sources can the identity of this person be verified.³⁴ However, as Rauscher has put it well, the wealth of historical records and information on transport and travel on the Danube from the Aschach Toll Registers, as well as the people involved, guarantee a completely new perspective on this important transport route in the Upper German-Austrian region.³⁵

³³ Maut-Vectigale Mautherrschaft Aschach (1564–1744), OÖLA, Linz, Depot Harrach, Hs. 1–4.

³⁴ For further information on the structure and the problems of the source of the Aschach Toll Registers, see RAUSCHER, Mautprotokolle, 270–74.

³⁵ Ibid., 274.

4 History and Usage of Scythes

While research is sure that the production of scythe-similar tools became possible with the iron age, the exact origin of this tool remains unclear.³⁶ Regarding the region under review, several scythe smiths were established in the *Eisenwurzen*-region with the 15th and 16th centuries.³⁷ Since then, a wide variety of different kinds of scythes were produced there, often named after their sales markets, specific use for plants, or terrain shape. In the 17th and 18th centuries, a distinction was made between wide and narrow Austrian scythes, the *Landwöhr* or *Landsöngs* scythes common in Austria above the river Enns, the *Wachauer* scythes and the Polish scythes. The Swiss and bearded scythes were supplied exclusively to the west and north-west. In the 19th century, there were also Leipzig, Bohemian, *Reichsform*, French, Russian, Breslau, Turkish and Hungarian scythes, among others, as well as a number of secondary forms.³⁸ Scythes were mainly used for harvesting hay to feed cattle, while sickles were mainly used to cut rye and wheat. However, regions like Mecklenburg, Pomerania, West and East Prussia already used quite early scythes to also harvest grain.³⁹ As Braunstein and Landsteiner observed on the insights of Weber-Kellermann, “(t)hese are the territories of demesne lordship (*Gutsherrschaft*) where part of the bread grains for the towns of north-western Europe was produced since the 16th century. The geographical coincidence between the vast grain-growing domains once based on the corvée labour of their enserfed peasant subjects and the use of the scythe as a harvesting tool is evident.”⁴⁰ As they further elaborate, in those regions, it was rational for the demesne lordships to let rye and wheat be harvested with scythes, since labour was scarce and scythes were able to cut large amounts of grains in a short time.⁴¹ Albeit the fact that harvesting rye and wheat with scythes is connected to a rather high loss of grains during harvest, the amount and pace with which the enserfed peasants were able to work on the fields and harvest the grains was compensating. It is thus valid, when Braunstein and Landsteiner open up the question, if this could have been an important variable that influenced the “[...] contra-cyclical boom in the

³⁶ SIGAUT, *Erntegeräte*, 525. The German word *Sense* originated most likely from the Old High German *Segansa*, with which a sharp, curved metal blade attached to a long handle for cutting grass was ment, see “Sense”. In: *Digitales Wörterbuch der Deutschen Sprache*. Yet, there are many different connotations throughout history in different German speaking areas. Austria above and below the river Enns used mostly the spelling *Sengse*. KORTH, “Sense”.

³⁷ FISCHER, *Blaue Sensen*, 1–16.

³⁸ ZEITLINGER, *Sensen*, 124–33; CORRADINI, *Handel und Marken*, 63; FISCHER, *Blaue Sensen*, 141.

³⁹ WEBER-KELLERMANN, *Erntebrauch*, 309–22. With the 19th century, using scythes for harvesting rye and wheat eventually is applied all over Europe. SIGAUT, *Erntegeräte*, 525.

⁴⁰ BRAUNSTEIN and LANDSTEINER, *Production and Trade*, 60.

⁴¹ The early use of scythes in those as normally as underdeveloped considered regions in history would also hint to a pioneering position of Mecklenburg, Pomerania, West and East Prussia in harvest technology. Ibid.

production of scythe blades in Upper Austria in the 17th century.”⁴² Although this research cannot answer this question, it would be a desideratum for the economic and social history of the early modern period and a counter-proof of established narratives on the backwardness of the regions investigated by Weber-Kellermann. Another explanation, as Willibald Katzinger claims, could have been the transition from pasture grazing livestock to barn housing, which led to an increase in the amount of time spent using scythes in the meadows over the years.⁴³

⁴² BRAUNSTEIN and LANDSTEINER, *Production and Trade*, 60.

⁴³ KATZINGER, *Handel*, 103–5.

5 Scythe Production in the 18th Century

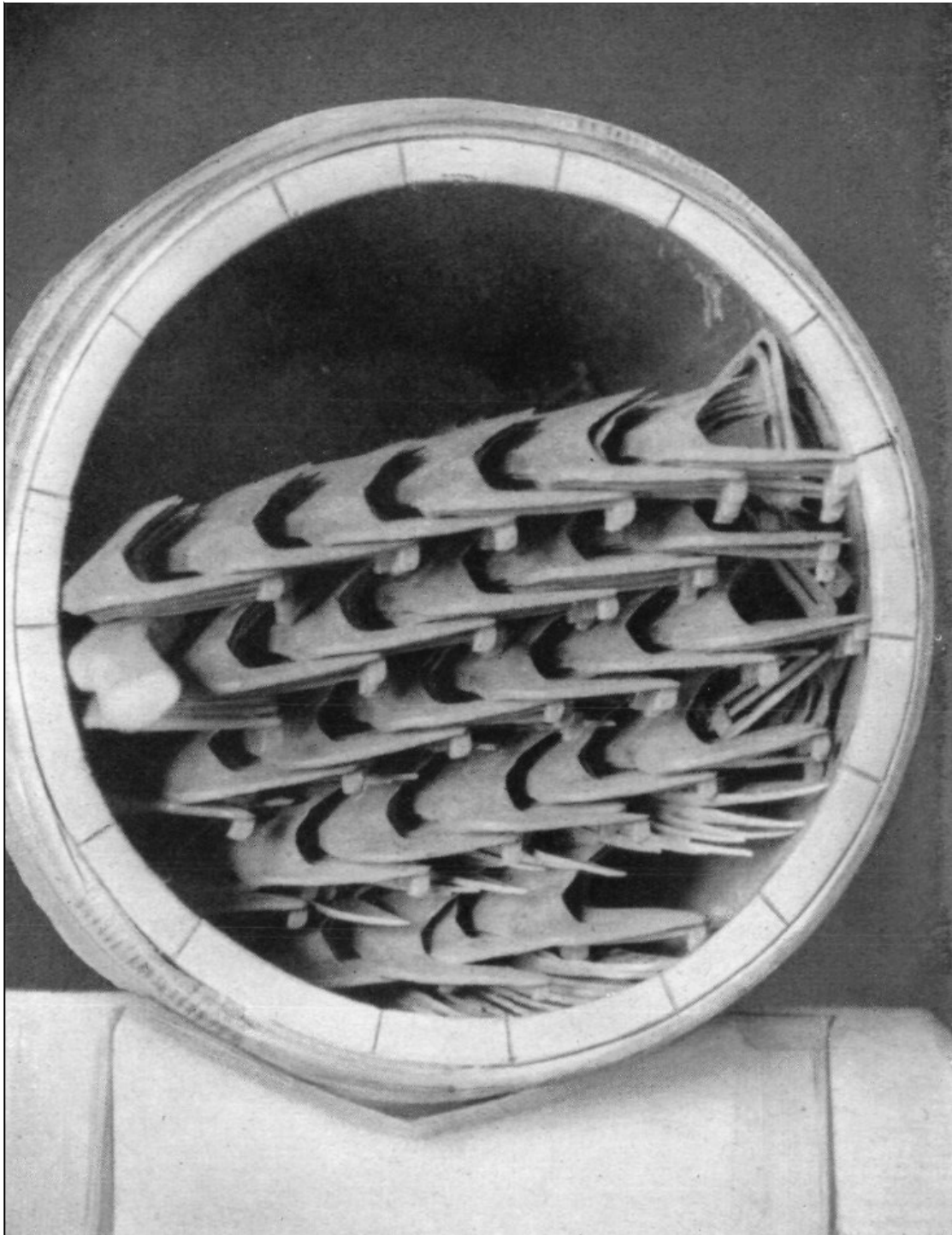
As described by Josef Zeitlinger, the production process of scythes at a single scythe hammer in the 18th century was divided into nineteen steps, thus nineteen workers: first, the *Auswäger* (weigher) had to cut off the hardened irons, weigh them and assemble them. Zeitlinger claims that it is quite probable that he had to bend them also. Second and third, the scythe smith and the *Heizer* (stoker) had to temper the mock and steel rails, both in the morning and in the afternoon. In the morning, they had to make the iron and sharpen the blades. Fourth and fifth, the *Eßmeister* (foreman) and *Breitenheizer* (broad stoker) had to produce the amount of raw scythes that could eventually be processed during the day. Sixth and seventh, the *Abrichter* (dresser) and the dresser's assistant had to dress, back and sharpen in the morning and dye the scythes in the afternoon. Eighth and ninth, the *Beschneider* (trimmer) or *Hartenheizer* (hardener) and his assistant had to trim, mark and harden the scythes. Tenth and eleventh, the *Grob- und Feinabschaber* (rough and fine scrapers) had to scrape the scythes on the inside to make them clean. Twelfth to sixteenth, the five hammerers, namely the *Zubischlager*, the *Voran*, the *Rückenhammerer*, the *Aushammerer* and one (or possibly two) *Hammerrichter* had to smooth out the folds and unevenness of the scythe blade and adjust the position of the scythe. In the evening, they had to remove the mock and steel rails under the *Zainhammer*. Seventeenth and eighteenth, the *Schleifer* (grinder) and *Auswascher* (washer) had to grind the scythes and help with hardening. Nineteenth, the *Kramrichter* made the final improvements to the scythes and had to pack them. As a side job, he had to knock off and sort the mock and steel rails. The master himself took care of the final sorting of the scythes before packaging. In addition to the nineteen permanent workers listed here, there was usually a *Kohlhub* (coal boy), a scythe carrier and other apprentices. Often, there was also an old, retired worker as a *Feuerwachter* (fire watchman) and a *Hammerzimmerer* (hammer carpenter) to maintain the many wooden manufacturing facilities.⁴⁴

Although the production process was rather similar in the different scythe producing regions of Austria above and below the river Enns as well as the Styrian Duchy, there existed certain distinctions between each scythe smith, which influenced the quality of the scythes and thus the reputation of the smith himself. Interestingly, the system of production process contained already steps with an industrial character. Particularly, the detailed division of work and use of water energy for the hammers demonstrates a sophisticated and highly competitive production

⁴⁴ ZEITLINGER, Sensen, 106–7.

process. Nonetheless, a major part of scythe production in the early modern period was still done in the spirit of the traditional craft.⁴⁵

Figure 1: Half-Packed Scythe Barrel before it was sent off for Trade.



Source: ZEITLINGER, Sensen, 185.

⁴⁵ FISCHER, Blaue Sensen, 140.

6 Central Europe and its Economic Situation in the 18th Century

6.1 Central European Geographic Situation and its Financial Integration

The scythe trade and its merchants were embedded in the broader setting and economic processes taking place in the 18th century that were already set in motion in previous centuries. The early modern period was a time of re-calibration for long-distance trade, but also of an “international integration” of commercial finance and exchange markets in Europe.⁴⁶ The financial development came hand in hand with the emergence of an internationally increasingly interconnected merchant community, one which crossed national and cultural boundaries for their enterprise. This was particularly also true for the scythe trade. However, this was not without problems since this integration naturally caused conflicts regarding the trade between merchants from the different regions. Consequently, legal mechanisms were sought that would facilitate the peaceful resolution of disputes between the trading parties. The first codification of private commercial law took place in France in 1673 with the *Ordonnance pour le Commerce*.⁴⁷ Regarding the commercial finance system of that time, it consisted of two varieties: “(o)ne was the older Mediterranean system, revolving around Genoa and Leghorn. The other was the newer ‘Northern Atlantic’ system with Amsterdam, London, and Paris on top.”⁴⁸ This commercial and inter-regional integration created a need for cashless payment methods, which is why the so-called ‘bill of exchange’, i. e. a bearer bond, became a fundamental building block of commercial integration in continental Europe. The financial side of the scythe trade was also largely conducted through bills of exchange which could be cashed by the scythe smiths on the fairs, in our case particularly in Linz.⁴⁹ While in the above mentioned financial centres, those bill of exchanges were applied quite early already in the 17th century, its application in Central Europe took a slower pace in different cities, with Frankfurt am Main being the first to accept

⁴⁶ *JOBST* and *NOGUES-MARCO*, Commercial Finance, 102. For the changes in the trade at that time, see, for example, *CAMERON*, Weltwirtschaft 1, 178–86. Furthermore *KELLENBENZ*, Gewerbe und Handel, 439. While the long-distance trade in the late Central European medieval period was dominated by the Hanseatic league in the north, in the south by Genoa and Venice, the rise of new economic powers such as the Low Countries or England in the 16th century led to a disintegration of Mediterranean dominance. The focus of trade began to shift from the Mediterranean to the seas of the north and new commercial actors like the ‘merchant adventurers’ of England, the Augsburg Fugger or Höchstetters, and the Dutch ‘compagnien’ of this time gained ground. An indicator of the dominance of the Low Countries in the northern seas provide the famous Sound-Toll registers. From 1497 to 1660, 60 % of the roundabout 40.000 ships passing the Sound were from the Low Countries. *CAMERON*, Weltwirtschaft 1, 179. They mainly transported goods that were scarce in Western Europe, such as wheat, wood, iron or copper. In return, they shipped herrings, textiles from the Low Countries and England, wine from Germany and France, Salt from Portugal, France and Spain, and colonial goods from abroad. *TIELHOF*, Ostseehandel. For further insights into the role of the Low Countries in trade, see *ISRAEL*, Dutch Primacy.

⁴⁷ More on this in *RAUSCHER*, Kontinentaleuropa, 465–69.

⁴⁸ *JOBST* and *NOGUES-MARCO*, Commercial Finance, 104.

⁴⁹ *FRIESS* and *GROSSMANN*, Sensenhammer, 136.

endorsements in 1666, with which bills were able to be transferred to different creditors.⁵⁰ This integration can also be observed in the continuous convergence of prices in the various price zones of the early modern Europe. The main reason for this was the over-exploitation of price differentials, in which “merchant capitalism contributed to a process of levelling out, to the creation of a system of channels of communication, and in turn to a diversion of interests looking elsewhere for more favourable conditions.”⁵¹

At the time, the Holy Roman Empire was a conglomerate consisting of numerous economic regions which did not constitute a cohesive zone.⁵² Mainly the fairs of Frankfurt am Main and Leipzig were the commercial juncture for the international trade. From there, trade flows went into all cardinal directions. Bolzano in the south was the gateway to the Mediterranean markets, and cities such as Hamburg or Lübeck to the seas of the north, particularly the Atlantic Ocean and the Baltic Sea.⁵³ This bridging character of the Central European commerce existed also in its finance system. The 18th century was, as mentioned, characterized by an international integration of commercial finance and exchange markets for bills. While Paris, Amsterdam, London, Hamburg, Genoa, Leghorn, Cadiz, Madrid, Lyon and Marseille were at centre, another important group of exchange markets was “the cohesive, continental network of traditional financial centers [...] consisting of Augsburg, Frankfurt/Main, Leipzig, Nürnberg, Milan, Rome, Venice, and Vienna.”⁵⁴ Furthermore, a defining feature of it was “that these cities have balanced links with both Hamburg and Genoa–Leghorn and can thus be seen as a glue connecting Northern Europe with the Mediterranean.”⁵⁵ A peculiarity within this financial system was the fair of Linz with its special *Repressalienrecht* (right of reprisal). The right was granted in 1362 to the city and reconfirmed up until the reign of Maria Theresa. Essentially, the ruling stated that if an individual merchant failed to repay a debt within the agreed timeframe, the creditor could

⁵⁰ RAUSCHER, *Kontinentaleuropa*, 469–70.

⁵¹ BRAUDEL and SPOONER, *Prices in Europe*, 395. However, as Kevin H. O’Rourke and Jeffrey G. Williamson were able to demonstrate, based on the assumption that “the only irrefutable evidence that globalisation is taking place is a decline in the international dispersion of commodity prices or what might be called commodity price convergence”, there is no statistical “evidence documenting significant pre-nineteenth century global price convergence for the (competing) commodities that really mattered to the economic lives of the vast majority.” O’ROURKE and WILLIAMSON, *Globalisation*, 23–28.

⁵² Until the 18th century, the Habsburg Empire, for example, can hardly be regarded as an economic entity. It was fragmented into small areas by numerous internal customs duties, special rights and regional interests. The regions were, furthermore, poorly developed in terms of transport infrastructure. The result was that, in practice, each of the Habsburg countries represented a separate economic area. SANDGRUBER, *Wirtschaftsgeschichte*, 112.

⁵³ ZORN, *Gewerbe und Handel*, 561. For a general overview on the history of the main fairs in Europe between the 9th and 19th century, see DENZEL, *Messen*.

⁵⁴ JOBST and NOGUES-MARCO, *Commercial Finance*, 102. For a detailed description of this integration of the city of Nürnberg, see DENZEL, *Wechselmarkt*.

⁵⁵ JOBST and NOGUES-MARCO, *Commercial Finance*, 102.

initiate legal proceedings to recover the debt. This could result in the debtor's (i. e. merchant's) arrest, or the arrest of any other merchant or citizen from his home city who was currently in Linz, until the debt was settled. Consequently, debt issued within the Linz fairs was considered to be highly secure.⁵⁶

Regarding the geographical connectors within the territory of the Holy Roman Empire and its neighbouring regions, the main rivers Rhine, Danube, Loire, Garonne, Seine, Rhône, Elbe, Oder and Vistula facilitated the trade via long distances.⁵⁷ Big lakes were rather the exception for long-distance trade in Central Europe, unlike in other regions, such as the Russian territories. The street-system, although in many cases in rather poor condition, had a major role in connecting rivers and ports.⁵⁸ Around 1700, the Habsburg emperors began to realize the importance of transportation systems for a thriving economy. During the reign of Emperor Charles VI – peaking in the late 1720s and early 1730s – an extensive road-building program was launched throughout the Habsburg Monarchy.⁵⁹

6.2 Rivers, Fairs, and Commercial Policies in the Upper Danube Region

The Danube's historical significance for trade stemmed from the far greater energy efficiency of river transport for heavy goods compared to land transport – even when traveling upstream.⁶⁰ This was of particular importance in an inland region such as the Upper Danube area. Here, the Lech and the Isar as two important tributaries were only navigable by rafts, but they ensured contact with the city of Augsburg, and the Bavarian capital, Munich. In Regensburg, goods arriving from or destined for Nürnberg by overland routes were shipped as well as commodities traded by the important domestic merchants. In Passau, the river Inn, which was navigable from Hall in Tyrol, flows into the Danube. Together with the Salzach, navigable from Hallein, it provided a connection to the two most important Alpine crossings, the Brenner and the Tauern routes.

⁵⁶ RAUSCH, Handel an der Donau, 77–108; *ID.*, Repressalienrecht.

⁵⁷ KELLENBENZ, Gewerbe und Handel, 438.

⁵⁸ RAUSCHER, Kontinentaleuropa, 442.

⁵⁹ With a focus on road-infrastructure in Austria below the river Enns, see SERLES, Verkehrsinfrastruktur. In those emerging long-distance networks and trading routes during the early modern period, the merchant who was actively participating in it, gained an advantageous position in commerce and trade mainly due to knowing where to buy commodities and goods on low costs, how to keep transaction cost as low as possible, and where to sell them with high surplus. KELLENBENZ, Gewerbe und Handel, 419.

⁶⁰ One example for this is the largest single shipment of wine that is registered in the Aschach Toll Register of 1728. It contained 6.673 pails of wine, i. e. 387.034 litres, towed upstream by 65 horses. RAUSCHER, Weintransport, 410. Without doubt, this amount would have taken a much higher number of horses to transport the wine on land.

Table 1: Transportation Vessels Movements on the Danube 1706–1740.

Year	Vessels going downstream	Vessels going upstream	Deviation from Average in % ($\bar{x} = 4.735$)
1706	3.644	601	-10.3
1707	n/a	n/a	n/a
1708	n/a	n/a	n/a
1709	4.408	602	5.8
1710	4.240	614	2.5
1711	4.070	598	-1.4
1712	n/a	n/a	n/a
1713	3.652	638	-9.4
1714	n/a	n/a	n/a
1715	n/a	n/a	n/a
1716	4.024	558	-3.2
1717	4.602	519	8.2
1718	5.081	550	18.9
1719	5.131	584	20.7
1720	n/a	n/a	n/a
1721	4.364	481	2.3
1722	n/a	n/a	n/a
1723	n/a	n/a	n/a
1724	4.885	595	15.7
1725	4.713	608	12.4
1726	n/a	n/a	n/a
1727	4.584	532	8.0
1728	4.434	533	4.9
1729	4.251	536	1.1
1730	4.005	507	-4.7
1731	4.001	512	-4.7
1732	n/a	n/a	n/a
1733	3.988	572	-3.7
1734	3.561	553	-13.1
1735	3.495	564	-14.3
1736	3.552	470	-15.1
1737	4.093	509	-2.8
1738	4.253	455	-0.6
1739	3.937	450	-7.4
1740	3.768	500	-9.9

Source: AMP.

In Austria above the river Enns, the Traun, which was of major importance for the downstream transport of salt, and the Enns itself, through the installation of towpaths accessible for ship navigation from the 1570s onward, also flow into the Danube.⁶¹ Along the Enns, the transport of iron, steel, and metal goods from the Innerberg mining district to the Danube was organized. Water transport on the Danube and its tributary rivers thus ensured a link between Vienna and the major Central European trade corridor stretching from North-Western Europe to Upper Italy.⁶²

The most common vessels navigating on the Danube were rafts, *Zillen* and *Plätten*. While ships and rafts in the early modern period drifted downstream with the current, often in union, vessels going upstream were pulled by horses along towpaths on the side of the river.⁶³ Vessel movements down the stream constituted the majority, as depicted in table 1. In average 4.189 vessels (or 88.5 %) passed the toll station in Aschach per year between 1706 and 1740 downstream. On the other hand, in average 546 vessels (or 11.5 %) were towed upstream per year during the same period. Interestingly, beginning with 1730, the number of vessels registered in the Aschach Toll Registers is declining. The reasons for this can be manifold and would need further investigation.

A crucial factor for the trade in the Upper Danube region were the fairs in the cities, most of them in vicinity or directly at the Danube stream. There, a majority of goods transported on the Danube were purchased. Table 2 lists the cycle of the fairs along the Danube, in which particularly the Easter and St. Bartholomew's markets in Linz were of great importance for the reviewed region. Yet, with the 18th century, a structural change in politics would lead to a general decline of the fairs all over Europe, while the creation of a single market and its protection by customs barriers became increasingly important, especially in the Habsburg Empire.

The defining characteristic of trade fairs was their status as designated locations that were granted specific privileges and benefits with regard to trade during certain periods. Only during the fairs, foreign merchants were allowed to trade their goods freely due to the lifting of the otherwise year-round commercial ban on them.⁶⁴ However, as the Habsburg Empire in the 18th

⁶¹ The river Enns had been used for the transport of iron and iron goods already since the High Middle Ages, but only by means of rafts. For more on the transportation history of the river, see *OFNER*, Ennsschiffahrt; *NEWEKLOWSKY*, Eisenschiffahrt.

⁶² *LANDSTEINER*, Wien im interregionalen Handel, 188. For more insights into the shipping situation on the rivers connected to the Danube, see *NEWEKLOWSKY*, Schiffahrt und Flößerei 1, 437–529.

⁶³ *Ibid.*, 291. For a detailed description of the technique of towing ships upstream, see *ibid.*, 334–35.

⁶⁴ For a general overview on the history of European fairs, see *DENZEL*, Messen.

century saw an increase in policies, summarized under the so-called “prohibition system”, which aimed to create single markets and to promote domestic production by raising import tariffs. Due to these import restrictions and the increasing direct communication among merchants throughout the year, the fairs began to lose their importance.⁶⁵

Table 2: The Dates of the most important Annual Fairs in the Austrian Danube Region 1465–1749.

City	Region	Market Term	Duration
<i>Freistadt</i>	Upper Austria	St. Paul’s Market (25 January): 2 weeks around the Feast of the Conversion of St. Paul	4 weeks
<i>Linz</i>	Upper Austria	Easter Market: 1 week before and after Quasi-modogeniti Sunday; from 1668, 2 weeks after Quasi-modogeniti	2 weeks
<i>Vienna</i>	Lower Austria	2 weeks before and after Ascension Day; from the 17 th century: Whitsun Market, 4 weeks before Corpus Christi	4 weeks
<i>Krems</i>	Lower Austria	St. James’s Market: 1 week before and after St. James’s Day (25 July)	2 weeks
<i>Linz</i>	Upper Austria	St. Bartholomew’s Market (24 August)	4 weeks (later 3 weeks)
<i>Krems</i>	Lower Austria	Sts. Simon and Jude Market: 1 week before and after the Feast of Sts. Simon and Jude (28 October)	2 weeks
<i>Vienna</i>	Lower Austria	St. Catherine’s Market: 2 weeks before and after St. Catherine’s Day (25 November)	4 weeks

Source: *RAUSCHER*, Jahrmärkte, 238.

⁶⁵ *BRAUDEL*, Handel, 92–94; *SCHMOLLER*, Verfassungs-, Verwaltungs- und Wirtschaftsgeschichte, 37; *RAUSCHER*, Jahrmärkte, 224. For a general overview of the building process of domestic markets in the Holy Roman Empire, see *HECKSCHER*, Merkantilismus 1, 38–51. On the “prohibition system”, see *BEER*, Handelspolitik, 3–12.

7 Scythe Trade in Austria above and below the river Enns: Development and Impediments

7.1 Trade Organisation

Although the subject of the long-distance trade in scythes during the early modern period – particularly the 18th century – from the *Eisenwurzen*-region has been touched upon time and again in various historical studies, as already elaborated, much remains in the dark. For the most part, the trade was organized by the master scythe smiths, the scythe smith servants, and different long-distance merchants.⁶⁶ The latter came mainly from abroad, but also from Austria above and below the river Enns in some cases. The transportation was conducted via streets and rivers, with the Danube having a pivotal role in this network.⁶⁷ Fairs, but also the trade of scythe smiths and peddlers served as linking spots of the scythe business.⁶⁸ As a whole, scythes were considered for centuries one of the most important and crisis-proof export goods of the Austrian Hereditary Lands.⁶⁹ The main production of scythes in Austria above and below the river Enns took place in Waidhofen an der Ybbs (Austria below the river Enns), in Kirchdorf and Micheldorf (both Austria above the river Enns). The latter two towns were consolidated under the scythe smith' guild known as Kirchdorf-Micheldorf. The three production sites will thus be exemplary in the following chapters.⁷⁰ From there, the scythes were traded across regions to Poland, Russia, France, England, Spain, the Americas, among others.⁷¹ Other centres of scythe production in the Hereditary Lands, especially in the Styrian Duchy around Rottenmann, Judenburg, Kindberg, and Übelbach, are not part of this thesis, since their sales markets were located away from the Danube, even though they sourced their raw materials as well from the Erzberg.⁷²

⁶⁶ For insights into the scythe trade of the smiths and servants, see *FISCHER*, *Blaue Sensen*, 161–66; *SCHRÖCKENFUX*, *Sensenwerke*, 80–103.

⁶⁷ Four barrels of scythes, each containing 800 pieces, could be loaded onto a wagon pulled by six horses, see *BIENIARZÓWNA*, *Handelsbeziehungen* (1996), 112. For a detailed description of the shipping and transportation by ships on the Danube, see *NEWKLOWSKY*, *Schiffahrt und Flößerei* 1, 277–78.

⁶⁸ For insights into the peddling and other sale strategies of the servants and masters, see *SCHRÖCKENFUX*, *Sensenwerke*, 80–103.

⁶⁹ Although other steel and steel goods were also of relevance, scythes took an extraordinary role in the export of steel goods. See more in *SEMELLECHNER*, *Sensenhandel*, 271. For the importance of the scythe trade for tax revenue of the state, see *FISCHER*, *Blaue Sensen*, 174–75.

⁷⁰ Other production sites in Austria above the river Enns were along the rivers Alm, Teichl, Pießling, Enns, and Steyr, in the Traunviertel, and around Freistadt. In Austria below the river Enns: Opponitz, Gresten, Gaming, St. Anton an der Jeßnitz, and Hainfeld. See more on those locations in *SCHRÖCKENFUX*, *Sensenwerke*.

⁷¹ *FRIESS*, *Ferntransport*, 167. However, we do not yet know, when exactly the scythe trade expanded into the trans-Atlantic commerce.

⁷² Most historical scythe hammers in the Habsburg Empire can be found in *SCHRÖCKENFUX*, *Sensenwerke*. On the trade of Styrian scythes, see *TREMEL*, *Steirische Sensen*.

While we are rather well informed about the trade of master scythe smiths and servants, a structural analysis of long-distance scythe merchants is lacking up until today.⁷³ This is particularly regrettable, since the long-distance trade of scythes from Austria above and below the river Enns up the Danube was without doubt a main pillar of success of the industry.⁷⁴ Regarding the economic framework, into which this industry was embedded, it was the Thirty Years' War that caused rather selective restraints on the economic situation of the Upper Danube region, and a comprehensive depression started in the middle of the 17th century.⁷⁵ However, with the outgoing 17th century, particularly the scythe trade was increasing, which is remarkable since "all other export sectors, including steel and knives, underwent a severe decline during this period."⁷⁶ While the industry of Austria above the river Enns, with the Kirchdorf-Micheldorf scythe smith' guild at core, was exporting around 100.000 to 150.000 scythes annually with the ending of the 16th century, these figures would increase up to 600.000 in the 18th century.⁷⁷ Austria below the river Enns, with Waidhofen as main production centre, was exporting at the middle of the 18th century in average 360.000 annually.⁷⁸

The main selling markets for scythes were the cities with fairs located along the Danube.⁷⁹ While Linz and its fairs were leading, smaller cities – such as Freistadt or Krems – were also crucial in the scythe trade. Those cities are examples of the countless hubs that, although subordinate in the international trade network, hosted a diverse market activity. This was due to special trade monopolies and a large hinterland, which, all together, were of considerable importance to the distribution network of the major commercial and trade cities.⁸⁰ A peculiarity

⁷³ Information on the scythe trade of the servants and masters can be found in *FISCHER*, Blaue Sensen, 161–66; *SCHRÖCKENFUX*, Sensenwerke, 80–103.

⁷⁴ For example, in 1764, the Royal Russian Commercial Councillor, Demetrius von Ladigin, ordered over 300.000 scythes from Austria above and below the river Enns. The quality of the scythes was so satisfactory that a large order was placed for them again by the Russian Councillor. However, this order was eventually cancelled due to the scythe smiths' inability to produce again such large quantities of scythes within a short period of time, see *TREMEL*, Steirische Sensen, 50.

⁷⁵ *RAUSCHER* and *SERLES*, Donauhandel.

⁷⁶ *BRAUNSTEIN* and *LANDSTEINER*, Production and Trade, 56. Franz Fischer argues that the establishment of transatlantic trade from the 16th century onwards was a possible cause for the decline of the knife-making workshops in the region. As a result, the traditional market for knives in Venice – where knives were exchanged for high-quality goods – lost its significance. However, he also admits that the causes of this decline are very difficult to interpret and that the lack of archival evidence in many areas does not allow for clear conclusions. For more, see *FISCHER*, Blaue Sensen, 8.

⁷⁷ *BRAUNSTEIN* and *LANDSTEINER*, Production and Trade, 57.

⁷⁸ *SEMELLECHNER*, Sensenhandel, 276.

⁷⁹ But the dominant time of the fairs was about to end, with the outgoing 17th century, fairs throughout Central Europe were decreasing in their importance for the trade, see *HOFFMANN*, Wirtschaftsgeschichte Oberösterreich 1, 143.

⁸⁰ „Die zwischen Wien und Linz liegende Stadt Krems verkörperte mit ihren im 17. und 18. Jahrhundert durchschnittlich 4.000 Einwohnern eine weitere Variante eines Marktores: Sie steht exemplarisch für jene zahllosen Knotenpunkte, die im internationalen Handelsnetz zwar nachrangig waren, die aber aufgrund

of the markets in Austria above and below the river Enns was that they often either served as sales or supply markets for different merchants, but not as both.⁸¹

Table 3: Share of Scythe Transportation of the Shipmasters 1706–1725.

Shipmaster	Amount of Related Ships by Origin of Shipmaster								
	Aschach	Linz	Regensburg	Steyr	Passau	Landshaag	Staffling	Hall	von der Ranna
Michael Scheibenbogen		107							
Jakob Kopp	48								
Leopold Grad	25								
Maria Göschlin	24								
Sebastian Göschl	12								
Helena Koppin	3								
Magdalena Koppin	3								
Andre Wintner	2								
Adam Ebersperger	1								
Adam Schenreither						1			
Christoph Fierhauser					1				
Thomas Hofer									1
Johann Wilhelm und Johann Adam Selhammer sel. Witwe				1					
Michael Kästl								1	
Lukas Kern					1				
Johann Naimer			1						
Michael Pendlmayr							1		
Anton Pfeffer				3					
Matthias Scheiffele									
Johann Schenreither						1			
Ruprecht Schwarz					1				
Christoph Ziegler			5						
Johann Ziegler			2						
Johann Christoph Ziegler			1						
Johann Jakob Ziegler			1						
Wolf Ziegler			4						
Total	118	107	14	4	3	2	1	1	1
Proportion of the whole Scythe Transportation in %	47	43	6	2	1	1	<1	<1	<1

Source: AMP.

spezieller Handelsmonopole und eines großen Hinterlandes dennoch ein vielfältiges Marktgeschehen aufwiesen und die in ihrer Gesamtheit für das Vertriebsnetz der großen Gewerbe- und Handelsmetropolen von nicht zu unterschätzender Bedeutung waren.“ *SERLES*, Nürnberger Händler, 107.

⁸¹ *RAUSCHER*, Handel zwischen Bayern und Österreich, 541.

Edmund Friess argues that the long-distance trade at that time was mainly organized by foreign merchants and transportation agents.⁸² However, the Aschach Toll Registers reveal that scythes were mainly transported by shipmasters from Linz and Aschach, as the sample of table 3 demonstrates.⁸³ Scythes were either bought from master scythe smiths and servants at the annual fairs, or orders were directly sent to the scythe smiths. In the latter case, payment was conducted via the transportation agents, who either brought sealed money bags containing the appropriate amount to pay for the scythes, or in the form of bills of exchange that could be transferred into cash at the annual fairs.⁸⁴ The fact that scythes – particularly starting with the end of the 17th century – were exported throughout the whole year, shows that the fairs lost their monopoly on the scythe supply for exports.⁸⁵

7.2 *Putting-Out and Purchase System in the Scythe Industry of Austria above and below the river Enns*

In the early modern period, manufacturers and individual home-based producers were increasingly reliant on merchant capital, whether it was directly through the putting-out system, or indirectly through the purchase system.⁸⁶ Accordingly, also the scythe producing smiths and their guilds in Austria above and below the river Enns were in many cases throughout the early modern period depending on those systems.⁸⁷ However, the dependencies had different levels and characters; in most cases, not the whole raw materials for the scythe smiths production were organized by the merchants, which created a certain flexibility and partly also an independent scythe trade by the scythe smiths.⁸⁸

For the ironware industry, the putting-out system was rather peculiar for the period at focus since regulations came often directly from state authorities. In general, the ironware industry in Austria above and below the river Enns stood on four pillars: the blast-furnaces, large scale

⁸² FRIESS, Ferntransport, 164.

⁸³ The shipmaster that was transporting the majority of the scythes throughout 1706–1740 was Michael Scheibenbogen. Ernst Neweklowsky investigated this shipmaster-dynasty in more depth, see NEWEKLOWSKY, Scheibenbogen. Further insights into the history of the Linz shipmasters can be found in *ID.*, Schiffmeister.

⁸⁴ FRIESS and GROSSMANN, Sensenhammer, 136.

⁸⁵ For more information on the rather continuous export of scythes, see FISCHER, Blaue Sensen, 175–79.

⁸⁶ “Whether the home-industrial weaver, knitter, nailer or scythemaker entered the market as buyer and seller himself and so worked within the ‘Kaufsystem’, or whether he was organized in the ‘putting-out system’, he was always directly or indirectly dependent upon merchant capital.” MEDICK, Family Economy, 296. For more insights into merchants and their practices in the early modern period, see for example HÄBERLEIN and JEGGLE, Praktiken des Handels.

⁸⁷ More insights on the putting-out system (*Verlagssystem*) in BRAUDEL, Handel, 344; WALLERSTEIN, Mercantilism 2, 195; SCHLUMBOHM, Produktionsverhältnisse, 210. For an overview of and further insights into the purchase-system in the Holy Roman Empire, see ZORN, Gewerbe und Handel, 536–41; KRIEDTE, Handelskapitalismus, 497–98; SCHLUMBOHM, Produktionsverhältnisse, 202.

⁸⁸ For more insights on the history of those dependencies, see POSCH, Stahlversorgung, 473–74.

forges, the processors and producers of ironware, and the merchants. The main iron mining areas were Vordernberg (Styria), Innerberg (Eisenerz; Styria) and Hüttenberg (Carinthia). The Innerberg area is of interest since the pillars of the iron industry (blast-furnaces, large scale forges, the processors and producers of ironware, and the merchants, except producers of finished ironware) were 1625 united in a centralized cooperation, the *Innerberger Hauptgewerkschaft*, to avoid the dissolution of the crisis-ridden industry in Innerberg (Erzberg) and which was directly controlled by state authorities.⁸⁹ The hammer mills of Innerberg were required to supply their semi-finished iron products to Steyr and, to a lesser extent, to Waidhofen. The finished products were primarily sold to northern and western markets (i. e. Austria above and below the river Enns, Bohemia, Moravia, Silesia, Poland, Russia, across the German Empire, and France). Trade routes running through Vienna and towards southern Bavaria and Swabia were shared with the Vordernberg producers. The latter also controlled the markets in Salzburg, Tyrol, Styria, Hungary, and throughout the Balkans. Meanwhile, the Carinthian iron production of Hüttenberg had to be sold to Carniola (Krain), Gorizia (Görz), and Italy.⁹⁰ Not surprisingly, the merchants gained a superior position in this system, since they were regulated and allocated in many cases through state authority to partake in the provision of raw materials and semi-finished produce through the putting-out system.⁹¹ This eventually allowed a monopoly on the surplus of a product, and thus an exceptional position regarding capital gains.

While we do not know much about the genesis of the putting-out system in the scythe smiths in Kirchdorf and Micheldorf, we do know that it emerged in Waidhofen in the early 16th century, when some scythe smiths initiated commercial activities and subsequently entered as merchants into the system.⁹² In those decades, scythe smiths who did not participate in it, started as well trading activities. But being active in more than one craft was at that time prohibited in Waidhofen, which is why in the year 1653, the earlier established scythe merchants created a union, namely the *Sensenkompagnie*, to safeguard their enterprise. Every member of the union, supported by the city authorities, got allocated a scythe manufacturer who had to accept the putting-out system. With this step, the merchants were able to consolidate their position.⁹³ Eventually, the putting-out system would dominate in Waidhofen until the 19th century.⁹⁴

⁸⁹ For more, see PANTZ, Innerberger Hauptgewerkschaft.

⁹⁰ ZEITLINGER, Sensen, 61.

⁹¹ Ibid., 60–61. On the putting-out system Kirchdorf and Micheldorf see FISCHER, Blaue Sensen, 104–10.

⁹² FRIESS, Hammer- und Sensengewerke, 157.

⁹³ Ibid., 178–79.

⁹⁴ Ibid., 180.

As mentioned, we have no information about the emergence of the putting-out system in the scythe smiths of the Kirchdorf-Micheldorf guild, but we know that in the 16th and 17th centuries the scythe smiths of the guild were dependent on it through merchants from Steyr, and in some cases even from Kirchdorf citizens.⁹⁵ Traditionally, merchants from Steyr held a very strong position within the Austrian iron and steel industry. They therefore had sufficient capital and expertise to tap into new business areas and enter the putting-out system of the scythe production. Furthermore, the two market towns of Kirchdorf and Micheldorf are geographically located close to Steyr, less than 40 kilometres to the southwest of the city. However, the year 1671 would lead to a decisive turn for Kirchdorf-Micheldorf scythe smith' guild. As a result of negotiations, they managed to free themselves from the putting-out system via a direct contract between the scythe smiths and their lords of the manor at the one hand and the *Innerberger Hauptgewerkschaft* on the other hand and thus produce and trade at own risk.⁹⁶ The contract liberated them from the strict distribution system and confirmed the since the beginning of the 17th century existing right to purchase semi-finished ironware from Vordernberg, which gave them more options and risk diversification.⁹⁷ The Vordernberg ironware had another advantage in its higher quality, yet lower price.⁹⁸ With the contract, the Kirchdorf-Micheldorf scythe smith' guild was able to freely sell their scythes to chosen merchants and thus entered the purchase system, which would become significant for the long distance scythe trade and its merchants.⁹⁹ With this, the guild received an unparalleled and exceptional position in the scythe trade, which eventually led to a quite liberal system of wealth accumulation among the Kirchdorf-Micheldorf scythe smiths.¹⁰⁰

7.3 Geographical Trade Flows of the Scythe Trade

The most important scythe trade flow was northwards, while the Russian Empire was the main selling market in this direction.¹⁰¹ The scythes from Waidhofen in Austria below the river Enns found their way mostly over the cities of Krems and Vienna. Krems served as a transit market for the northern routes, where scythes were traded over the regions of Moravia, Silesia, and

⁹⁵ FISCHER, Blaue Sensen, 106.

⁹⁶ Ibid., 109–10. The contract is printed in *ibid.*, 209–14.

⁹⁷ ZEITLINGER, Sensen, 61.

⁹⁸ FISCHER, Blaue Sensen, 110.

⁹⁹ With the purchase-system, the direct trade between producer, merchant and end client was meant and it indirectly originated the cash flow in the system. BRAUDEL, *Handel*, 344.

¹⁰⁰ FISCHER, Blaue Sensen, 191–92. However, as Zeitlinger elaborates, this wealth-accumulation remained local, scythe smiths mainly invested in their respective area – in monasteries, real estates, forests – and did not take the step to establish own trading companies to sell their goods far afield. ZEITLINGER, Sensen, 62.

¹⁰¹ Ibid., 181; SEMELLECHNER, Sensenhandel, 310.

Poland, whereas Kraków and Wrocław were the most significant trading hubs.¹⁰² However, Wrocław experienced a decline in the 18th century and was gradually replaced by Leipzig as the prime trading hub for the northern trade flows.¹⁰³ Through the Vienna route, on the other hand, the flow via Hungary towards southeast went. Both routes were important for the markets in the north-east.¹⁰⁴ For scythes from Kirchdorf-Micheldorf, particularly Freistadt was the transit hub to the north, and to a lesser extent Steyr.¹⁰⁵

The trade to the Holy Roman Empire and westwards took place over the cities of Linz, Steyr, Wels, and Salzburg. While Linz was at centre for this trade flow, scythes from Kirchdorf and Micheldorf were also traded via Wels and Steyr. Salzburg was especially important for scythes from Styria, since they were not allowed to trade via Linz.¹⁰⁶ From those trading hubs in Austria above the river Enns and Salzburg, the scythes went mainly to Frankfurt am Main, Regensburg, Nürnberg, and Leipzig. Frankfurt entered the market particularly in the 17th century for the scythe exports, when the Frankfurt bankers and merchants “Brothers De Neufville” were installed in 1683 as the permanent factors of the *Innerberger Hauptgewerkschaft* for the Innerberg district. In 1728, Johann Heinrich Frohn from Frankfurt would take over from the De Neufvilles.¹⁰⁷ Furthermore, the supply for western markets, especially France, went over the Swiss cities of Basel, Zurich (Zürich), and Geneva (Genf).¹⁰⁸ Those cities must be partially understood as transit hubs for exported scythes, since no city could have sold the whole exported amount in their vicinity. The cities were also intermediaries between the production sites and the grand trade metropolises of the time, such as Hamburg, Lübeck, the cities of the Low Countries, among others.¹⁰⁹ The trade into the Holy Roman Empire and westwards was more important for the scythe produce from Kirchdorf and Micheldorf than it was the case for Waidhofen.¹¹⁰

¹⁰² For more information on the history of the trade route between Krems and Kraków, see *BIENIARZÓWNA*, Handelsbeziehungen (1989); *ID.*, Handelsbeziehungen (1996).

¹⁰³ *FISCHER*, Blaue Sensen, 187–88. Particularly, the trading houses of former scythe smith servants, such as the trading house of the widow of the former scythe smith servant and merchant Simon Redtenbacher with her sons (Simon Redtenbacher sel. Witwe & Söhne), were shifting their trade from Wrocław to Leipzig, see *ZEITLINGER*, Sensen, 56.

¹⁰⁴ *SEMELLECHNER*, Sensenhandel, 309.

¹⁰⁵ *FISCHER*, Blaue Sensen, 181–88.

¹⁰⁶ *FRIESS* and *GROSSMANN*, Sensenhammer, 133.

¹⁰⁷ *DIETZ*, Frankfurter Handelsgeschichte 4/1, 260; *FISCHER*, Blaue Sensen, 180. A factor was an external person who, on behalf of a production facility or company, handled the trade of the goods produced, marketing and expansion of the buyer base, bookkeeping and correspondence. For more insights into this contractual form of factors, see *AMEND-TRAUT*, Faktoren.

¹⁰⁸ *FISCHER*, Blaue Sensen, 175.

¹⁰⁹ *Ibid.*, 180.

¹¹⁰ *SEMELLECHNER*, Sensenhandel, 325.

7.4 Tolls, Surcharges, and the Problem of War

Despite the pivotal function of the scythe trade in the export industry of Austria above and below the river Enns during the early modern period, it frequently encountered impediments and was subject to constraints at numerous crucial junctures. One mayor issue – besides the usual expenditures for transportation – was that the trade of scythes by smith masters, servants and merchants in Austria above and below the river Enns and beyond was facing numerous financial burdens in the 18th century, namely the tolls and surcharges that had to be paid for procuring production resources and to export manufactured goods.¹¹¹ This problem was recognized by the rulers of the Habsburg Empire, which is why counter-measurements were continuously installed to make transit trade more profitable and regular, but also to regulate and restrict expenditures on imports.¹¹² The aim was to keep wealth within in the Austrian provinces and to promote domestic investments.¹¹³ Nonetheless, tolls continued to pose an obstacle for scythe merchants and often forced them to choose less efficient trade routes where tolls were comparatively lower.¹¹⁴ In general, tolls and surcharges varied and changed continuously, which made the long-term calculation of the trade difficult.¹¹⁵ Only in 1725, state surcharges were regulated for Austria above and below the river Enns. For 100 scythes a surcharge of 1 fl. had to be paid at the sales location, while for other regions, this process was still in the making

¹¹¹ Regarding tolls and surcharges for the procurement of production resources, see *FISCHER*, Blaue Sensen, 132–34. For an overview on the history of the fragmented economic situation in the hereditary lands, see *SANDGRUBER*, Wirtschaftsgeschichte, 112–18; *BEER*, Handelspolitik, 3–5. The tariffs and tolls eventually became a form of economic protection for each region's own industry against the other regions of the hereditary lands. See *BEER*, Handelspolitik, 3.

¹¹² Klemens Kaps defines this as a process of harmonization in accordance with cameralist economic theory to reduce internal customs duties and tolls between the individual provinces. *KAPS*, Güterströme, 483.

¹¹³ A major problem was the enormous cash flow of silver and gold by the nobility to purchase luxury goods from France, see *HECKSCHER*, Merkantilismus 1, 51; *BOG*, Reichsmerkantilismus 76–77.

¹¹⁴ The fact that the merchants chose different trading routes to decrease transaction costs led often to reclamations and appeals to the emperor by cities who requested the dissolution of certain tolls and surcharges so that trade would eventually be done again through their territory. For example, the city of Freistadt appealed in 1709 to Emperor Joseph I that he should abandon certain surcharges since they hindered the scythes trade via Freistadt towards Wrocław, but instead promoted the trade via Krems towards Kraków, since the tolls amounted there only 15 fl. and 20 kreuzers, instead of the 15 fl. and 44 kreuzers that had to be paid on the trading route from Freistadt to Wrocław, see *FISCHER*, Blaue Sensen, 174. This route mainly supplied the north-eastern market towards Russia, see *SEMELLECHNER*, Sensenhandel, 310.

¹¹⁵ In 1664, Cristoph Khun [sic], licentiat of Wrocław, tried to summarize the tolls and surcharges for scythes traded from Austria above the river Enns to Wrocław, Kraków and Toruń (Thorn) based on testimonies of merchants. From Steyr (Austria above the river Enns) via Freistadt to Kraków (Poland), a merchant had to calculate for a barrel of 800 scythes with 63 fl. and 28 kreuzers tolls and surcharges, from Steyr via Krems to Kraków with only 52 fl. The list is printed in *FISCHER*, Blaue Sensen, 214–16. Compared to the information we have regarding the production cost, the tolls and surcharges for this route were rather high and made up to 20 to 40 % of the price of a scythe. A detailed description of the production and prices of scythes can be found in *ibid.*, 142–44. For more information on this important trade route, see *BIENIARZÓWNA*, Handelsbeziehungen (1986); *ID.*, Handelsbeziehungen (1996). As it is registered in the Toll Vectigal of Aschach from 1662, 100 scythes were charged with 12 d. for passing, see Maut-Vectigal Herrschaft Aschach 1662, Lit. “E”, OÖLA, Depot Harrach, Hs. 2.

and would take several more years. This process was terminated 1731 in Moravia, in 1737 in Bohemia, and in 1739 in Silesia.¹¹⁶ However, there existed still other tolls and surcharges that remained under local and private control and thus out of reach for the state authority.¹¹⁷

Regarding the toll station in Aschach, and despite the enormous quantity of scythes traded across the Danube, the toll revenue from this trade amounted to less than 1 % of the total toll revenue. One-hundred scythes were taxed at 12 d., as evidenced by figure 2, which seems a small amount compared to the other iron goods that passed through the toll station at Aschach.¹¹⁸ Although this may seem insignificant, it was primarily the large number of different toll stations that, taken together, presented considerable financial costs which were an essential part of the overall accounts of the interregional trade in scythes. Many of the scythe merchants were based several hundred to more than thousand kilometres away from the production sites; the longer the transport route, the higher the total amount of tolls that had to be paid.

Figure 2: Taxation Rate for Scythes, Sickles and Straw Knives at the Aschach Toll Station.

Stromeßer daß	100:	12:
Jengßen und Sichel:	100:	12:

Source: Maut-Vectigal 1662, Lit. "E", OÖLA, Linz, Depot Harrach, Hs. 2.

Another major impediment for the scythe trade for some time was a state concession granted to Albrecht von Zinzendorf – since 1662 Count von Zinzendorf and Pottendorf – (1618–1683), the so-called *Sensenappalt*, which was granted to him in 1661.¹¹⁹ As a whole, an *Appalt* was a lease of sources of revenue, domains, regalia, monopolies and indirect taxes of all kinds to individuals, in many cases nobles, but also economic and political figures within the Habsburg

¹¹⁶ SEMELLECHNER, *Sensenhandel*, 293–94.

¹¹⁷ For a general overview of the complexity and changes in the toll and surcharges for scythes, see *ibid.*, 279–97.

¹¹⁸ For a comparison with other taxation rates for iron ware, see Maut-Vectigal 1662, Lit. "E", OÖLA, Linz, Depot Harrach, Hs. 2.

¹¹⁹ TREMEL, *Sensenappalt*.

Empire.¹²⁰ The contract between the emperor and Count Zinzendorf ruled that the latter had the monopoly on the selling of ironware from Austria above and below the river Enns towards Poland and further north and that he had to pay the scythe masters without exceptions in cash and not in kind. It also stated that Zinzendorf was obliged to take care of the trade organization.¹²¹ But instead of entering the trade with the master scythe smiths, Zinzendorf did not adhere to the contract and only requested the so-called *Appaltgeld*, which was in this case a sort of surcharge on ironware.¹²² For every barrel of scythes, i. e. 800 pieces, the master scythe smiths had to pay a surcharge of first 30, then 20, then 18, and in 1677 eventually 15 fl.¹²³ Although the *Sensenappalt* was not obligatory for the scythes that were transported on the Danube and sold to western territories, it affected the scythe producers as a whole. Due to several reasons, such as lack of trading networks or competition abroad, the masters' scythe trade was cornered and almost at the brink of ruin after a few years.¹²⁴ This led to continuous claims against Zinzendorf by the master scythe smiths, which eventually caused the cancellation of the tenancy in 1681. The tenancy was transferred by then to Johann Ludwig Mittermayr von Waffenberg (1637–1692), who is viewed as a forward-thinking and skilful financial planner of that time.¹²⁵ With his ownership of the *Sensenappalt*, the trade of the master's once again began to

¹²⁰ If the exclusive right to sell was also linked to the exclusive right to produce a commodity, the lease took on the character of a 'privilegium privativum'. The term varies and cannot be defined uniformly, see *SRBIK*, *Exporthandel*, XXXI.

¹²¹ "[...] geben euch benebst genädigist zuvernemen / [...] dem [...] Albrecht Herrn von Zinzendorff und Pottendorff [...] die gnädigste Bewilligung ge= than [...] denen von Ihme hierzu bestellten Kauffleuthen / oder Factorn, so von ihm schriftliche licenz vorzu= weisen haben werden / allein erlaubt seyn solle / die in Oesterreich under= und ob der Ennß denen Maisterschafften auffbringende Sengsen / Sichel / und Strohmesser in das Königreich Polen / und angränzende Mitternächte Länder zuverführen / und zuverhandlen / dergestalt da einiger anderer / wer der auch seye / von Inn= und Ausländern sich unterstehen thette / besagte Eysen=Wahr / auß unsern Oesterreichischen Lan= den [...] zuverführen / selbige aller Orthen / alß ein contraband, eingezogen / und von gedach= tem von Zinzendorff / und seinen substituirt, mit dem / was über Abzug des Vertretters portion noch verbleibt/ disponiert werden möge / verstaten ihnen auch in gewissen ihnen gelegenen Stätten Niederlagen auffzurichten / auch aller Orthen in Statt= und Mächten / zu beförderung diser ihrer Handlung / Leuth zu bestellen / die darauff Obsicht haben / und die Verschwerzungen verhüeten können [...]" Patent of Emperor Leopold I granting the scythe monopoly for the export to Poland an further north to Zinzendorf in 1661, ÖStA, HHStA, SB, HA, Walpersdorf 29–11, Rechnungen (Appalto) der Sengen-, Sichel- und Strohmesser an Albrecht Graf von Zinzendorf, 1661–1671, fol. 1954r.

¹²² *TREMEL*, *Sensenappalt*, 361.

¹²³ *SCHRÖCKENFUX*, *Sensenwerke*, 82; *SEMELLECHNER*, *Sensenhandel*, 288. In one of the remaining *Appalt*-invoices, Zinzendorf taxed 145 barrels of scythes from Waidhofen an der Ybbs between the 24th of October 1670 and 27th of July 1671, receiving in total 2.610 fl., i. e. 18 fl. per barrel. Evidencing the high amount of this *Appalt*, see *Appalt*-Invoice dated 27th of July 1671, ÖStA, HHStA, SB, HA, Walpersdorf 29–11, Rechnungen (Appalto) der Sengen-, Sichel- und Strohmesser an Albrecht Graf von Zinzendorf, 1661–1671.

¹²⁴ Some of the *Appalt*-Invoices are still preserved in the Austrian State Archives and demonstrate the financial burden for the scythe trade, e. g.: *Appalt*-Invoice 1670, ÖStA, HHStA, SB, HA, Walpersdorf 29–11, Rechnungen (Appalto) der Sengen-, Sichel- und Strohmesser an Albrecht Graf von Zinzendorf, 1661–1671.

¹²⁵ Emperor Leopold I issues orders regarding trade in scythes, sickles and straw knives, including the transfer of the scythe monopoly to Waffenberg (1681), ÖStA, HHStA, StK Patente 11–95; *TREMEL*, *Sensenappalt*, 361–63; *SEMELLECHNER*, *Sensenhandel*, 290. For more insights on the Waffenberg Family, see *LOIDOL*, *Monstranz*, 521; *HOFFMANN*, *Wirtschaftsgeschichte Oberrösterreich* 1, 172–73. Johann Ludwig Mittermayr

increase, although he raised the surcharge from 15 to 20 fl. per barrel.¹²⁶ The paradoxical situation of raising the *Sensenappalt* while simultaneously increasing exports has not yet been resolved. It is plausible that this was because Mittermayr took more care with his duties as the tenant Zinzendorf did. After Mittermayr's death, the administration was in 1692 temporarily transferred to his heirs and managed by a court accountant. About one year later in 1693, the councillor at the Court Chamber (*Hofkammer*) and later president of this authority Gotthard Heinrich Count von Salburg (†1707) received the *Sensenappalt*.¹²⁷ Only in 1728, the *Appalt* was reduced from 20 fl. to 3 fl. and 20 kreuzers through Emperor Charles VI.¹²⁸ The reasons for maintaining this special tax for so long were undoubtedly linked to the war-torn period of those years, wars for which money was always needed.

War not only caused a rather restricting toll policy, it also led to export prohibitions. Although scythes were not considered as a weapon by the Aulic War Council (*Hofkriegsrat*), they were seen as a dual-use good that could be re-manufactured with rather low investment into weapons, which eventually could be used against the military forces of the Habsburg Empire.¹²⁹ This caused major problems for the scythe trade since some temporary enemies of the Emperor, such as France, were major customers of scythes. The French Monarchy, for example, was continuously entangled in wars against the Habsburg Empire, as it was the case during the Nine Year's War (1688–1697).¹³⁰ This led to an export prohibition to Switzerland and France from 1690 to 1693.¹³¹ Switzerland was included in the prohibition since it was seen as the main transit hub for scythes to France. Particularly, the restriction to trade with Switzerland led to complaints by scythe merchants at the *Hofkriegsrat* since it was firstly not evident that all scythes took their way to France.¹³² Furthermore, scythe merchants argued that it would be important to continue the scythe trade with France to allow money to flow out the country and to avoid that France would construct own fabrication sites to produce scythes.¹³³ The complaints eventually

von Waffenberg was baptised on the 11th of August 1637, see Stadtpfarre Steyr, Taufbuch 01 (I), 1601–1656, Sign. 101/01, pag. 390.

¹²⁶ FISCHER, *Blaue Sensen*, 172.

¹²⁷ SEMELLECHNER, *Sensenhandel*, 290.

¹²⁸ SCHRÖCKENFUX, *Sensenwerke*, 82.

¹²⁹ FISCHER, *Blaue Sensen*, 169.

¹³⁰ SCHRÖCKENFUX, *Sensenwerke*, 82.

¹³¹ However, there are numerous examples preserved in the archives that this prohibition was well circumnavigated by all actors involved, including bribery, smuggling, falsified product labelling, and more. Even the Emperor himself was not compliant with his own prohibition laws. The Swiss merchant house of Zaeslin, on which this thesis elaborates later, provided iron and copper from the mines in Styria and Hungary to the French, which was silently tolerated by the Emperor in Vienna, see BOG, *Reichsmerkantilismus*, 136–41.

¹³² For more insights into the claims and discussions on the trade prohibitions with Switzerland, see Correspondence on the Trade Prohibitions with Switzerland (1690), OÖLA, KA 9, ZA 6, Kiste 10, fol. 73r–87v.

¹³³ FISCHER, *Blaue Sensen*, 169.

led to the dissolution of the prohibition for Switzerland in 1693 and for France much later in 1719.¹³⁴ The late abolition of the trade prohibition with France was without doubt connected to the Spanish War of Succession (1701–1714) at that time. The dissolution had the long-term effect that in the Polish War of Succession (1733–1738), scythes were not anymore on the list of prohibited goods for export, but rather seen as goods for civil use.¹³⁵ This would change again in the first Coalition War (1792–1797), when the France was once again an enemy of the Habsburg Empire. Prohibition of scythe exports were renewed and the French economy was concerned, since it imported almost all of its scythes from abroad.¹³⁶ Scythe imports were interrupted mainly since Austria above and below the river Enns were not exporting anymore to the country.¹³⁷ While the supply of scythes from abroad was no longer guaranteed due to Habsburg export policy, France aimed to build up a scythe production in its own territory.¹³⁸ This development was the exact opposite of what Austrian scythe manufacturers and merchants needed for their otherwise large sales market in the country.¹³⁹ Although the effects were known to the state authorities, they repeatedly used the instalment of export prohibitions to harm enemies until the 19th century.¹⁴⁰

To the south-east, the Ottoman Empire had a unique position in the scythe export prohibition policies, since they remained in effect almost continuously throughout the centuries.¹⁴¹ Although the *Hofkammer* was eager to expand the export areas in 1679 also to the Ottoman Empire, the *Hofkriegsrat* was categorically against this liberalization of the scythe trade. Yet, it was not able to completely avoid deliveries of scythes and other ironware to the sale markets of the

¹³⁴ FISCHER, *Blaue Sensen*, 169–70.

¹³⁵ *Ibid.*, 170.

¹³⁶ In 1794, the French authorities published a report highlighting this major problem: “On sait, et la commission le répète avec douleur, que la faux, un des instruments les plus précieux à l’agriculture, ne se fabrique encore nulle part en France, l’étranger est encore le maître de nous la vendre le prix qu’il veut y mettre et même dans les circonstances présentes nous en priver tout à fait. Enfin les difficultés pour nous en procurer deviennent plus grandes chaque jour.” Cited in *TRESSE*, *Fabrication*, 345.

¹³⁷ *Ibid.*, 344.

¹³⁸ *Ibid.*, 345–53.

¹³⁹ Fascinating in this regard is the fact that the quality and skills of the scythe producers in Austria above and below the river Enns remained unchallenged and France eagerly tried to understand the production processes in Austria to produce the same quality of scythes. During the French military campaign against the Habsburg Empire in 1809, a group of technicians and intellectuals was employed to investigate the scythe production in Austria under the auspices of the French occupying forces. Their conclusion was that the high quality of the Austrian scythes was mainly due to the high professionalism and the skills of the scythe smiths, see KUNNERT, *Französische Handschriften*, 85–86. At that time, especially in the region of Toulouse, new scythe-making workshops opened, which were recruiting with preference workers from Austria above and below the river Enns, see FRIESS and GROSSMANN, *Sensenhammer*, 138.

¹⁴⁰ The export prohibitions in the 19th century were targeting the uprisings in Poland, Galicia and Hungary, since scythes were seen as the weapon of the peasantry, see FRIESS, *Sense im Kriege*, 294.

¹⁴¹ *Ibid.*, 290–91.

Ottoman Empire, since scythes from Austria above and below the river Enns particularly were traded to it via Venice.¹⁴² Even the Peace of Passarowitz (1718) and its trade agreements did not change the blockade.¹⁴³ Only in 1762, Empress Maria Theresa ended this categorical prohibition of scythe exports.¹⁴⁴ But in case of war the *Hofkriegsrat* still had the right to cease the export to the Ottoman territories.¹⁴⁵ Although the scythes manufacturers and merchants constantly tried to influence the state authorities to abandon prohibitions on scythe trade, they were in many cases without success. Therefore, the interpretation of Fischer is very precise that the main impediment for scythe trade regarding export did not originate from competition abroad, but from the own state authorities since they considered scythes as a safety-related product.¹⁴⁶

7.5 Climate and Weather: The Maunder Minimum and Trade

Throughout the centuries, weather was one of the major forces shaping history of mankind. It was also one of the most influential variables regarding trade.¹⁴⁷ While commercial activities nowadays are almost independent from climate, this was quite different regarding the early modern period in Europe. Between 1645 and 1715, Europe experienced a particularly cold period in the so-called ‘Little Ice Age’, during which low sunspot activity was observed.¹⁴⁸ This period, named after Edward Walter Maunder, who, in 1887, was the first to identify this climate process, also influenced the trade in Central Europe. When investigating the Aschach Toll Registers, it can be observed that the Danube regularly froze or was blocked by ice.

Particularly, the extreme cold winters of 1708/09 and 1739/40 can be well observed in the registers, as table 4 demonstrates.¹⁴⁹

¹⁴² *FRIESS*, *Sense im Kriege*, 291–93.

¹⁴³ *Ibid.*, 293.

¹⁴⁴ “Meine Intention gehet nicht dahin das Sennen und anderes Negotium gegen die Türken zu hemmen und beschwerlich zu machen, sondern allein, daß alle Halbjahr angezeigt werden solle, wie viele Sennen und anderes Eisenzeug aus meinen Erblanden in die Türkei verhandelt und verführet worden seyen, um heraus zu sehen wieviel dieses Aktivnegotium gegen jene Waren, so die Türken einführen, beiläufig ausmache.“ Cited in *ibid.*

¹⁴⁵ *Ibid.*

¹⁴⁶ *FISCHER*, *Blaue Sennen*, 169.

¹⁴⁷ The most important variables that influenced trade in history were the physical environment (including climate) and political, as well as legal foundations. Only later in history, infrastructure and technology would become influential. See *HÄBERLEIN* and *DENZEL*, *Handelsräume*, 2–3.

¹⁴⁸ In this period, in the winter of 1708/9, even the Venetian lagoon froze over. But also the winter of 1739/40 is registered as one of the most extreme of the millennium. For a study of European temperatures in the winter of 1708/09, see *LUTERBACHER et al.*, *European Temperature Variability*, 1501. For the weather observation for 1740, see *BRÖNNIMANN et al.*, *Weather of 1740*. For information on the Maunder Minimum, but also how climate influenced history, see *FRANKOPAN*, *The Earth Transformed*, 11.

¹⁴⁹ AMP data query on “nihil” (“nothing”) and “Eisrinnen” (“Drifting Ice”) and the years 1706 to 1740. Furthermore, the year 1697 was added, since at the time of data-compiling, this register was completely entered into the database, yet it was not checked and officially published on the databank. While data on the

Table 4: Amount of Days with Ice and no (nihil) Traffic on the Danube at Aschach 1697–1740.

Year	Number of Days with Ice on the Danube	Number of Days with no Traffic on the Danube (nihil)	Deviation from Annual Average in % ($\bar{x} = 22$)
1697	78	4	273
1706	5	1	-73
1709	46	6	136
1710	9	4	-41
1711	11	11	0
1713	5	6	-50
1716	4	23	23
1717	12	19	41
1718	7	15	0
1719	9	2	-50
1721	0	7	-68
1725	2	2	-82
1727	0	1	-95
1728	0	6	-73
1729	4	23	23
1730	2	15	-23
1731	24	6	36
1733	5	2	-68
1734	13	2	-32
1735	8	1	-59
1736	14	10	9
1737	7	2	-59
1738	30	10	82
1739	13	3	-27
1740	60	6	200

Source: AMP.

In 1709, almost fifty days of the year the Danube was blocked by ice, and thus no traffic was possible on the current. Elisabeth Strömmer writes in her investigation on the history of the climate in nowadays East Austria that even contemporary witnesses referred to that winter as the “famous” one, “which, to distinguish it from all the others, was called the cold one.”¹⁵⁰ The same picture emerges for 1740, when roughly 60 days were registered as days with ice on the

ships and goods needs a re-evaluation, the data containing information on the weather is clearly indicated in the registers.

¹⁵⁰ According to Strömmer, Anton Pilgram wrote in his meteorological observations: “Jener berühmte Winter, welchen man, um ihn von allen übrigen zu unterschreiben, den kalten nannte.” Cited in STRÖMMER, Klima-Geschichte, 105.

river and thus no ship movements. On the 19th of March 1740, the Viennese newspaper *Wienerisches Diarium* wrote that the ice-jams on the Danube had burst and caused immense floods in the region of Krems.¹⁵¹ Strikingly, the winter of 1696/97 must have been the most extreme, since almost eighty days are written down in the Aschach Toll Registers with ice on the Danube. While it remains a desideratum to investigate the effects of climate and weather on the trade on the Danube, it is sure that the intervals of no shipment on the Danube due to ice slowed down economic activity significantly.

¹⁵¹ “Nachdem vor etlich wenig Tagen die starke Kälte sich gebrochen und durch das gelinde wötter die Schnee zerflossen, die gewässer angeloffen, und mithin die Donau auch angewachsen, so zwar, daß von oberhalb Tyrnstain [Dürnstein] der Eisstoß sich gebrochen, auch von oben herab der Stoß bey eytler Nacht zwischen dem 18. und 19. Martii ist gehend worden iedoch nicht weiter den nur biß ober oder außerhalb der statt Stain [Stein], allwo der ganze Stoß in das Stecken geraten, und sich über haus hoch auf ein ander von oben herab einander Eiis Gehauffet, daß darum eine entsetzliche blähung der Donau entstanden, daß sich dieselbe bei Hundsstaimb [Hundsheim (Mautern)] hat anfangen auszugießen und auszubreiten, dises ganze dörfflein und alle äcker und weingärten mit (...) hohen gewässer in die häuser ein und durch geronnen (...).“ Cited in STRÖMMER, Klima-Geschichte, 139–40.

8 Statistics and Analysis of the Scythe Trade in the Aschach Toll Registers

The following part will assemble the data on the scythe trade extracted from the Aschach Toll Registers and demonstrate the knowledge gained from descriptive statistics on them. The data were retrieved from the online accessible database of the Danube Trade which means the available registers of the years 1706, 1709, 1710–11, 1713, 1716–19, 1721, 1724–25, 1727–31 and 1733–40.¹⁵² In total, roughly 4 million scythes were traded in those years, whereas all of them went up the stream into the north-western sales markets. This finding underscores the significance of the Danube for the long-distance trade into the Holy Roman Empire and further north- and westwards.

Scythes for the south-eastern trade were purchased on markets further down the Danube and thus did not pass the toll station in Aschach, which is located further north-west from Linz; likewise the scythes that were transported northwards via Freistadt in Austria above the river Enns, close to the boarder of Bohemia, cannot be seen in the Aschach Toll Registers.

8.1 Geographical Destinations of the Scythe Trade on the Danube

With regard to the geographical destinations of the scythes traded on the Danube, this thesis has assembled them according to the provenance of the merchants who purchased them. While it is not possible to ascertain whether all scythes purchased by a specific merchant were ultimately transported to their point of origin, there is a high probability that this was the case. Consequently, it is feasible to illustrate the geographical distribution of trade via this method.

Table 5: Trade Destination of Purchased Scythes 1706–1740.

Ranking	Origin of Merchants	Trading Volume of Scythes (Pieces)	Trading Volume of Scythes in %	Total in %
1	Nürnberg	1.235.019	31.9	67.1
2	Frankfurt am Main	689.050	17.8	
3	Regensburg	672.700	17.4	
4	n/a	495.391	12.8	32.9
5	Kirchdorf	362.000	9.4	
6	Schaffhausen	144.700	3.7	
7	Basel	77.950	2.0	
8	Geneva	73.850	1.9	
9	Lyon	50.250	1.3	
10	Rest	68.475	1.8	

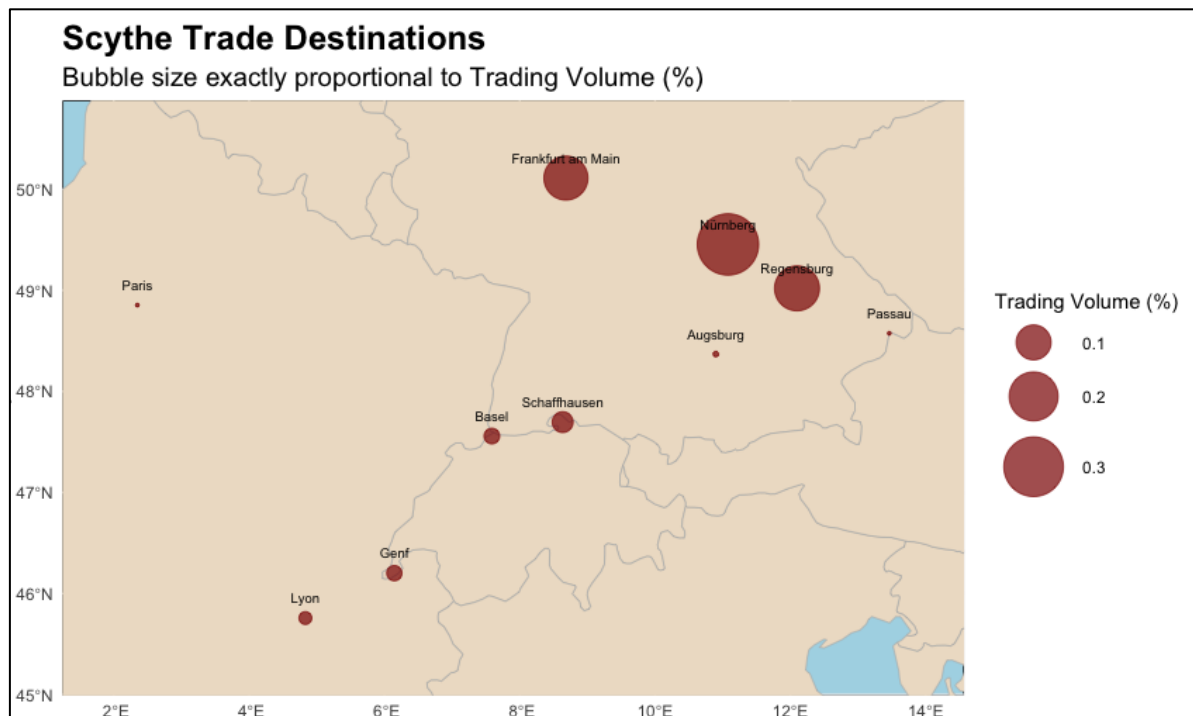
Source: AMP.

¹⁵² RAUSCHER and SERLES, Danube Trade.

Through examining the assembled dataset, a clear pattern of the scythe trade on the Danube emerges: while 19 destinations were extracted from the Aschach Toll Registers, three of them stood out in terms of the purchased quantity linked to scythes merchants with origin in those three cities: As demonstrated in table 5, approximately 67 % of all scythes went to the cities of Nürnberg (32 %), Frankfurt am Main (18 %) and Regensburg (17 %). A single Kirchdorf merchant comprised 9 %, trading the scythes far afield from this production site.¹⁵³ Another important trade line spanned from the Swiss Confederation towards France: roughly 4 % of the scythes was purchased by merchants from Schaffhausen, 2 % by merchants from Basel, 2 % by Geneva merchants and 1.3 % by French merchants from Lyon. A spatial depiction of the scythe trade and its destinations can be found in figure 3.

Since the cities of Nürnberg, Frankfurt am Main and Regensburg were hubs for long-distance trade, in which internationally well-connected merchants were active, it must be assumed that the vast majority of scythes purchased by the merchants from those three hubs were sold to sales markets further north and west, since no region surrounding those cities could have absorbed such enormous quantities of scythes by its own demand.

Figure 3: Main Trade Destinations of Scythes 1706–1740.



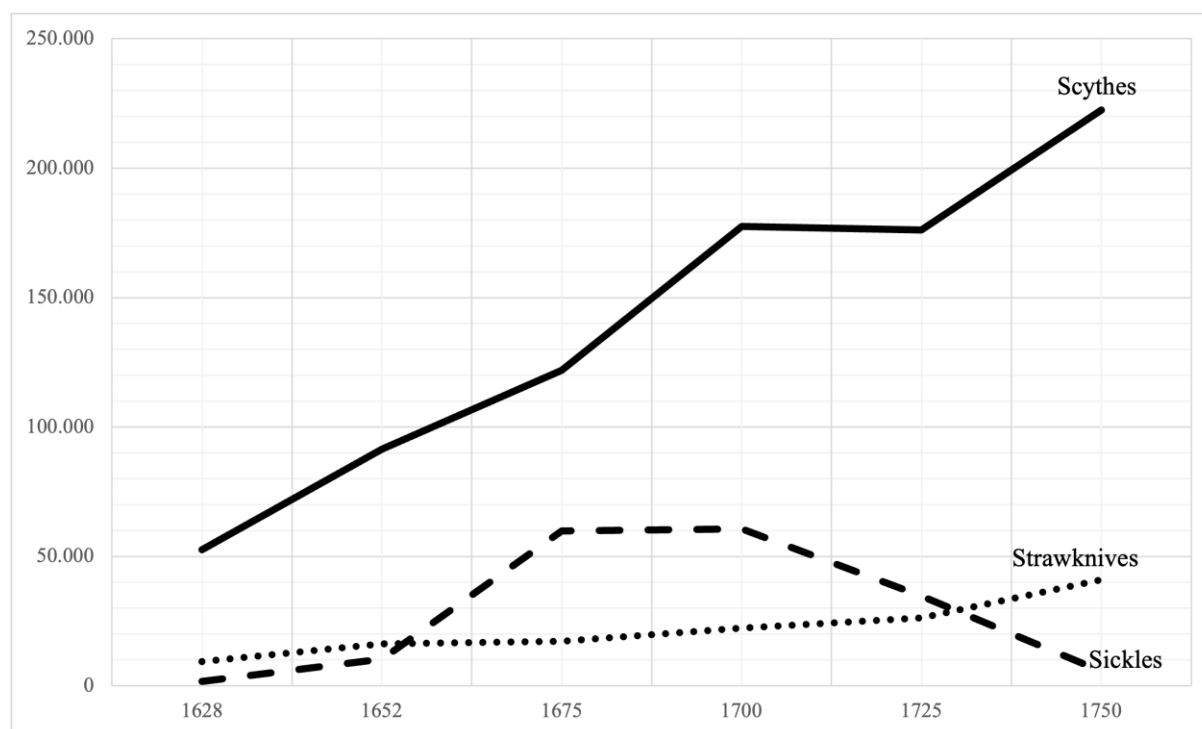
Source: AMP.

¹⁵³ This high amount of traded scythes from Kirchdorf and Micheldorf is linked to the enormous production centre there and particularly the trade of the two local merchants both called Simon Redtenbacher.

8.2 Annual Fluctuations and Trends

If we examine Franz Fischer's statistical data on the transport of scythes on the Danube for the years 1628, 1652, 1675, 1700, 1725 and 1750, as shown in figure 4, it can be concluded that scythe exports consistently played a dominant role compared to their competing products, sickles and strawknives, and continuously expanded this dominance over the decades.

Figure 4: Comparison of Scythe-, Sickles, and Strawknives-Trade 1628–1750.



Source: FISCHER, Blaue Sensen, 176–79.

The analysis of scythe trade in the Aschach Toll Registers from 1706 to 1740 reveals a market characterised by short-term volatility combined with long-term stability and moderate growth.¹⁵⁴ Throughout the period, trade volumes fluctuated strongly from year to year, yet they consistently moved around an average annual level of roughly 155.000 scythes. This indicates the existence of a structurally stable demand, which most likely occurred due to its character of being an indispensable agricultural tool characterized by its high quality and traditional establishment in the trading network of the 18th century. Despite this stability, the analysis reveals contractions and expansions, as observable in table 6. Several downturns, from 1710 to 1713, from 1717 to 1721, and from 1730 to 1734, show annual volumes that are much below the long-term average. Those declines are most likely attributable to external factors such as military conflicts, transport disruptions, epidemics, or changes in production and thus supply of scythes.

¹⁵⁴ AMP database query of “Sensen” and the years 1706 to 1740.

However, none of these downturns resulted in a collapse of the scythe trade, which is remarkable for an era characterized by political instability and wars in Europe.¹⁵⁵ Instead, they were followed by recoveries and upturns, as it was the case from 1715 to 1716, from 1722 to 1729, and from 1735 to 1740.

Table 6: General Scythe Trade from 1706–1740.

	Year	Annual Scythe Trade Volume	Deviation from Annual Average in % ($\bar{x} = 154.775$)
<i>Observation Period</i>	1706	177.600	14.7
	1709	168.200	8.7
	1710	138.150	-10.7
	1711	140.090	-9.5
	1713	102.375	-33.9
	1716	171.250	10.6
	1717	150.640	-2.7
	1718	131.550	-15.0
	1719	147.969	-4.4
	1721	103.250	-33.3
	1724	162.180	4.8
	1725	179.750	16.1
	1727	154.456	-0.2
	1728	147.543	-4.7
	1729	153.700	-0.7
	1730	148.400	-4.1
	1731	120.971	-21.8
	1733	133.350	-13.8
	1734	109.701	-29.1
	1735	144.700	-6.5
	1736	179.250	15.8
	1737	217.700	40.7
	1738	221.350	43.0
	1739	190.950	23.4
	1740	174.310	12.6

Source: AMP.

¹⁵⁵ For an overview of the political situations and wars at that time in Central Europe, see *WINKELBAUER, Habsburgermonarchie*, 188–94.

The trend that can be observed indicates a gradual upward movement over the entire period 1706 to 1740. This suggests a slow but sustained expansion of the scythe trade. The largest increase occurred in the late 1730s, when trade volumes rose above both the long-term average and the trend line, reaching the highest quantities that can be observed in the dataset. However, it cannot be determined what caused this upturn in the late 1730s, it can be hypothesized that variables such as favourable economic conditions, recovery effects after the Polish War of Succession (1733–1738), temporarily high demand, or new trading companies entering the market with bigger networks and sales markets could have caused those phases of growth.

8.3 *Monthly Fluctuations and Trends*

Franz Fischer's research indicates that the scythe trade occurred with consistent regularity throughout the year.¹⁵⁶ Although he already observed that the scythe transportation was conducted only on a few days during the year – without further specification – a statistical analysis of the scythe trade per month in the Aschach Toll Registers from 1706 to 1740 reveals a more explicit scenario.¹⁵⁷ As demonstrated in figure 6 and table 7, March and November were identified as the months in which the highest number of scythe transports occurred on an annual basis. The development of the trade shows a U-form pattern, characterised by an initial peak in March, followed by a decline until June and July. Thereafter, the trade shows again a steady growth trajectory, culminating in a second peak in November. Since this U-form is observable in each toll register available for the years 1706 to 1740, there existed a strong and evident pattern of this trading cycle. It can thus be deduced that the annual trade of scythes was not uniform but cyclical. The reasons for this very specific trade pattern throughout the years remain unclear. Since the Linz Easter Market always started two weeks after Quasimodogeniti and the Linz Bartholomew Market on the 24th of August each year, it is not plausible that the scythes were mainly purchased at those markets, since the March-cycle was before Quasimodogeniti and the November-cycle much later than St. Bartholomew. However, it cannot be discarded that some scythe quantities were bought at those markets.

As demonstrated, the vast majority of the scythes were transported by a small number of shipmasters from Linz and Aschach, demonstrating their monopoly on the scythe transport. This rejects the argument of Franz Fischer that the whole transportation system of the scythes was organized by non-Austrian actors and that this is due to the lack of *Geschäftsgeist* (business

¹⁵⁶ FISCHER, Blaue Sensen, 177.

¹⁵⁷ AMP database query of "Sensen" and the years 1706 to 1740.

spirit) by the shipmasters from Austria above the river Enns.¹⁵⁸ The Aschach Toll Registers, furthermore, reveal that the shipmasters were in most cases transporting scythes together with other ironware, but only very seldomly with other good categories.

The question arises, why were the scythes mainly transported in March and November? And how did that pattern occur? Consulting the archives, the only source of any significance is a dispute between the Steyr shipmasters in connection with the so-called ‘Scheibenbogen affair’.¹⁵⁹ However, the archival files do not provide any further details on the content and circumstances of this affair. The document in question contains a revealing indication that the transport of the scythes apparently took place on specific dates throughout the year, namely on Laetare, St John’s Day, St James’s Day, St Michael’s Day and St Catherine’s Day. Based on the Aschach Toll Register’s data, an evaluation was therefore carried out in which the transport data was compared with the aforementioned fixed dates. It revealed a remarkably clear pattern: around 55 % of all transports took place in close proximity to Laetare, while around 33 % took place around Catharina. This pattern can be observed over the whole period under review. It confirms and refines the findings of Franz Fischer that the scythe transportations were conducted on a few days during the year. At the same time, it reinforces the presumption that contractual agreements must have existed between the large scythe merchants and the freighters from Aschach and Linz.

It remains unclear as to why the extensive shipments of scythes took place outside the actual Linz market dates. The production cycle can hardly serve as an explanation for this, as the scythe smiths produced all year round. Individual characteristics of individual merchants can also be largely ignored as a cause, as both larger and smaller scythe merchants apparently followed the same temporal pattern. A plausible explanation could lie in the nature of trade relations themselves. It can be assumed that, especially in the 18th century, the most important transactions between merchants and scythe smiths took place at the markets in Linz. This is also indicated by Zeitlinger: “The Linz [...] Market in particular provided an opportunity for [...] sales [directly between merchants and masters, J. S.], where large-scale transactions were concluded with foreign merchants and, as a rule, payments for deliveries already made were also carried out. Merchants from far afield, mainly from the cities of Nürnberg, Frankfurt am Main and Wrocław, could be found there, as well as Swiss and Polish traders.”¹⁶⁰ Against this

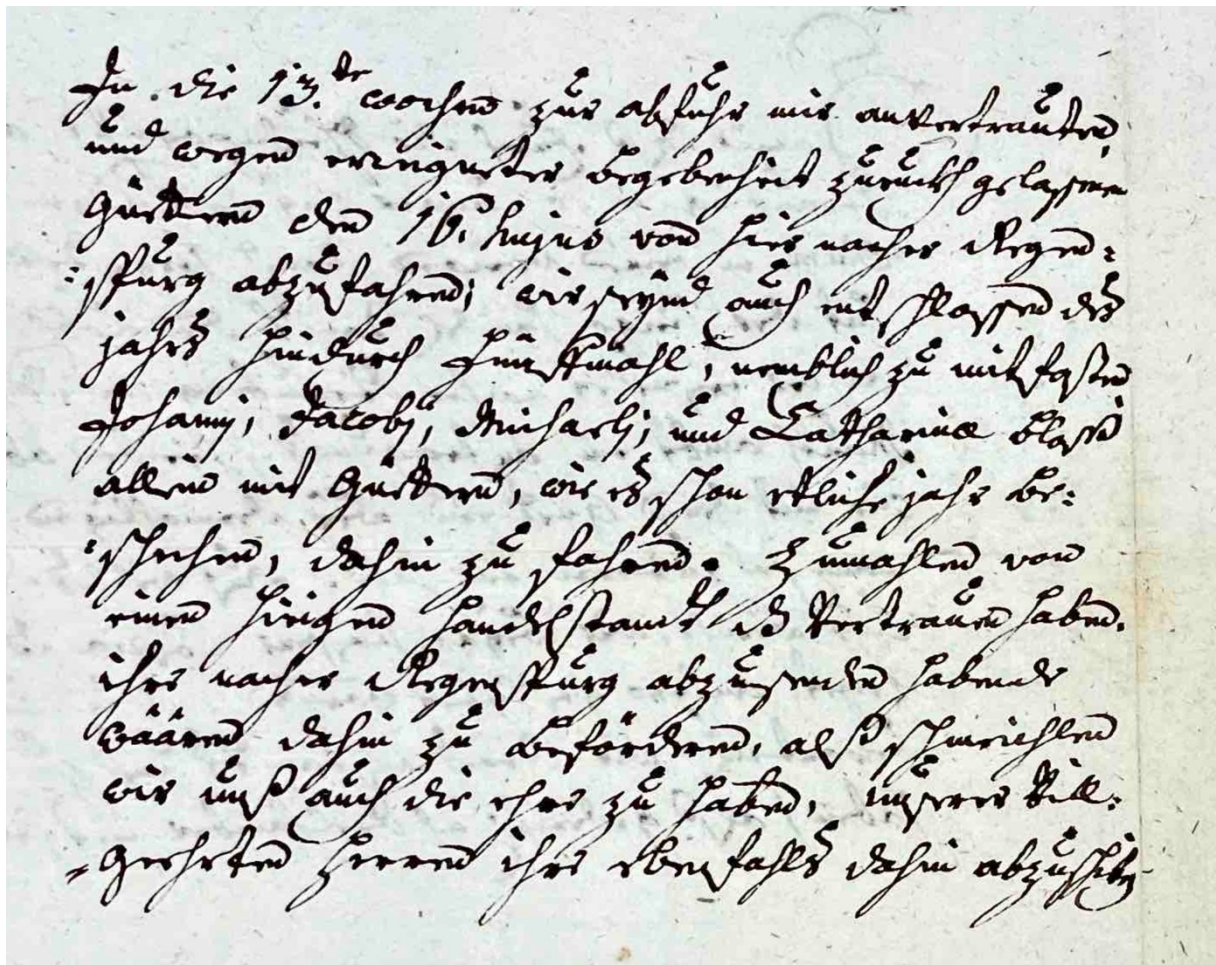
¹⁵⁸ FISCHER, *Blaue Sensen*, 168–69.

¹⁵⁹ Correspondence regarding the Scheibenbogen Affair (1756), OÖLA, KA 9, ZA 6, Kiste 10, fol. 268r–69v.

¹⁶⁰ „Gelegenheit zu solchen (unmittelbaren, J. S.) Verkäufen gab besonders der Linzer Ostermarkt, auf welchem Geschäfte großen Umfanges mit auswärtigen Käufern abgeschlossen und gewöhnlich auch die

background, it seems plausible that the quantities to be purchased by the merchants were first agreed upon at these markets. The scythe masters then returned to their production sites, the smiths, and manufactured the agreed quantities over the course of the summer or winter. On the previously agreed dates – in spring around Laetare and in autumn around Catharina – the finished scythes were finally brought to Linz and shipped from there up the stream.

Figure 5: Indication of the Transportation Cycle of Scythes on the Danube.



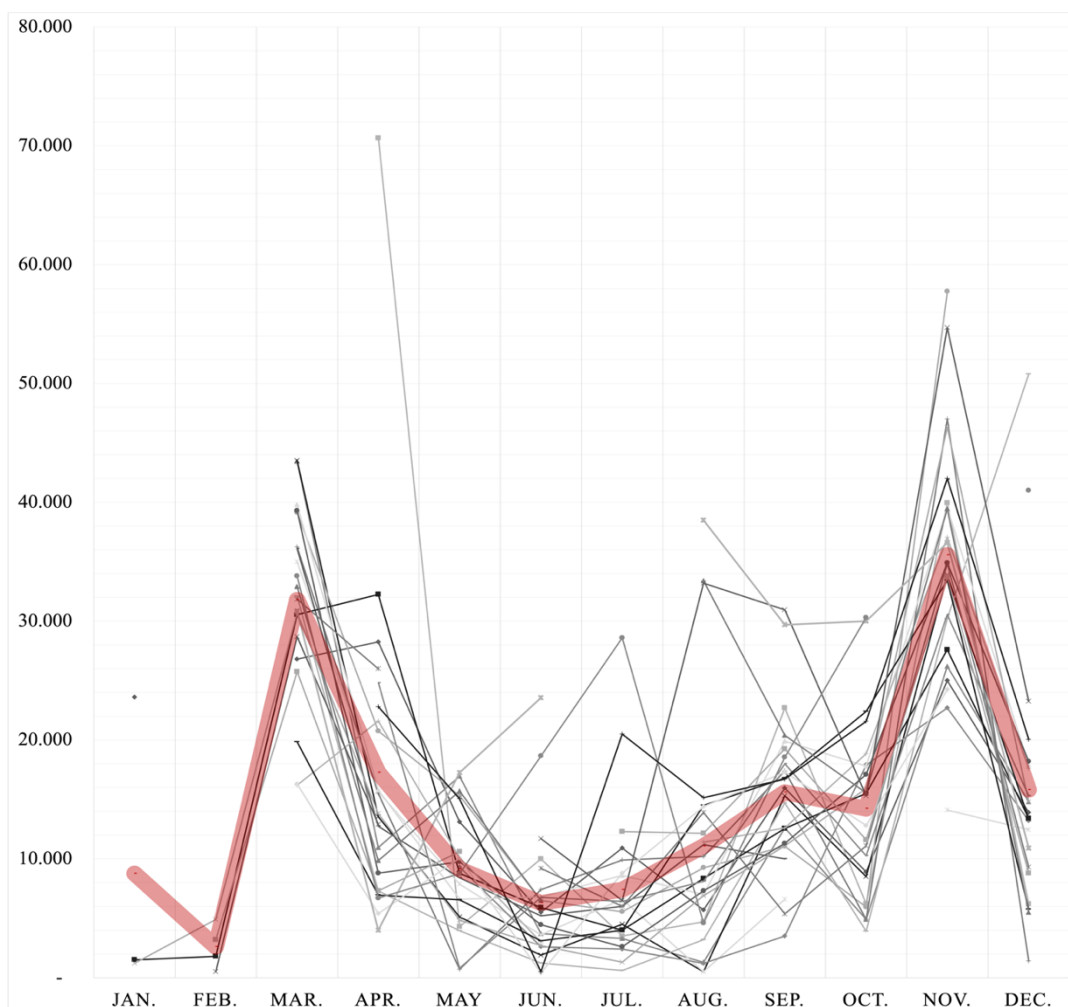
Source: Correspondence of Shipmasters regarding the Scheibenbogen Affair [1756], OÖLA, KA 9, ZA 6, Kiste 10, fol. 268v.

A plausible additional explanation for the observed seasonal patterns may lie in the structural constraints of the transport system. During the winter months, upstream river transport was significantly limited due to the high risk of ice formation. Consequently, the period from December to early March can largely be excluded as a window for large-scale upstream transport on account of climatic conditions. At the same time, however, scythe production activities did not cease during the winter. On the contrary, scythes continued to be manufactured and

Abrechnungen über bereits erfolgte Lieferungen durchgeführt wurden. Kaufleute aus weiter Ferne, hauptsächlich aus den Städten Nürnberg, Frankfurt a. M. und Breslau waren dort zu treffen, ebenso auch Schweizer und polnische Händler.“ ZEITLINGER, Sensen, 56.

accumulated in storage facilities, leading to a build-up of inventories over the colder months. With the arrival of more favourable conditions in March, transportation resumed, allowing for the distribution of these accumulated stocks. This dynamic may explain the particularly high volume of shipments observed in early spring, as they represent the release of an entire season's production. The low in summer may have been caused by the competing demands for horses, which were needed to pull the vessels upstream. They were increasingly required for agricultural work during the summer season. As a result, their availability for transport purposes diminished until after the harvest period, when they could once again be deployed more extensively, typically from late October or November. Finally, seasonal fluctuations in water levels must also be taken into account. During the summer months, sections of the river – especially between Passau and Regensburg – often experienced low water levels, which could impede or even prevent the movement of heavy transportation vessels. However, archival evidence for this is up-to-date missing, the conclusion remains therefore hypothetical. It is most plausible that the solution lies in the transportation and contract-making-business, i. e. in the supply-triangle between merchants, scythe smiths and transportation agents.

Figure 6: Monthly Scythe Trade from 1706–1740 – Red Line Indicating the Average Value.



Source: AMP.

Table 7: Monthly Scythe Trade from 1706–1740.

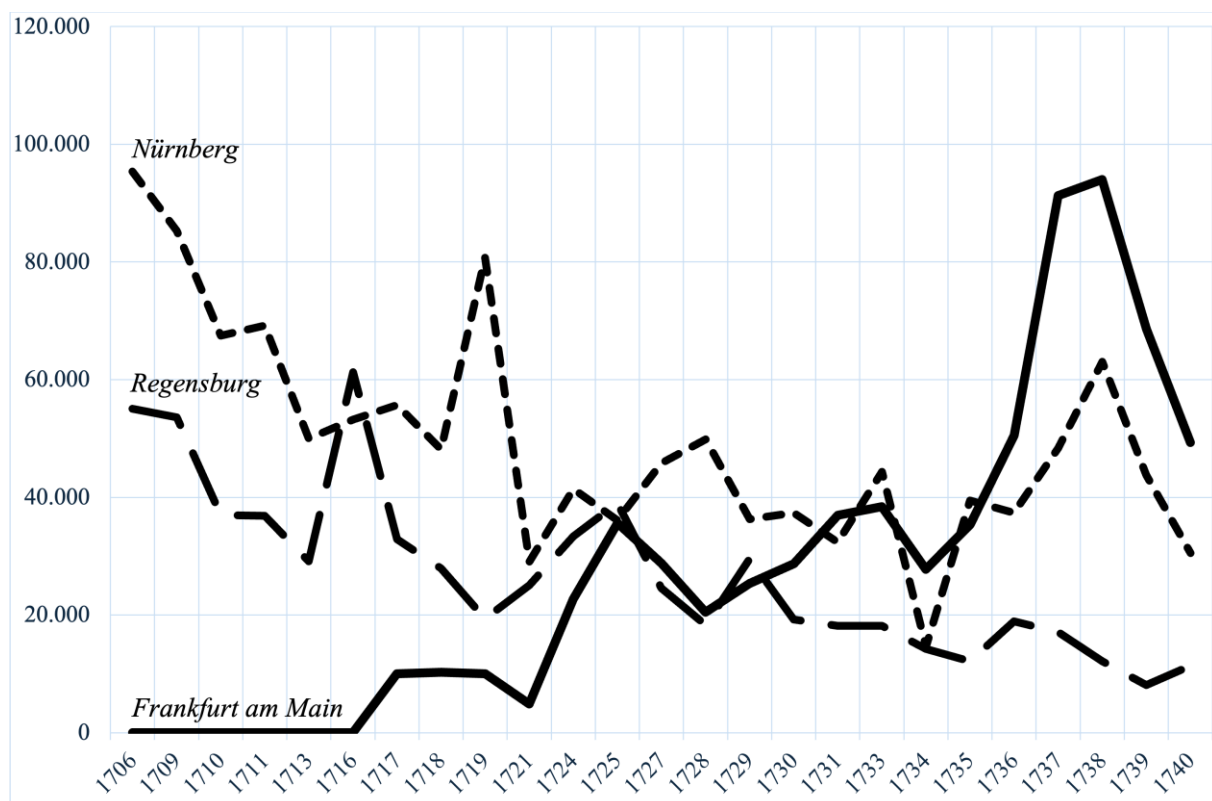
Year	Jan.	Feb.	March	April	May	June
1706	23.600		26.800	28.250	13.100	5.500
1709				70.650	4.300	10.000
1710			43.450	10.950	16.950	3.700
1711			43.500	13.540	5.100	1.900
1713			35.000	15.650	7.875	3.600
1716			39.150	20.750	15.300	6.500
1717			36.240	15.500	700	7.400
1718			36.100	12.750	8.400	5.200
1719			32.100	7.300	3.950	1.230
1721			30.450		9.300	2.600
1724	1.500	1.800	30.550	32.250	8.780	5.900
1725			39.800	15.800	6.600	6.800
1727	1.200	4.900	30.700	13.800	4.850	2.700
1728			31.850	26.000		9.200
1729			39.300	8.800	9.750	4.450
1730			16.200	21.600	10.100	3.000
1731				24.800	800	6.750
1733			19.850	6.950	6.550	3.100
1734			16.300	5.400	10.050	400
1735		3.200	25.750	7.300	10.600	
1736			32.900	9.850	15.700	6.500
1737		500	28.700	12.900		11.700
1738			30.850	4.000	17.250	23.550
1739			33.800	6.700	8.750	18.650
1740				22.800	15.050	500
Particular Monthly Average ($\bar{x}_1$)	8.767	2.600	31.788	17.262	9.122	6.285
Deviation from General Monthly Average in % ($\bar{x}_2 = 12.898$)	-32	-80	146	34	-29	-51
	July	Aug.	Sept.	Oct.	Nov.	Dec.
1706	10.900	5.700	15.950	8.900	25.000	13.900
1709	3.500	4.700	22.700	6.200	39.950	6.200
1710	3.300	1.300	12.600	4.900	26.200	14.800
1711	4.500	500	15.300	8.500	33.900	13.350
1713	6.600	500	6.600		14.100	12.450
1716	5.550	9.250	11.050	5.950	57.750	
1717	9.900	10.200	17.400	4.900	47.000	1.400
1718	6.000	11.200	10.000		41.900	
1719	600	3.200	14.700	3.900	30.200	50.789
1721	2.400	1.200	3.500	17.900	22.700	13.200
1724	4.000	8.350	12.550	15.500	27.600	13.400
1725	8.600	7.000	19.900	17.800	39.550	17.900
1727	1.300	6.900	11.100	15.906	46.300	14.800
1728	6.000	13.900	5.365	11.100	34.828	9.300
1729	2.600	7.300	11.300	17.100	34.900	18.200
1730		11.400	12.600	18.850	37.050	17.600
1731	6.425	8.100	17.996	10.250	30.550	15.300
1733	4.000	14.500	16.800	22.400	33.450	5.750
1734	8.800	14.400	17.301	12.800	24.250	
1735	12.300	12.150	19.250	11.600	33.750	8.800
1736		33.400	20.400	15.550	39.450	5.500
1737	6.500	33.200	30.950	15.300	54.700	23.250
1738		38.500	29.700	30.000	36.600	10.900
1739	28.600	4.600	18.550	30.300		41.000
1740	20.500	15.150	16.700	21.560	42.000	20.050
Particular Monthly Average ($\bar{x}_1$)	7.403	11.064	15.610	14.225	35.570	15.811
Deviation from General Monthly Average in % ($\bar{x}_2 = 12.898$)	-43	-14	21	10	176	23

Source: AMP.

8.4 Shifting Market Dominance between Frankfurt am Main, Nürnberg, and Regensburg

The cities Frankfurt am Main, Nürnberg and Regensburg comprised, as demonstrated in table 5, two thirds of all the scythe trade that was conducted on the Danube upstream from Aschach. However, having a closer look on the development of the trading volumes regarding each city, it is possible to observe that the scythe trade of Nürnberg and Regensburg was steadily declining throughout the first half of the 18th century (see figure 7). Moreover, the development of the two cities was mutually dependent since Regensburg functioned as Nürnberg's gateway to the Danube, thereby having a pivotal role in the transit trade between north-western Europe and the Habsburg Empire during the 18th century.¹⁶¹ Frankfurt am Main demonstrates contrarily a steady increase of scythe trade for the first half of the century. Frankfurt itself consolidated its position as important juncture for finance and international trade during the wars between France and the Holy Roman Empire in the outgoing 17th century. Albeit some setbacks in the 18th century, the city's commerce increased steadily. This observation demonstrates partially the fact that the economic centre for the Danube trade shifted during this time from the rather south-east situated commercial centres of Nürnberg and Regensburg towards Frankfurt am Main.

Figure 7: General Scythe Trade on the Danube towards Frankfurt am Main, Nürnberg and Regensburg from 1706–1740.

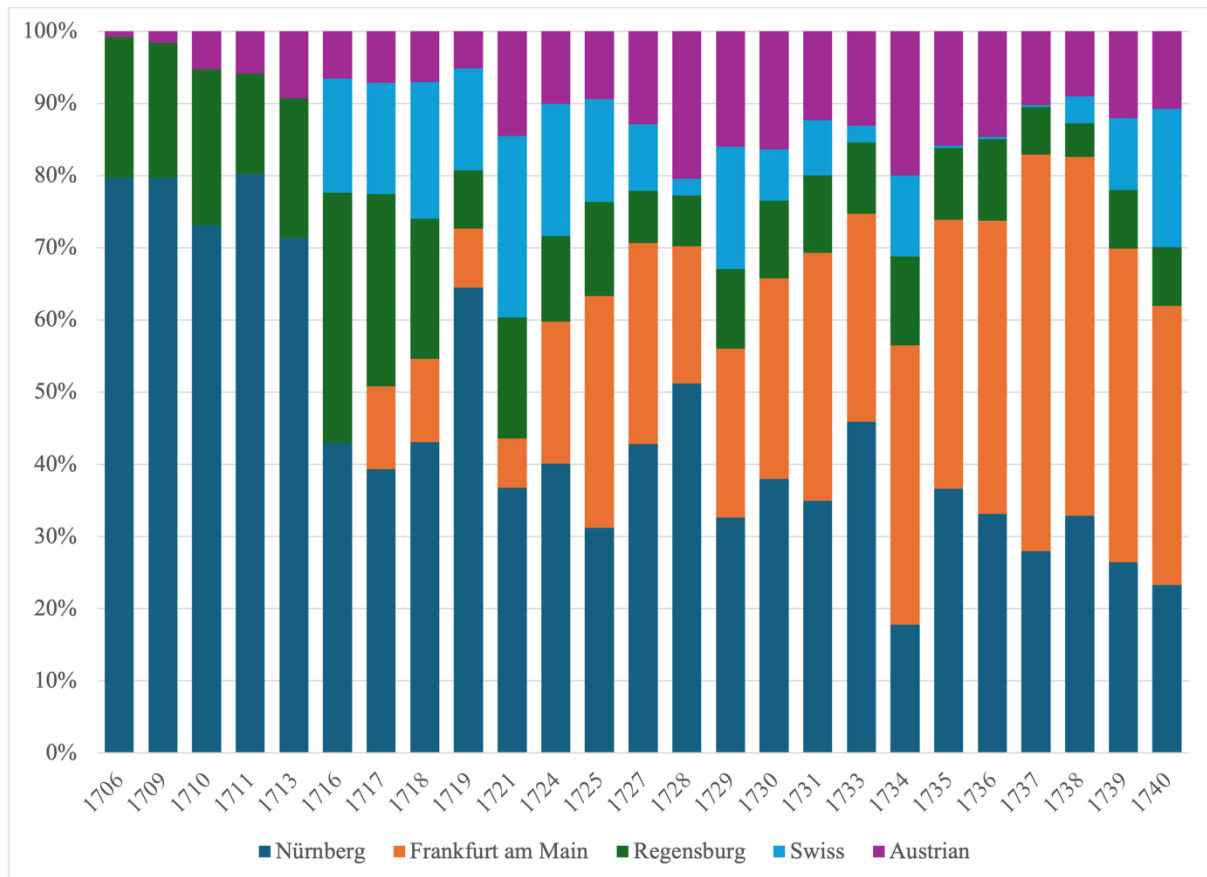


Source: AMP.

¹⁶¹ SERLES, Nürnberger Händler, 95.

Investigating the ten main scythe merchants in the Aschach Toll Registers, the observed trend gets emphasized by the fact that the Frankfurt merchant Johann Heinrich Frohn, as the only Frankfurt individual under the top ten, entered the market in 1717 but soon dominates the scythe trade on the Danube (see figure 8). The Nürnberg merchants, on the other hand, lost increasingly their market share. Put simply, they were gradually forced out of the market by Frankfurt.

Figure 8: Scythe Market Share of the Top Ten Merchants by Origin 1706–1740.



Source: AMP.

9 Scythe Merchants and their Trade

Despite the fact that 280 merchants and companies can be identified in the Aschach Toll Registers from 1706 to 1740 trading with scythes, the top ten of those entities assemble 65 % of all scythes traded on the Danube.¹⁶² This means that just 3.6 % of all scythe trading companies and merchants listed in the registers accounted for almost two thirds of this trade. And even within this group of ten, there are major disparities: Johann Heinrich Frohn, as the merchant with the largest trading volume, with roughly 16.4 % of all scythes traded on the Danube from 1706 to 1740, followed by Heinrich Krochmann (& Co.) with roughly 13.2 %, Emanuel Sandreither 8.3 %, Simon Redtenbacher 6.9 %, Hermann Behrens 5.0 %, Johann Georg Leybold 4.3 %, Konrad Rauschenbach 3.5 %, Wernberger & Geiger 3.3 %, Johann Adam Praunsmändl 2.3 %, and finally Johann Georg Schmid 2.1 %.¹⁶³

The dominating part of those traders with five out of ten individuals came from Nürnberg; two came from Regensburg, one from Frankfurt am Main, one from Kirchdorf, and one from Schaffhausen. Those long-distance merchants located in cities that were strongly embedded into international trade markets and networks exemplify the fact that scythes were one of the most important mass export goods of Austria above and below the river Enns, destined for international sale markets throughout the Holy Roman Empire and beyond. Further research could help to determine the exact sale areas for the scythes, as such enormous quantities over such a long period of time only could have been generated by demand from areas further afield than the southern territories of the Holy Roman Empire and the Swiss Confederation.

¹⁶² AMP database query of “Sensen” and the years 1706 to 1740. The investigation is using the exact names extracted from the toll registers, they thus may not be always congruent with names in secondary literature, as used in this investigation.

¹⁶³ Heinrich Krochmann and Hermann Behrens traded independently, but also in a joint venture together with Johann Gottfried Hörmann von Guttenberg. The company was called Heinrich Krochmann & Co. and was active from 1717 to 1730. Yet, we cannot estimate exactly, which trading volume eventually ended up in the hands of each individual partner or in the company. For statistical purposes, the exact terminology from the Aschach Toll Registers is used here. For Wernberger & Geiger, the numbers registered under the name “Sebastian Wernberger und Geiger” were included into the scythe trade statistics of Wernberger & Geiger since the forename of Wernberger was Sebastian. Similarly, the numbers of “Johann Konrad Rauschenbach” and “Konrad Rauschenbach” were merged, since they can be identified as the same person, as well for “Johann Heinrich Frohn” and “Heinrich Frohn”, and “Johann Heinrich Krochmann” and “Heinrich Krochmann”.

Table 8: Top Ten Scythe Merchants from 1706–1740.

Ranking	Merchant, Sender or Recipient	Trading Volume of Scythes (Pieces)	Trading Volume of Scythes in %	Total in %
1	Johann Heinrich Frohn (Frankfurt am Main)	634.450	16.40	65
2	Johann Heinrich Krochmann (& Co; Nürnberg)	508.403	13.14	
3	Emanuel Sandreither (Nürnberg)	318.839	8.24	
4	Simon Redtenbacher (Kirchdorf)	266.100	6.88	
5	Hermann Behrens (Nürnberg)	194.800	5.03	
6	Johann Georg Leypold (Regensburg)	165.150	4.27	
7	Konrad Rauschenbach (Schaffhausen)	134.000	3.46	
8	Wernberger & Geiger (Nürnberg)	125.700	3.25	
9	Johann Adam Praunsmändl (Regensburg)	88.750	2.29	
10	Johann Georg Schmid (Regensburg)	80.200	2.08	

Source: AMP.

9.1 Statistics and Prosopography

To better understand the long-distance scythe trade of individual merchants conducted via the Danube, this research uses a mixed-method consisting of statistical investigations of the economic situation of their trade in the Aschach Toll Registers, and a prosopography of the most significant scythe merchants recorded therein.¹⁶⁴ While the prosopographic method aims to outline the collective biography and patterns within the biographies of scythe merchants, the statistic evaluation of the data from the Aschach Toll Registers will shed light on questions on the quantity of the scythe trade, its variability, as well as understanding which merchant was active during which period, and what volume of trade they generated.¹⁶⁵ It is therefore necessary to

¹⁶⁴ Regarding the first method, to measure and investigate the economic situation of the scythe trade in the Aschach Toll Registers, descriptive statistic is considered here as most promising to create knowledge from the collected data and thus will be used.

¹⁶⁵ In general, there has been little use of prosopographic approaches in economic history, “though the possibilities are there”. *VERBOVEN et al.*, Prosopography, 50. The method itself is rather old but went through several turns and re-calibrations in the 20th century. *BULST*, Prosopography, 1. Especially the German school of historians debated the termini of “prosopography” versus “historical investigation of persons” since they were not considered the same. Prosopography was seen as the collection and listing of all persons belonging to a specific social group defined by space and time (spheres of life), while the historical investigation of persons was seen as an evaluation of prosopographic material from different perspectives of historical interpretation. *PETERSON*, Personenforschung, 1. However, the Anglo-Saxon tradition, especially since the

consider the following: what characterized the long-distance merchants exporting those scythes? And what can we learn from this analysis for the scythe exports from Austria above and below the river Enns in the 18th century? Those are the leading questions of this section.

Figure 9: Marks of Scythe Merchants, which were used to mark the Scythe Barrels.



Source: ZEITLINGER, Sensen, 208.

9.2 The Nürnberg Merchants

The city of Nürnberg is considered as one of the most prosperous ones in the Holy Roman Empire of the 15th and 16th century. During the time of the reformation, Rudolf Endres estimates that roughly 50.000 residents lived in the city, which comparatively elevated it to one of the major demographic nodes of that time.¹⁶⁶ However, the population would decrease until the end of the 17th century to 27.000 residents.¹⁶⁷ Since the reign of Charles V. and his prohibition policies against the reformation in the 16th century, protestant Nürnberg developed into a bastion for Lutherans mainly from the Low Countries, many of them being craftsmen, artists or merchants and thus able to fit well into the urban economy.¹⁶⁸ Important exports of the producing industry in Nürnberg were the so-called “Nürnberger Ware”, different contemporary consumer goods, comprising small metalwork items such as pins, fittings, basins and bowls, jugs

fundamental work of Lawrence Stone on the method in 1971, understands prosopography as the investigation of the common background characteristics of a group of actors in history by means of a collective study of their biographies. *STONE*, Prosopography; *SCHRÖDER*, Kollektivbiographie, 102. As Wilhelm Heinz Schröder writes, the method is intended to establish a sample and then enable a series of similar questions to be asked, for example about birth and death, marriage and family, social background and inherited economic position, place of residence, education, extent and source of personal wealth, occupation, religion, professional experience, among others. The different types of information about individuals in the sample are then compared and combined and examined for significant variables. *Ibid.* However, it is even debated, if prosopography is a method *sui generis* or rather a research approach, i. e. “an attempt to bring together all relevant biographical data of groups of persons in a systematic and stereotypical way. As such it is a system for organizing mostly scarce data in such a way that they acquire additional significance by revealing connections and patterns influencing historical processes.” *VERBOVEN et al.*, Prosopography, 37.

¹⁶⁶ *ENDRES*, Bevölkerung Nürnbergs.

¹⁶⁷ *KNITTLER*, Stadt, 264. While the 17th century is often labelled as the decline-period of Nürnberg, contemporary contributions do not underpin this argument. Gerhard Seibold, for example, demonstrates that the decline-thesis must be put into perspective since economic success still occurred in the realm of the city, particularly in the second half of the 17th century. *SEIBOLD*, Erfolg. More on the discussion of this decline-thesis, see *PETERS*, Nürnberg, 49–58. More on the history of the city and its political setting in the 18th century, see *ENDRES*, Nürnberg; *FLEISCHMANN*, Nürnberg.

¹⁶⁸ For more on the history of religious migration to Nürnberg, see *NEIDINGER*, Nürnberg, 225–48.

and cups, or compasses and clamps, but also included buttons, brushes, combs and mirrors, as well as tobacco leaves, which were cultivated in the surroundings of the city, to name but a few. The merchants of the city sold those goods as far as Hamburg, Bremen, the Low Countries and the Hereditary Lands of the Habsburg Empire.¹⁶⁹ On the other hand, particularly ironware from the Styrian Dutchy, Austria above and below the Enns were transported in large quantities to the city for selling.¹⁷⁰ The city, although losing its dominance in the 17th and 18th centuries in Central European trade, remained until the 19th century a main market for bills of exchange and thus a financial hub.¹⁷¹ In the first half of the 18th century, merchants from or coming to Nürnberg were able to clear and issue bills of exchanges with the fairs in Frankfurt am Main, Leipzig, Naumburg, Bozen, Linz, Lyon, Amsterdam, Hamburg, Venezia, Wien, Wrocław, Praha, Augsburg and Paris.¹⁷²

In this setting, several important scythe traders were operating in Nürnberg, purchasing considerable amounts of scythes in Austria above and below the river Enns. The group of Nürnberg scythe merchants was characterized by a complexity, since its members were interconnected personally or through business. Important in this regard is the fact that Nürnberg was at the time a Lutheran city and destination of religious refugees from Austria above and below the river Enns.¹⁷³ As already demonstrated, the scythe trade of the Nürnberg merchants, albeit being important in the time under review, was proportionally decreasing. However, particularly during the 17th century, Nürnberg merchants partaking in the scythe trade were able to operate with gains and rose in the city politically and socially in some cases.

9.2.1 Wernberger & Geiger

In 1626, Sebastian Wernberger (1594–1652), a merchant from Steyr in Austria above the river Enns, was forced to give up his citizenship, for being a protestant. After moving in 1629 to Regensburg and spending there almost ten years, he finally settled in Nürnberg in 1638/39, where he had been running his own trade selling goods from Steyr since 1630.

¹⁶⁹ ROTH, *Nürnbergischer Handel* 2, 4. For insights into the trade of the Nürnberg Goods on the Danube, see SERLES, *Nürnberger Händler*. One famous tobacco merchant was Johann Heinrich Krochmann, who also extensively traded with scythes, as will be elaborated later. For the tobacco trade of Krochmann, see RAUSCHER and SERLES, *Tabakhandel*, 90–94. For more insights into the producing industry in Nürnberg, see SEIBOLD, *Erfolg*, 53–66.

¹⁷⁰ For more on the ironware-importing business in Nürnberg, see SERLES, *Nürnberger Händler*, 100–1.

¹⁷¹ DENZEL, *Wechselmarkt*, 170.

¹⁷² *Ibid.*, 172.

¹⁷³ SERLES, *Nürnberger Händler*, 123. See also SCHNABEL, *Oberösterreichische Protestanten*.

Figure 10: Etching of Sebastian Wernberger, etched by August Christian Fleischmann (1701/1736).



Source: Germanisches Nationalmuseum Nürnberg, Graphische Sammlung, Inventarnummer MP 25828.

Wernberger's trade in Nürnberg quickly developed into a successful enterprise. In 1645, he was appointed to the city council (*Collegium der Genannten*). While the business was growing, he included Peter Geiger (1632–1688), initially as an apprentice; but shortly before his death, Wernberger appointed Geiger as partner and director of his company.¹⁷⁴

After Wernberger's death in 1652, Geiger continued trading under the name "Sebastian Wernberger sel. Erben und Peter Geiger" and married the oldest daughter of Wernberger, Eva Barbara.¹⁷⁵ The trading company dominated large parts of the Nürnberg scythe trade in the 1670s.¹⁷⁶ In addition, Wernberger & Geiger also had business connections in Linz. The company's reach was considerable: from Lyon, where it was one of the most influential German trading houses, the network expanded to Lübeck and Hamburg.¹⁷⁷

Towards the end of the 17th century, the company also emerged as a major player in the tobacco trade. Wernberger & Geiger supplied a large number of locations, which included Vilshofen, Straubing, Landshut, Regensburg, Munich, Braunau, Wels, Hamburg and Lübeck. Among its most important customers were the Bavarian Tobacco Appalto and the Höllinger trading house in Austria above the river Enns. The company's product range was diverse and included scythes and sickles from Steyr, as well as sugar, whalebone, various types of fish and cheese, and more.¹⁷⁸

The Geiger family played a central role in the development of the company. Before Peter Geiger died, he appointed his nephew Johann Geiger (*1639), who later was awarded a doctorate in law in Vienna, as his heir. Other partners of the company included Hermann Behrens (1662–1735), from Hamburg and Hieronymus Pius Pez von Pezenstein, who was married to one of Wernberger's daughters.¹⁷⁹ Under the continued name of Wernberger & Geiger, the company flourished again at the end of the 17th century. Johann Geiger was in charge of the operative business and oversaw the expansion of the trading house.

¹⁷⁴ WEGLEITER, Geiger, 18–20. In their comptoir, the two had a programmatic motto inscribed in golden letters that expressed their commercial ethos, which could be translated as: "He who gives little to the few, and keeps what little he has in good custody, will be blessed with great money and goods, as the pile slowly grows." ROTH, Nürnbergischer Handel 2, 114. For more information on the life of Sebastian Wernberger, see SCHNABEL, Oberösterreichische Protestanten, 108; SERLES, Metropole, 106–7.

¹⁷⁵ WEGLEITER, Geiger, 19.

¹⁷⁶ At the toll station in Aschach alone, the company tolled over 12.000 scythe blades in 1675, almost half of all scythes transported on the Danube to Nürnberg, see SERLES, Nürnberger Händler, 124; FISCHER, Blaue Sensen, 175–79.

¹⁷⁷ SERLES, Nürnberger Händler, 124.

¹⁷⁸ SEIBOLD, Erfolg, 380.

¹⁷⁹ ROTH, Nürnbergischer Handel 2, 114–15.

Figure 11: Copperplate engraving of Peter Geiger, engraved by Joachim von Sandrart (1688/1691).



Source: Germanisches Nationalmuseum Nürnberg, Graphische Sammlung, Inventarnummer MP 8400a.

The company particularly supplied the Bavarian tobacco demand. Moreover, it traded regarding different goods with numerous locations in Bavaria, the Upper Palatinate and northern Germany. While the company's product range remained diverse, ironware, different knives, scythes and sickles constituted the majority of the goods the company was trading on the Danube, as table 9 demonstrates.¹⁸⁰

Table 9: Wernberger & Geiger's Product Mix 1706–1727.

Goods Category	Amount of Cargos	Proportion in % of Total Cargo >1
Ironware	50	41
Knives	19	16
Scythes	19	16
Straw knives	13	11
Sickles	9	7
Shovels	4	3
Ironware & Knives	2	2

Source: AMP.

The data from the Aschach Toll Registers on the scythe trade of the merchant company Wernberger & Geiger between 1706 and 1727 reveal a trajectory of early stability, a short-lived boom, and a long decline. With an annual average of 9.670 scythes, the first phase (1706–1711) shows relatively strong and stable trade volumes between 12.000 and 15.500 scythes per year, corresponding to +24 to +60 % above the average. The most significant expansion occurred in 1716 and 1717, when exports reached 19.750 and 19.850 scythes, more than double the annual average and marking the peak of the series. After this brief boom, however, activity contracted sharply: 7.100 scythes in 1718 (-27 %) and 9.600 in 1719, still slightly below the average. In the 1720s the trade effectively collapsed, with only sporadic entries between 1.300 and 1.800 scythes in 1721, 1724, 1725, and 1727, representing declines of over 80 % compared with the mean. Overall, the figures suggest that despite an initially well-functioning trading operation and a short mid-1710s expansion, the company's scythe exports proved highly volatile and ultimately disappeared from the Aschach Toll Registers by 1727.

¹⁸⁰ This was, furthermore, already observed by Johann Ferdinand Roth in his œuvre on the trade history of Nürnberg; see *ROTH*, Nürnbergischer Handel 2, 115.

Table 10: Scythe Trade of Wernberger & Geiger 1706–1727.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
1706	4.500		1.900	1.400	400		1.000
1709				3.700	400	1.400	
1710			4.700	1.100		500	700
1711			2.100		400		
1713			2.000		300	800	1.300
1716			6.800	800	2.500	900	200
1717			5.400	800		1.850	3.500
1718			3.100	1.400	500		
1719			4.000				
1721							
1724				700			
1725			1.800				
1727				1.300			
	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Deviation from Annual Average in % ($\bar{x} = 9.670$)
1706		1.800	800	2.600	1.100	15.500	60.3
1709		800	2.400	3.100	1.500	13.300	37.5
1710			300	3.600	1.600	12.500	29.3
1711		400	1.800	5.200	2.100	12.000	24.1
1713				3.100	2.400	9.900	2.4
1716	350	2.800		5.400		19.750	104.3
1717	1.400	300	500	5.100	1.000	19.850	105.3
1718	500			1.600		7.100	-26.6
1719	1.200	500	300	3.100	500	9.600	-0.7
1721				1.800		1.800	-81.4
1724	600					1.300	-86.6
1725						1.800	-81.4
1727						1.300	-86.6

Source: AMP.

9.2.2 Hermann Behrens

Hermann Behrens, a merchant from Hamburg, joined the economically important Nürnberg trading company of Wernberger & Geiger in the last third of the 17th century. Together with his younger colleague Heinrich Krochmann (1686–1749), he settled in Nürnberg at the turn of the century and soon achieved economic success. In 1690, Behrens was appointed to the City Council, which is a remarkable rise in social status. His marriage to the daughter of the merchant Peter Geiger in 1686 prepared the way for him to join the family and business network of the Wernberger & Geiger company. However, she died one year later while giving birth to a child.¹⁸¹ Somewhen between 1687 and 1696, Behrens married the widow Catharina Barbara

¹⁸¹ WEGLEITER, Geiger, 20–21.

Winter.¹⁸² The economic position of the Behrens family in Nürnberg soon consolidated.¹⁸³ At the beginning of the 18th century, Behrens left the company of Wernberger & Geiger, as it is observable by his own account at the Banco Publico, which started to operate in 1702.¹⁸⁴ In 1708, Behrens was elevated to the nobility, together with his brother Johann Joachim, who was himself a merchant in Hamburg. The reason for this was the Battle of Blenheim in 1704, when the Grand Alliance – consisting of the Habsburg, English and Dutch armies – and the Franco-Bavarian armies clashed near the city of Höchstädt close to the Danube. This battle is nowadays recognized as one of the most important milestones of the rise of the British World Empire. It was also a turning point in the War of the Spanish Succession (1701–1714), a global conflict in which the French King Louis XIV and the Habsburg Emperor Leopold I, together with their allies, fought for the inheritance of the Spanish Empire, which in the end, was the fight for European hegemony. Eventually, the alliance between the Habsburg and English troops won the battle.¹⁸⁵ During times of crisis, Behrens provided financial support to the allied troops in a very short time.¹⁸⁶ In recognition of his actions, Behrens was honoured with the title of “von Behrenfels”, along with an accompanying coat of arms. Also, his brother was granted this title upon his request.

On the 2nd of June 1708, Emperor Joseph I invited Behrens to Vienna to receive the title and to thank him for the financial support in menacing times.¹⁸⁷ As it was usual, Hermann Behrens had to present himself and his *curriculum vitae*, in which he stated that he descended from a Hamburg merchant dynasty, which was at the time still ran by his brother Johann Joachim. Yet, after learning the craft of trade on his travels through the Low Countries, England and France, he settled in Nürnberg, where a business partner of his father, Peter Geiger, included him in his trading house, as above mentioned.¹⁸⁸ After a while, he started his own business, which,

¹⁸² SEIBOLD, Erfolg, 379; RAUSCHER and SERLES, Tabakhandel, 90.

¹⁸³ In 1698, Hermann Behrens and his wife purchased a house on the Alter Rossmarkt in Nürnberg for the price of 7.500 fl., which indicates a substantial capital base, probably supported by the fortune brought in by Catharina Barbara. As early as 1695, the couple had sold a house on Neuer Bau (Maxplatz) that had been inherited by the wife from her parents. From 1710 onwards, Behrens held the office of market supervisor, a further sign of his business success and his recognized position in the imperial town, see SEIBOLD, Erfolg, 380.

¹⁸⁴ The Banco Publico was a financial institution in the city of Nürnberg, founded in 1621, which enabled cashless money transfers between Nürnberg merchants. For more insights and its history, see DENZEL, Banco Publico.

¹⁸⁵ WEIßBRICH, Höchstädt, 13.

¹⁸⁶ With the loan, it must be assumed, the salary of the soldiers was covered, which is presumably one of the most decisive variables in enhancing the capability and strength of fighting troops.

¹⁸⁷ Nobility Elevation of Hermann Behrens, 2 June 1708, ÖStA, AVA, Adel, RAA, 24.5, fol. 2r–8r.

¹⁸⁸ This tradition of merchants travelling to different regions in Europe was essential for learning the commercial practices in other regions with which one might wish to trade. By getting to know other cultures and people, commercial difficulties were mitigated. More on this in RAUSCHER, Kontinentaleuropa, 467–68.

according to him, was particularly of use for Austria above the river Enns. He concluded, that it had been an honour to have served the Emperor during wartime.¹⁸⁹ In the years that followed, he became one of Nürnberg's most important merchants: between 1713 and 1715, he conducted transactions totalling 248.129 fl. through the Banco Publico.¹⁹⁰ Behrens traded, as demonstrated, extensively with scythes, including exports to Riga and most likely Hamburg, and maintained close business relations with Linz.¹⁹¹ The main goods that were traded by him, despite scythes, were tobacco, leather, and other ironware, as demonstrated in table 11.

Table 11: Behrens' Product Mix 1706–1717.

Goods Category	Amount of Cargos	Proportion in % of the Total Amount of Cargos >1
Tobacco	105	25
Russian leather	38	9
Scythes	32	8
Ironware	22	5
Mounted goods	21	5
Straw knives	21	5
Dye wood	18	4
Knives	15	4
Herrings	9	2
Sickles	9	2
Cod liver oil	8	2
Fish oil	7	2

Source: AMP.

The scythe trade of Hermann Behrens displays a similarly uneven development to that of Wernberger & Geiger, though on a significantly higher scale. With an annual average of 27.829 scythes, the early years show exceptionally strong activity: in 1706 exports reached 50.300 scythes, the highest value in the dataset and +80 % above the average, while 1709 still recorded 38.100 scythes (+37 %). Although volumes gradually declined thereafter, they remained above

¹⁸⁹ “Als dann aber allergnädigster Kayser und Herr Herr Ich über dass, was von mir nunmehr allerunterthe[nigst]st angebracht worden, auch daselbst zu Nürnberg als ein Reichsbürger, der durch mein Gottlob weith und breit eingereichtes Handlungs Negotium [...] und in jüngst wehrenden Bayrischen Krieg meiner Dienste zu dem euer Kayl. May. und des königl. Reichs Schuz, Nuzen und fromben ganz willig und gehen versehen, auch da die Engel. und Holländ Troupen als euer kaysl. May. hoche Alliirte bey dem Scheltenberg und Höchstet waren, ich die Ehre gehabt, derenselben verschiedenen Zahlungen zu thun, wie ich dan gleichermassen mit das löbl. Wolffenbüttelischen Regimengts bestelten Obristen von Haackhen, da Sie in Italien gestanden, die continue Correspondenz geführet und sowohl diesen, als obgedachten Löbl. Engl. und holländischen Troupen alle möglichen willführigkeit prastiert, auch solches euer Kayl. May. und dem ganzem H. Röm. Reich, als ein treüsten Reichs Vasall mit meinem Guet und Blueth zu allen Zeithen zu prastieren mich hiermit alleruntertänigst verbinde.” Acceptance of Nobility Elevation of Hermann Behrens, 2 June 1708, ÖStA, AVA, Adel, RAA, 24.5, fol. 10v–11r.

¹⁹⁰ SEIBOLD, Erfolg, 380–81.

¹⁹¹ RAUSCHER and SERLES, Tabakhandel, 90.

the mean for several years, with 32.200 scythes in 1710 (+16 %) and 36.000 in 1711 (+29 %). As in the broader scythe trade, the monthly distribution suggests a seasonal rhythm, with peaks particularly in March and November. After 1711, however, the figures indicate a continuous contraction: 20.000 scythes in 1713 (-28 %) and 16.700 in 1716 (-40 %), already little more than half of the early peak levels. The final cargo of scythes was registered in 1717, when trade fell to only 1.500 scythes (-95 %), after which Behrens disappears from the Aschach Toll Registers. Overall, the data suggest that despite very high export volumes during the first decade of the 18th century, Behrens's scythe trade experienced a rapid and decisive decline during the 1710s, ending by 1717.

Table 12: Monthly Scythe Trade of Hermann Behrens 1706–1717.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
1706	7.800		11.400	7.100	1.800	1.700	2.600
1709				17.200	700	3.400	600
1710			6.900	1.300	4.300	2.100	1.500
1711			7.100	2.000	2.500	1.100	600
1713			8.100	3.800	1.500		
1716			5.500	1.200	1.400	800	
1717			1.100				
	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Deviation from Annual Average in % ($\bar{x}$ = 27.829)
1706	1.100	3.900	2.200	6.900	3.800	50.300	80.7
1709		5.100	500	8.300	2.300	38.100	36.9
1710		4.200	400	9.800	1.700	32.200	15.7
1711		3.000	4.300	10.900	4.500	36.000	29.4
1713				5.300	1.300	20.000	-28.1
1716	800	1.500	900	4.600		16.700	-40.0
1717	400					1.500	-94.6

Source: AMP.

Figure 12: Coat of Arms of Hermann Behrens.



Source: Nobility Elevation of Hermann Behrens, 2 June 1708, ÖStA, AVA, Adel, RAA, 24.5, fol. 4v.

9.2.3 Johann Heinrich Krochmann (& Co.)

In 1718, Hermann Behrens, together with Johann Heinrich Krochmann and Johann Gottfried Hörmann von Guttenberg founded a company that focused to a great extent on the scythe trade and its organizational management.¹⁹² However, Behrens soon withdrew from this company, probably due to his age.¹⁹³ In addition to Behrens, Hörmann and Krochmann, the group of shareholders also included the wives of the first two, Catharina Barbara (née Winter) and Maria Magdalena (née Wolf), which means, accordingly to Gerhard Seibold, that both had their own assets, from which the capital shares they acquired were financed. In addition, Krochmann had been married to one of Hörmann's daughters since 1715. Each of the parties held one third of the capital, which amounted to a total of 48.000 fl. The business was centred at Hörmann's address, and he received 200 fl. per year from the company as compensation for its use. The partners mutually promised to support one another faithfully in the conduct of the business and to assist each other in all matters. At the same time, each party should take specific responsibilities for which they were individually accountable. Behrens, on behalf of his wife Catharina Barbara, as it is written, assumed responsibility for correspondence, invoicing, and the accuracy of the account books. Catharina Barbara was intended to conduct this part most likely herself due to the mentioned old age of Behrens.¹⁹⁴ Hörmann took charge of overseeing the receipt and disbursement of goods, as well as their dispatch. Krochmann was responsible for the cash accounts and for advance payments to craftsmen, for construction matters, and for all affairs relating to bills of exchange and currency transactions.¹⁹⁵ The contract also stipulated that a commercial employee was to receive 150 fl. and a boy, whom we would today call an apprentice, as well as a servant, who received 100 fl. in remuneration.¹⁹⁶ The contract was concluded for a term ending in 1726, but the company eventually continued the business until 1729 or 1730.¹⁹⁷ However, the three operating merchants Behrens, Krochmann, and Hörmann already separated

¹⁹² The Hörmann von Guttenberg family from Kaufbeuren and Augsburg, also known as “von und zu Guttenberg” (sic), gained a certain degree of prominence as merchants during the 16th century. This included close ties to the Fugger company. Georg and Christoph Hörmann contributed to the rise of this family as their agents. At the end of the 17th century, Wilhelm Gottfried Hörmann von Guttenberg moved to Nürnberg, where he married Maria Magdalena Wolf in 1693, see *SEIBOLD*, Erfolg, 381.

¹⁹³ *RAUSCHER* and *SERLES*, Tabakhandel, 90–91; *SEIBOLD*, Erfolg, 382.

¹⁹⁴ In general, the inclusion of the rather old Hermann Behrens and the fact that his wife was actively playing a role in the treaty and thus the company hints to the fact that he was asked to join the company for reputation and business contacts and less for operative business.

¹⁹⁵ Heinrich Krochmann und Kompanie, 1717–1730, StadtAN, E9/380, fol. 3v, Art. 13.

¹⁹⁶ *Ibid.*, Art. 14.

¹⁹⁷ *Ibid.*; *SEIBOLD*, Erfolg, 381. The closing of the company remains unclear. Peter Rauscher and Andrea Serles identified the years 1728/29 as the end of the company, see *RAUSCHER* and *SERLES*, Tabakhandel, 90. However, the last registration of the company in the Aschach Toll Registers is dated 18th of October 1730. Since this only one entry, it is debatable whether this scythe freight in 1730 eventually was sold on behalf of the company or of Heinrich Krochmann.

most likely in the early 1720s. According to Seibold, Krochmann himself continued the operating business of the company. Behrens, as mentioned, was already struggling with old age, while Hörmann presumably went his own way.¹⁹⁸ In general, the company traded with goods such as tobacco, knives, scythes, sickles, straw knives, pegs, tea, shovels, oil, spices, lard, indigo, fish, dye wood, lead, copper, whalebone, among others. Particularly, ironware in general, scythes, tobacco, leather, knives and sickles constituted the main trading goods of the company, as shown in table 13.

Table 13: Krochmann (& Co.)'s Product Mix 1717–1740.

Goods Category	Amount of Cargos	Proportion in % of Total Cargo >1
Ironware	123	22
Scythes	86	16
Tobacco	74	13
Russian leather	40	7
Knives	37	7
Straw knives	25	5
Sickles	14	3
Dye wood	13	2
Ironware, Knives	13	2
Herrings	12	2
Fish oil	11	2
Flatfish	11	2
Pepper	9	2

Source: AMP.

The trade records of Johann Heinrich Krochmann (& Co.) between 1717 and 1740 show a development that differs from the earlier trajectories of Wernberger & Geiger and Behrens, combining an initially modest phase with a later strong expansion. With an annual average of 21.185 scythes, the early years (1717–1721) remained mostly below the mean, with 15.200 scythes in 1717 (-28 %), 20.700 in 1718 (-2 %), 16.150 in 1719 (-24 %), and 18.400 in 1721 (-13 %), while the monthly distribution suggests a seasonal concentration in spring and autumn. From the mid-1720s onward, trade began to expand, reaching 27.400 scythes in 1724 (+29 %) and 23.800 in 1725 (+12 %), followed by further growth in 1727 and 1728 with 29.556 (+40 %) and 35.178 scythes (+66 %). The early 1730s show some volatility, including a temporary decline to 10.800 scythes in 1734 (-49 %), but from the mid-1730s a strong boom set in: 32.700 scythes in 1736 (+54 %), 46.000 in 1737 (+117 %), and a peak of 58.900 in 1738 (+178 %).

¹⁹⁸ SEIBOLD, Erfolg, 382.

Table 14: Monthly Scythe Trade of Johann Heinrich Krochmann (& Co.) 1717–1740.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
1717			0	6.000	0	700	400
1718			4.100	1.000	2.400	1.900	2.000
1719			5.500	900	700		
1721			4.200		4.100	1.600	
1724		1.800	6.100	4.900	1.800	400	
1725			5.400	1.800	900	1.300	2.800
1727		3.000	3.600	2.100	450	1.400	
1728			4.100	6.900		4.100	
1729			8.000	900	1.500	2.300	500
1730			3.500	4.200	2.100		
1731				2.300		1.600	1.200
1733			900	2.100	1.300		
1734			900		2.000		3.300
1735		400	3.700	1.100	2.800		1.600
1736			6.900	2.400	3.300	2.000	
1737			5.600	3.900	0	5.000	1.200
1738			8.000	300	7.800	11.400	
1739			4.700	2.300	4.300	7.300	13.600
1740				2.400	3.200		8.200
	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Deviation from Annual Average in % ($\bar{x}$ = 21.185)
1717	400	4.500	600	2.200	400	15.200	-28.3
1718	400	1.600		7.300		20.700	-2.3
1719		1.400		6.350	1.300	16.150	-23.8
1721		1.400	500	4.900	1.700	18.400	-13.1
1724	1.700	2.800	2.300	4.200	1.400	27.400	29.3
1725	1.400	1.800	3.400	4.600	400	23.800	12.3
1727	1.900	2.400	2.906	11.200	600	29.556	39.5
1728	1.800			14.978	3.300	35.178	66.1
1729		600	2.000	3.600	2.700	22.100	4.3
1730	1.900	600	3.400	1.900	3.300	20.900	-1.3
1731		5.146	600	4.300	1.600	16.746	-21.0
1733	2.000	4.200	6.200	4.800	300	21.800	2.9
1734	2.900		1.700			10.800	-49.0
1735	2.300	2.400	2.200	5.000	2.000	23.500	10.9
1736	7.700	3.500	1.500	4.900	500	32.700	54.4
1737	12.400	6.500	3.800	6.200	1.400	46.000	117.1
1738	15.600	7.100	3.400	4.500	800	58.900	178.0
1739	2.200	3.200	1.200		1.500	40.300	90.2
1740	6.200	4.500	1.500	500	1.800	28.300	33.6

Source: AMP.

Although volumes declined afterward, trade remained high with 40.300 scythes in 1739 (+90 %) and 28.300 in 1740 (+34 %), indicating that Krochmann (& Co.) experienced a delayed but substantial expansion culminating in the late 1730s. The analysis on the trade of the company underpins the argument of Seibold of economic success by individual merchants in a time of rather general decline in Nürnberg and other imperial cities in the south of the Holy Roman Empire.

9.2.4 Emanuel Sandreither

On Emanuel Sandreither we have some, yet quite incomplete information. He was presumably the son of the Swiss merchant with the same name, Emanuel Sandreither, who settled in the 1670s in Nürnberg, where he married Magdalena Pfaff in 1667.¹⁹⁹ Like his father, Sandreither traded extensively with ironware from the Styrian Duchy, including scythes and sickles. We know that Sandreither was actively participating in the loan and credit business. This is evidenced by two legal acts in which Sandreither is listed as a creditor.²⁰⁰ In general, Sandreither traded mainly with ironware, scythes, straw knives, sickles, but also to a lesser extent with fruits, as demonstrated in table 15.

Table 15: Sandreither's Product Mix 1706–1738.

Goods Category	Amount of Cargos 1706–1738 (AMP)	Proportion in % of the Total Amount of Cargos >1
Ironware	104	34
Scythes	75	25
Straw knives	36	12
Knives	31	10
Sickles	22	7
Ironware, Knives	9	3
Plums	7	2

Source: AMP.

The scythe trade of Sandreither shows an early phase of very strong activity followed by a long and irregular decline. In the initial years (1706–1711), volumes stood well above the annual average, beginning with 29.050 scythes in 1706 (+100 %) and reaching 33.800 in 1709 (+133 %), the highest result of the early period. Although trade decreased afterward, 20.200 scythes in 1710 and 20.400 in 1711 still remained around +40 % above the average. A phase of contraction became visible after 1713 with 15.400 scythes (+6 %), followed by further declines to 9.400 in 1716 (-35 %), 12.800 in 1717 (-12 %), and 10.550 in 1718 (-27 %).

¹⁹⁹ NEIDINGER, Nürnberg, 247.

²⁰⁰ Reichskammergericht 12, 7–8, 28–30.

Table 16: Monthly Scythe Trade of Emanuel Sandreither 1706–1738.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
1706	2.500		6.100	1.500	1.300	800	2.300
1709				9.300		800	2.400
1710			2.500	1.600	800		400
1711			7.200	400	400		
1713			3.200	1.100	900		500
1716			2.700	700			
1717			1.900			400	1.200
1718			1.700	800	600	400	400
1719			1.600	1.100			
1721			1.000				
1724			2.000	1.500	1.000	1.500	600
1725			500		600		
1727			1.000	450			
1728			1.000				
1729			2.400				
1730			1.400	500			
1731				500			500
1733			2.100				
1734							
1735				800	300		1.700
1736			1.900			500	
1738			900				
	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Deviation from Annual Average in % ($\bar{x}$ = 14.493)
1706	600	1.250	2.700	4.100	5.900	29.050	100.4
1709	1.600	3.800	900	14.500	500	33.800	133.2
1710		800	2.100	6.300	5.700	20.200	39.4
1711		2.900	500	6.500	2.500	20.400	40.8
1713		1.200		3.600	4.900	15.400	6.3
1716	400		500	5.100		9.400	-35.1
1717	900	2.700	1.100	4.600		12.800	-11.7
1718	300	500		5.850		10.550	-27.2
1719	300	500		3.700	45.689	52.889	264.9
1721		500	1.100	1.600	2.000	6.200	-57.2
1724		500	800	2.400		10.300	-28.9
1725		600		1.900	2.100	5.700	-60.7
1727	1.300	600	2.000	2.000	2.200	9.550	-34.1
1728			800	5.900	1.000	8.700	-40.0
1729			1.300	3.800	1.300	8.800	-39.3
1730	1.900	900	2.200	4.400	2.800	14.100	-2.7
1731	800		2.700	5.800	2.600	12.900	-11.0
1733	2.500	1.000	7.600	5.400	2.500	21.100	45.6
1734				1.700		1.700	-88.3
1735	1.200		2.500	3.000	2.000	11.500	-20.6
1736			500			2.900	-80.0
1738						900	-93.8

Source: AMP.

An exceptional spike occurred in 1719, when trade suddenly rose to 52.889 scythes (+265 %), after which the series again declined sharply to 6.200 scythes in 1721 (-57 %). During the mid- and late 1720s volumes fluctuated mostly between 8.000 and 14.000 scythes, with a temporary increase to 21.100 in 1733 (+46 %). In the following years, however, activity collapsed to very low levels, including 1.700 scythes in 1734, 2.900 in 1736, and only 900 in 1738 (-94 %), suggesting that Sandreither's scythe trade on the Danube had ceased by the late 1730s in the registers.

9.3 The Frankfurt am Main Merchant: Johann Heinrich Frohn

The city Frankfurt am Main was in the 17th and 18th centuries in religious terms an open and tolerant place.²⁰¹ Especially Jews had an exceptional position, which was due to the fact of Frankfurt being the clearing-market for numerous European currencies and thus important for the financial sector – a field to which many Jewish people devoted their professional lives. Although the local producing industry and the trade on the city's fair was continuously expanding, it was the financial market that grew important in the 18th century and laid the groundwork for the extensive financial activities for which the city would get known in the 19th century.²⁰² Particularly, Jews were the main providers for credits at the time of the patriciate and the merchant community of the city, which is why their financial business was protected.²⁰³

Regarding the city's demography, the comparatively rapid recovery of Frankfurt am Main after the Thirty-Years-War is interpreted as a consequence of the abolition of the edict of Nantes in 1685, which led to massive religious migration of French Huguenots.²⁰⁴ The city at the river Main developed after 1685 into a hub and safe haven for those migrants.²⁰⁵ Numerous merchants and craftsmen were among them, many of the Huguenots eventually settled permanently in the city. Thus, the city's commercial position grew steadily at the time, as it did demographically. While in 1650, the city counted roughly 17.000 inhabitants, this figure would rise to 28.000 in 1700.²⁰⁶ After the wars between the Holy Roman Empire and France, especially the

²⁰¹ For more insights into the political structure of the city in the 17th and 18th centuries, see *DUCHHARDT*, Frankfurt, 263–69.

²⁰² *HOLTFRERICH*, Frankfurt, 93.

²⁰³ Famous Jewish institutions were, for example, the house of Rothschild, or the house of Oppenheimer, see *ibid.*, 269–72. For a general overview on the history of the Jewish community and its commercial standing in Frankfurt am Main, see *SOLIDAY*, Community, 175–97. On the so-called *Hofjuden* (Court Jews), financiers of the nobility and the imperial court, see *GRAETZ*, Court Jews, but also *RAUSCHER*, Oppenheimer.

²⁰⁴ In general, the city was traditionally an immigration-friendly city, with for example 70 % of all inhabitants of the city in 1650 being immigrants. *HOLTFRERICH*, Frankfurt, 85.

²⁰⁵ *DUCHHARDT*, Frankfurt, 261–63.

²⁰⁶ *KNITTLER*, Stadt, 264. Although those figures seem to appear small in scale when comparing to the increases of the 19th century, "(...) their rapidity and sharpness represented major shocks to the social stability

Nine-Years-War (1688–1697), other, mostly wealthy merchants and craftsmen came from the war-torn lands of the Palatinate as well as from Strasbourg, the capital of Alsace, which had become French. They also settled in Frankfurt am Main and contributed to the upswing of their new hometown. Moreover, an increasing number of Swiss and Italian merchants settled in the city with the outgoing 17th century, consolidating the international network of its market.²⁰⁷ Yet, also Frankfurt am Main was facing the impediment of the trade embargoes of the Holy Roman Empire against France.²⁰⁸ The city's commercial activities were dependent on imports, the wars against France thus had negative repercussions not only on the financial, but also on the trading sector.²⁰⁹

Regarding the embeddedness of Frankfurt am Main and its fair, we are – due to an exceptional archival discovery – rather well informed.²¹⁰ Based on this information, we know that Frankfurt merchants were trading with Austria above and below the river Enns via various routes that eventually led to the main trading hubs alongside the Danube, namely, Donauwörth, Ulm, and Regensburg.²¹¹ However, scythes were particularly traded via Regensburg and Nürnberg.²¹²

Johann Heinrich Frohn (1667–1728) is the only Frankfurt merchant in the Aschach Toll Registers with significant trading volumes. He moved in 1695 from Kreuznach to Frankfurt am Main, where he married Martha Elisabetha Schmid from Worms in 1698.²¹³ With Martha Elisabetha, Frohn had two daughters, Catharina Elisabetha (*1703) and Maria Margaretha (*1704), and a son, Johann Heinrich Frohn the younger (1699–1772).²¹⁴ When Johann Heinrich Frohn the elder died in 1728, his children inherited a fortune of more than 85.000 fl. The daughter Maria Margaretha of Frohn the elder married Johann David Vienne, another merchant in the field of ironware trade and who was based as well in the same street in Frankfurt, namely the Schnurgasse.²¹⁵ In the same year, Johann Heinrich Frohn the younger became the new

of an early modern community.” *SOLIDAY*, Community, 33. A general description of the demographic changes in Frankfurt am Main can be found in *ibid.*, 33–40.

²⁰⁷ *DIETZ*, *Frankfurter Handelsgeschichte* 4/1, 129–30.

²⁰⁸ For an overview on the impact of the trade embargo policies of that time on the city, see *ibid.*, 136–51.

²⁰⁹ Interestingly, it was less the prohibition of importing French goods than the credits given to the imperial troops that were causing economic struggles in the city. However, also the embargo on French goods had negative effects on the trading hub in the city. *HOLTFREICH*, Frankfurt, 94–95.

²¹⁰ A clerk of the Hanau government recorded the routes to the Frankfurt trade fair for its delegates to the Upper Rhine District Council as an annex to their information documents, see *LERNER*, *Haupt Handelswege*, 177.

²¹¹ The map in detail can be found in *ibid.*, 179.

²¹² *FISCHER*, *Blaue Sensen*, 168.

²¹³ *BASSERMANN*, *Familie Frohn*, 23.

²¹⁴ *Ibid.*

²¹⁵ *DIETZ*, *Frankfurter Handelsgeschichte* 4/1, 265–66

permanent factor of the *Innerberger Hauptgewerkschaft*, after the De Neufvilles – a Huguenot family from Frankfurt with a branch in Nürnberg – had been in charge of it for 45 years. We do not know much about the trading connections of Johann Heinrich Frohn, yet most likely he sold the scythes to the Low Countries, as shown later, and to Geneva, the transit hub to the French sale markets.²¹⁶

Figure 13: Coat of Arms and Seal of the Frohn Family.



Source: *BASSERMANN*, Familie Frohn, 84.

Johann Heinrich Frohn the younger married Maria Magdalena Balde (1701–1760), with whom he had no children. Maria Magdalena came from an Amsterdam-based family, with which Frohn had close business ties, as a written mandate from the 12th of January 1750 demonstrates. The mandate of Frans Willem Balde – either father or brother of Maria Magdalena – appointed Frohn as his legal representative in Frankfurt am Main. It authorized Frohn to act in Balde’s name and on his behalf. In particular, Frohn was empowered to collect outstanding debts owed either to Balde personally or to his commercial partnership, regardless of whether such claims

²¹⁶ “In particular, the Frankfurt merchant Frohn emphasises in a letter dated 1744 that he sourced scythes and sickles from Styria via Hall, Bregenz and Schaffhausen, in order to send them on to Geneva”. (“Insbesondere betont der Frankfurter Kaufmann Frohn in einem Briefe aus dem Jahre 1744: er beziehe Sensen und Sicheln aus Steiermark über Hall, Bregenz und Schaffhausen, um sie nach Genf weiter zu senden.”) *BIDERMANN*, Verkehrsbeziehungen, 22.

were evidenced by correspondence, handwritten instruments, or other forms of documentation. Furthermore, he was granted the authority to receive payments, issue valid receipts, and undertake all the necessary steps of debt collection and demand. Within the scope of this mandate, Frohn was entitled to act with the same legal effect as if Balde himself was personally present.²¹⁷ Yet, this mandate was only effective for a short period. In April of the same year 1750, Johann Heinrich Frohn got seriously ill and needed comprehensive medical care. He withdrew from active life and he and his trading business were legally taken care of by his brother-in-law Johann David Vienne.²¹⁸ With him, Frohn had close personal and commercial ties.

Johann David Vienne, the name suggesting being a Huguenot, took over the ironware trade business of his father David Vienne in 1714. In addition to his business contacts in Austria above and below the river Enns, as well as the Duchy of Styria, Johann David Vienne also maintained ties further west and into the Atlantic trading world, for example with the London-based merchant Johann Michael Fourni, the Liège-based merchant Jacques Louis Bansonet, and the merchant Johann Peter Martfort from Strasbourg.²¹⁹ As described above, he was married to Maria Margaretha Frohn (†1761).²²⁰ The couple remained childless, yet Vienne left a grand fortune after his death in 1757.²²¹ Franz von den Velden and his cousin Philipp Reinhold Cotrell from Hanau took over the ironware trade, ran it successfully for 25 years under the name “Von den Velden & Cotrell” at Kruggasse 8 in Frankfurt, and sold it in March 1783 to a Johann David Frohn from Mannheim and his brother-in-law Peter Reinhard Cramer, which evidences once more the close ties between the Frohn and Vienne families over decades.²²²

²¹⁷ Mandate of Frans Willem Balde to Johann Heinrich Frohn, 12th of January 1750, StadsAA, NA, AN 5075, IN 10251, AN 355825.

²¹⁸ “[...] Herrn David Vienne, daß sein Schwager der Handelsmann Herr Johann Heinrich Frohn ohne Zweifel ein kranker Mann sey [...]“. Medical records of Johann Heinrich Frohn, handed over by Notary Söllner on behalf of the merchant Vienne, 13th of April 1750, UBA Ffm, NA 31, No. 278. Unfortunately, the sources do not specify the illness sufficiently. Most likely, it was a mental illness, since in his medical records, several times his medical status is described with “Gemüths-Beschaffenheit”, whereas “Gemüt” is a German word for all of a person’s mental and emotional circumstances.

²¹⁹ Probate Records of Johann David Vienne (1757–1761), ISG FFM, Best. H.07.14 (Schatzungsamt, Ugb-Akten), Nr. 825, fol. 13r.

²²⁰ The close ties between Johann David Vienne and Johann Heinrich Frohn are furthermore observable in the inheritance documentation that unfolded after the Death of Vienne: in his testament, Vienne mentions Frohn at the very beginning and calls him a beloved brother, who shall inherit 6.000 Reichstaler of his fortune Ibid., fol. 1r.

²²¹ DIETZ, *Frankfurter Handelsgeschichte* 4/1, 266–67. Interestingly in this regard is the high share of fortune which his wife, Maria Magdalena, contributed to the estate: while the whole fortune of the couple amounted 97.454 Reichstaler, the private fortune of Johann David Vienne comprised 16.320 Reichstaler. The private fortune of Maria Magdalena, on the other hand, comprised 22.745 Reichstaler, see Probate Records of Johann David Vienne (1757–1761), ISG FFM, Best. H.07.14 (Schatzungsamt, Ugb-Akten), Nr. 825, fol. 55v–56r.

²²² DIETZ, *Frankfurter Handelsgeschichte* 4/1, 266–67.

In 1752, eventually, the trading house of Frohn was taken over by his brother-in-law Johann Preye and successfully continued. In 1767 Johann Heinrich Frohn's trading house is mentioned in the Viennese mercantile registers regarding business affairs with the merchant Wolfgang Riesch, demonstrating the far-flung Central European trading network of Frohn, which was reaching from Amsterdam to Vienna.²²³ He still lived for another twenty-two years, outliving his wife for twelve years. With his death, Johann Heinrich Frohn left a fortune of at least 200.000 fl. Since the couple had no children, the mentioned brother-in-law, Johann Preye, and his nephew in Mannheim, Johann Jakob Frohn, inherited the fortune after his death.²²⁴ Interestingly, he left another 1.000 fl. to the Rottenmann scythe smith' guild in Styria, with the dedication that the interest on this sum should be used to support servants who were unable to work or were ill, which indicates the special position that scythe production had for the Frohns and their trade.²²⁵

Table 17: Frohn's Product Mix 1717–1740.

Goods Category	Amount of Cargos	Proportion of Total Cargo in %
Undefined Ironware (mainly <i>Geschmeide</i>)	123	51
Scythes	104	43
Straw knives	7	3
Sickles	5	2
Knives	3	1

Source: AMP.

The trade of Frohn, who dealt almost exclusively in ironware and scythes on the Danube, as depicted in table 17, shows a development from very weak beginnings to a strong expansion in the late 1730s. In the initial phase (1717–1721), trading activity remained far below the long-term average, with 10.000 scythes in 1717 (-70 %), 10.300 in 1718, 10.000 in 1719, and only 4.900 in 1721 (-85 %). A gradual increase began in the mid-1720s, with 19.200 scythes in 1724 (-42 %) and 32.300 in 1725 (-3 %), followed by fluctuating but improving volumes such as 26.300 in 1727, 16.300 in 1728, and 22.200 in 1729.

²²³ WStLA, Bestand 2.3.2, Merkantil- und Wechselgericht, 1725–1850–(1863), fol. 716r. For more information on the history of this register, see *RINTELEN*, Untersuchungen, 167–310; *ID.*, Merkantilprotokoll; *RAUSCHER*, Wiener Merkantilprotokoll.

²²⁴ *DIETZ*, Frankfurter Handelsgeschichte 4/1, 265–66; *BASSERMANN*, Familie Frohn, 24.

²²⁵ *TREMEL*, Steirische Sensen, 49. That the scythe trade was an important pillar of the trade of the Frohns also manifests itself in the regularity of the scythe supply for them through the purchase system. As Friess and Grossmann were able to demonstrate, Frohn the younger ordered every year in average 4.000 scythes from a single scythe smith in Styria, while this was only one of several, were the Frohns purchased scythes, see *FRIESS* and *GROSSMANN*, Sensenhammer, 137. However, it should be noted here that the scythes purchased in the Styrian Duchy were not transported across the Danube, but were transported by land. Those Styrian scythes thus do not appear in the Aschach Toll Registers.

Table 18: Monthly Scythe Trade of Johann Heinrich Frohn 1717–1740.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
1717							
1718			2.800	500	1.000		
1719			3.200				
1721			1.800				600
1724	1.500		400	4.800	800		900
1725			7.700	3.000	700	400	1.000
1727		1.300	3.400	2.100			
1728			3.100			1.000	1.200
1729			2.800				
1730			2.300	1.400	600		
1731				4.500		1.300	2.350
1733			2.800		500	800	1.600
1734			900	3.600	1.600		1.900
1735					4.300		5.800
1736			1.400		1.000	1.000	
1737			8.000	800		1.700	1.800
1738			10.000	700	800	9.000	
1739			7.000	600		2.000	7.200
1740				2.000			2.800
	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Deviation from An- nual Aver- age in % ($\bar{x} = 33.392$)
1717		4.000		6.000		10.000	-70.1
1718	1.000	800		4.200		10.300	-69.2
1719		1.800		5.000		10.000	-70.1
1721			2.000		500	4.900	-85.3
1724	300	1.600	2.100	5.500	1.300	19.200	-42.5
1725	2.200	1.000	5.200	7.400	3.700	32.300	-3.3
1727	2.800	700	2.500	8.200	5.300	26.300	-21.2
1728	2.600	3.600	2.100	600	2.100	16.300	-51.2
1729		5.000	3.400	6.800	4.200	22.200	-33.5
1730		4.400	5.900	7.600	3.400	25.600	-23.3
1731	3.400	6.000	2.200	5.600	3.900	29.250	-12.4
1733	3.700	5.400	1.600	8.500	2.000	26.900	-19.4
1734	3.300	5.700	2.500	7.800		27.300	-18.2
1735	1.000	7.000	3.300	11.500	2.800	35.700	6.9
1736	15.600	8.600	1.200	12.900	2.000	43.700	30.9
1737	11.600	12.600	4.600	31.800	17.400	90.300	170.4
1738	13.100	12.800	18.800	17.200	8.200	90.600	171.3
1739	1.400	6.800	22.200		19.200	66.400	98.8
1740	800	5.200	10.600	16.800	9.000	47.200	41.4

Source: AMP.

By the early 1730s trade approached the average, for example with 29.250 scythes in 1731, while the following years remained relatively stable at moderately lower levels, including 26.900 in 1733 and 27.300 in 1734. A clear expansion began in 1735 with 35.700 scythes (+7 %), followed by rapid growth to 43.700 in 1736 (+31 %). This boom culminated in 1737 and 1738, when shipments reached 90.300 and 90.600 scythes, more than 170 % above the annual average and the highest volumes in the dataset. Although trade declined afterward, it remained strong with 66.400 scythes in 1739 (+99 %) and 47.200 in 1740 (+41 %), indicating a major late expansion of Frohn's trade in the Aschach registers. Frohn's late entry into the market and continuous expansion underpins the fact that the commerce of Frankfurt am Main consolidated in the 18th century and that its merchants expanded their activity on the whole continent, shifting economic centres from the traditional hubs such as Nürnberg or Regensburg towards the city located at the river Main.

9.4 The Regensburg Merchants

Regensburg was particularly prosperous during the European medieval period and, starting with the 14th century, developed into a provincial commerce hub.²²⁶ Throughout the early modern period, it remained an urban node, with roughly 20.000 inhabitants in 1700.²²⁷ Important economic sectors in the 17th and 18th centuries were the one of the iron and ironware trade, the beer-brewing industry, the cloth- and leather making workshops, gold- and silversmiths, as well as the transportation business of local shipmasters.²²⁸ Furthermore, protestant Regensburg was, like Nürnberg, a refuge for religious migrants from Austria above and below the river Enns in the 17th century.²²⁹ One of the factors of the migration from the Austrian archduchies to Regensburg were trade connections existing between the markets of the Upper Danube Region in general.²³⁰ Especially from Linz, Krems, and Steyr, protestants migrated to Regensburg and also Nürnberg at that time, many of them being active in commerce.²³¹ Characteristic for the trade of the city was its transferal function. It served as a port not only for local merchants, but also for those involved in the Austrian trade who did not have access to the Danube river system

²²⁶ For insights into the trading network of the city, see *KELLENBENZ*, Fernhandelsbeziehungen.

²²⁷ *KNITTLER*, Stadt, 264. For general insights into the history of the city until the 18th century, see *REISER*, Regensburg.

²²⁸ *SCHÖNFELD*, Regensburg, 92–101.

²²⁹ *SERLES*, Nürnberger Händler, 123.

²³⁰ *SCHNABEL*, Oberösterreichische Protestanten, 67.

²³¹ But also, from smaller cities such as Freistadt or Griefßkirchen. Interestingly, from 192 protestant families that migrated due to religious reasons from Austria above the river Enns to Regensburg in the 17th century, 51 were merchants. Proportionally, the merchants were the biggest group migrating to Regensburg, see *ibid.*, 123–24.

from their own locations. This was particularly true for the Nürnberg merchants.²³² Whilst the Regensburg merchants were rather successful and crucial long-distance merchants of scythes, there exists only few knowledge about them in primary and secondary sources.

9.4.1 Johann Georg Leypold

On the merchant Johann Georg Leypold, there is, as expected, only very view information available. Georg Heinrich Paritius lists him in his œuvre on the people of Regensburg in 1723 as a member of the merchant community of the city.²³³ The Aschach Toll Registers reveal that Leypold traded almost exclusively with scythes, strawknives, sickles and other ironware on the Danube.

Table 19: Leypold's Product Mix 1706–1740.

Goods Category	Amount of Cargos	Proportion in % of Total Cargo ≥ 1
Ironware	155	50
Scythes	65	21
Strawknives	54	17
Sickles	24	8
Knives	4	1
Lambskins	2	1
Cutlery	2	1

Source: AMP.

The trade of Leypold in the Aschach Toll Registers shows relatively modest but persistent activity characterized by strong fluctuations rather than a clear long-term trend. In the early phase (1706–1713), volumes remained mostly below the annual average, with 4.900 scythes in 1706 (-26 %) and 5.100 in 1709 (-23 %), interrupted only by a temporary rise to 10.450 scythes in 1710 (+58 %). A major expansion occurred in 1716, when shipments reached 20.500 scythes (+210 %), the highest value in the series, though in the following years the numbers quickly declined again to 8.200 in 1717 (+24 %), 4.950 in 1718 (-25 %), and 3.200 in 1719 (-52 %). During the 1720s, activity remained generally modest and fluctuated around the average, for example with 6.600 scythes in 1721, followed by renewed declines in the late 1720s. In 1725, Leypold was with 10.100 pieces (+53 %) the third-largest exporter of scythes on the Danube, surpassed only by Frohn and Krochmann.²³⁴

²³² RAUSCHER, Handel zwischen Bayern und Österreich, 536.

²³³ PARITIUS, Regensburg, 109.

²³⁴ FISCHER, Blaue Sensen, 178.

Table 20: Monthly Scythe Trade of Johann Georg Leypold 1706–1740.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
1706				2.100		400	
1709				2.500			
1710			3.700	450	1.100		
1711			3.500				
1713			3.000	1.000			400
1716			7.200	1.000	1.800	1.500	600
1717			5.100	500		400	300
1718			2.000			500	700
1719			1.200			600	
1721			1.600		600		
1724			1.400	900		400	
1725			5.000		1.500		1.000
1727			1.600	500			
1728			2.750				
1729			3.300	600			
1730			600	1.000			
1731				1.700		500	
1733			1.800				
1734			1.900				300
1735			3.400	400			
1736			3.100	450		500	
1737			3.600				1.400
1738				300	1.700		
1739			5.500	900	300		500
1740				1.600	400		1.600
	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Deviation from Annual Average in % ($\bar{x} = 6.606$)
1706	1.000	800			600	4.900	-25.8
1709		500		2.100		5.100	-22.8
1710	500	1.500		1.500	1.700	10.450	58.2
1711		700		1.100		5.300	-19.8
1713		200				4.600	-30.4
1716	700	500		7.200		20.500	210.3
1717	600			1.300		8.200	24.1
1718	700	800		250		4.950	-25.1
1719		500		900		3.200	-51.6
1721		1.000		1.600	1.800	6.600	-0.1
1724	400	450		1.600	400	5.550	-16.0
1725				1.100	1.500	10.100	52.9
1727				1.500		3.600	-45.5
1728						2.750	-58.4
1729				1.800	600	6.300	-4.6
1730			1.000	600	600	3.800	-42.5
1731			500	500	1.100	4.300	-34.9
1733		500	400	1.000		3.700	-44.0
1734		800		2.000		5.000	-24.3
1735		450	500	1.750	1.100	7.600	15.0
1736		1.100	1.000	1.600		7.750	17.3
1737	1.200			1.300	500	8.000	21.1
1738	800	2.100		1.000		5.900	-10.7
1739		400			1.800	9.400	42.3
1740	1.700			1.400	900	7.600	15.0

Source: AMP.

The early 1730s continued this pattern with low volumes such as 3.800 scythes in 1730 and 4.300 in 1731, while the mid-1730s saw slightly stronger figures, including 7.600 in 1735, 7.750 in 1736, and 8.000 in 1737 (+21 %). Although 1738 again fell below the average, 1739 recorded 9.400 scythes (+42 %), before stabilizing at 7.600 in 1740. In 1750, the trading company of Leypold exported 17.150 scythes. At that time, his son with the same name may already have been the owner of the company.²³⁵ Overall, Leypold's trade was marked by recurring volatility but continuous participation in the Danube scythe trade without a clear long-term rise or decline.

9.4.2 Johann Adam Praunsmändl

The second merchant from Regensburg of significance is certainly a father and son team, both called Johann Adam Praunsmändl. Their activity in the Aschach Toll Registers is recorded between 1706 and 1727. Johann Adam Praunsmändl the elder (†1718) was a rather successful merchant, imperial mercury factor, and judge at the city court of Regensburg. Lamentably more is not known, yet his death is well documented in two sources, of which one is a poem of his tragic death by Conrad Ernst Ruppel, in which he states that Praunsmändl and his son-in-law, Lorenz Kirchhof, were travelling on the 8th of May 1718 back to Regensburg on the Danube, coming directly from the market in Linz.²³⁶ Due to a troublesome passing of a swimming mill between Aschach and Ottensheim, the ship sank with all passengers and Praunsmändl and Kirchhof died through drowning in the water.²³⁷ Since the scythe trade of the Praunsmändl in the Aschach Toll Registers continued after 1718, it must be assumed that either his wife took over the business until their son Johann Adam Praunsmändl the younger (1700–1770) was old enough, or the son stepped in immediately, which is due to his young age not plausible. Praunsmändl married 1731 Klara Maria Koenig, yet the marriage was separated in 1745, probably due to the unsuccessful business of her husband. She migrated with their three children, two daughters and one son, to Nürnberg and later to North America.²³⁸

²³⁵ See *FISCHER*, Blaue Sensen, 179 (Johann Georg Leupoldt v. Regensburg).

²³⁶ *RUPPEL*, Betrübtes Denckmahl; *PRAUNSMÄNDEL*, Kurze Geschichte.

²³⁷ “[...] in ihrer Rueck=Reise von dem Linzer=Marckte auf dem Donau=Strohm / bey einer Schiff=Muehle / zwischen Aschach und Ottensheim / durch den Schwall verungluecket / und nach Gottes unerforschlichem Rath und Willen durch einen zwar ploetzlich= und schmerzlichen / doch seeligen Tod / zu dem Lebens=Strohm in Himmel gefuehret worden [...]“. *RUPPEL*, Betrübtes Denckmahl, fol. 308r.

²³⁸ The story of this migration and the journeys the son Johann Heinrich Praunsmändl was doing after he had to work on a merchant ship is well documented in a reprint of the report the son wrote after his journeys, see *PRAUNSMÄNDEL*, Kurze Geschichte.

Table 21: Praunsmändl's Product Mix 1706–1740.

Goods Category	Amount of Cargos	Proportion in % of Total Cargo >1
Sheet metal	237	12
Sheepskins	137	7
Russian leather	118	6
Fish oil	108	6
Lead	102	5
Polishing material	94	5
Herrings	89	5
Metalware	77	4
Flatfish	59	3
Wax	57	3
Sugar	56	3
Alum	43	2
Scythes	36	2
Tin	36	2
Half-pound hides	33	2
Cheese	32	2

Source: AMP.

Praunsmändl traded with a wide range of goods, including herring, furs, capers, sheet metal, sugar, lead, lard, spices, fruits, honey, paint, and tin, but his scythe trade, which was not a main pillar of his trade (see table 21), shows a pattern of early strength followed by a rapid decline. In the initial phase (1706–1710), volumes stood well above the annual average, with 17.800 scythes in 1706 (+141 %), the highest value in the series, and 13.300 in 1709 (+80 %). Although trade declined to 6.300 scythes in 1710, this still remained close to the mean. A contraction followed in the early 1710s, with 4.000 scythes in 1711 (-46 %), before a brief recovery to 7.300 in 1713 (-1 %). A second expansion occurred in the mid-1710s, reaching 12.100 scythes in 1716 (+64 %) and 11.750 in 1717 (+59 %), while 1718 – the year of death of the older Praunsmändl – still recorded 8.300 scythes (+12 %). From 1719 onward, however, trade declined sharply to 4.100 scythes (-45 %), followed by very low volumes of 1.600 in 1721, 1.200 in 1724, and 1.000 in 1727, each more than -75 % below the average. Overall, the data suggest that Praunsmändl's scythe trade experienced moderate success during the lifetime of the older Praunsmändl but collapsed rapidly in the 1720s during the tenure of his son, disappearing from the Danube trade by 1727.

Table 22: Monthly Scythe Trade of Johann Adam Praunsmändl 1706–1727.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
1706	3.100		2.100	2.300	300	300	2.400
1709				7.900			
1710			3.100	300			
1711			2.000				
1713			2.500	600			500
1716			5.800	1.500	1.000		
1717			4.300	1.500			
1718			6.100	2.100			
1719			2.400	500			
1721			400				
1724			1.200				
1727							1.000
	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Deviation from Annual Average in % ($\bar{x} = 7.396$)
1706	1.600	1.800	800	2.700	400	17.800	140.7
1709	500	1.300		2.900	700	13.300	79.8
1710		400	2.100		400	6.300	-14.8
1711			400	1.600		4.000	-45.9
1713		1.100		1.600	1.000	7.300	-1.3
1716	900	1.900		1.000		12.100	63.6
1717	400	500	750	4.300		11.750	58.9
1718				100		8.300	12.2
1719				1.200		4.100	-44.6
1721			1.200			1.600	-78.4
1724						1.200	-83.8
1727						1.000	-86.5

Source: AMP.

9.4.3 Johann Georg Schmid

On the third significant merchant from Regensburg, Johann Georg Schmid, there is as well only very view information available. As it was the case for Leypold, Georg Heinrich Paritius lists also Schmid in his œuvre on the people of Regensburg in 1723 as a member of the merchant community of the city. However, in comparison, Schmid is explicitly labelled as a merchant trading with ironware.²³⁹ The Aschach Toll Registers reveal that Schmid traded mainly with ironware, scythes, and other metal goods (see table 23).

²³⁹ PARITIUS, Regensburg, 111.

Table 23: Schmid's Product Mix 1706–1740.

Goods Category	Amount of Cargos	Proportion in % of the Total Amount of Cargos >1
Ironware	114	20
Scythes	59	10
Sheet metal	48	9
Straw knives	46	8
Knives	28	5
Shovels	27	5
Iron wire	22	4
Nails	18	3
Wine (<i>Oberländer</i>)	14	2
Pan ladles	12	2
Ladles	9	2
Lock plate	9	2

Source: AMP.

Schmid's scythe trade was modest but consistent, averaging around 3.200 scythes per year. Early on (1706–1713), the figures remained well below this average – starting at just 600 in 1706 and decreasing to 450 by 1713 – though there was a brief increase to 1.600–2.600 scythes between 1709 and 1711. The mid-1710s saw a short expansion: 1716 rose sharply to 4.550, 1717 returned to the average, and 1718 remained strong at 4.050. During the 1720s, output generally convened near the annual average, with occasional peaks such as 3.850 in 1721 and 4.800 in 1724, balanced by weaker years like 3.000 in 1725 and 2.200 in 1727, before returning close to trend at 3.300 in 1728. The early 1730s brought a brief but notable increase: 6.150 in 1730 (the peak), 4.750 in 1731, and 5.550 in 1733, showing that the operation could, for a time, scale to roughly one-and-a-half to twice its usual output. After this, trade volumes eased: 1.900 in 1735, a slight recovery to 4.350 in 1736, followed by weak years in 1737 and 1738 and a subdued finish in 1739 and 1740 at 2.950 and 2.300, respectively. Overall, the trade demonstrates cyclical patterns rather than sustained growth: annual output ranged from a low of 450 to a high of 6.150, but most years clustered around 3.200 scythes.

Table 24: Monthly Scythe Trade of Johann Georg Schmid 1706–1740.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
1706				600			
1709				1.100		500	
1710			2.000			400	
1711			2.600				
1713			100	350			
1716			900	800			750
1717			2.100			400	
1718			1.100	800	650		
1719			1.000	200			
1721			2.200			300	350
1724			900	1.500	1.400	600	
1725			700	1.000		500	
1727			600	700		500	
1728			1.100	1.500			
1729			1.200	500	1.400		
1730			2.400	300	900	1.000	
1731				2.300		450	250
1733			1.500	1.250	400	1.000	300
1734			400		2.050		300
1735				700	300		300
1736			350	450	1.400	1.000	
1737			700	1.500			600
1738			400	400	500	400	
1739			1.500		700		250
1740				1.200	600		300
	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Deviation from Annual Average in % ($\bar{x} = 3.208$)
1706						600	-81.3
1709						1.600	-50.1
1710						2.400	-25.2
1711						2.600	-19.0
1713						450	-86.0
1716		400		1.700		4.550	41.8
1717		400	300			3.200	-0.2
1718		600		900		4.050	26.2
1719				1.400		2.600	-19.0
1721					1.000	3.850	20.0
1724					400	4.800	49.6
1725				500	300	3.000	-6.5
1727		400				2.200	-31.4
1728			300	400		3.300	2.9
1729			300	700		4.100	27.8
1730	400		550		600	6.150	91.7
1731		800		450	500	4.750	48.1
1733		300		800		5.550	73.0
1734	300	500	100			3.650	13.8
1735			600			1.900	-40.8
1736	500	500	150			4.350	35.6
1737						2.800	-12.7
1738	300	500				2.500	-22.1
1739	300	200				2.950	-8.0
1740	200					2.300	-28.3

Source: AMP.

9.5 The Swiss Merchants

As a transit hub and neutral ground in times of conflict and war, the Swiss cantons and cities were crucial for the long-distance trade in the early modern period.²⁴⁰ Especially the city of Basel, a religiously reformed city at that time, was key to the trade with scythes since it was the gateway to the Kingdom of France. Basel merchants had close ties with both cultural spheres and spoke in many cases both languages, German and French. Although the main business for the Basel merchants was the trade with Parisian goods, which mainly were silk scarves, fabrics in general, hats, and many other goods of the fashion sector, scythes were also traded through the city towards France. In the early 18th century, the Swiss scythe trade coming from Austria above and below the river Enns was mostly organized by a rather small group of merchants and companies that operated in the fields of mining and ironware production, but also in exchange markets for bills.²⁴¹ Two of the most important ironware merchant families from Basel – the Zaeslin and the Faesch – also purchased scythes in Austria above and below the river Enns and had them transported on the Danube; their names can be found regularly in the Aschach Toll Registers. While those two iron merchant dynasties were from individual strands, they soon united their activities and business through marriage and companies. Albeit being not under the top ten scythe merchants that were identified by this thesis, their trade and history give important insights into the scythe trade between Austria above and below the river Enns and the Swiss territories, which is why they will be investigated here. Furthermore, the merchant Johann Konrad Rauschenbach from Schaffhausen regularly purchased significant amounts scythes in Austria above and below the river Enns and let them transport via the Danube.

9.5.1 Johann Konrad Rauschenbach

While Johann Konrad Rauschenbach was active between 1716 and 1731 in the Aschach Toll Registers, the only source concerning information on him is a family book preserved in the city archive of Schaffhausen. Yet, several Johann Konrad Rauschenbachs can be found in it, which is why a clear identification is impossible. A coat of arms is provided as well in the book, replicated in figure 14.²⁴² The Aschach registers reveal that Rauschenbach exclusively traded with scythes, ironware and straw knives on the Danube, as demonstrated in table 25. In 1725, Rauschenbach was the ninth-largest trader of scythes on this route.²⁴³

²⁴⁰ RÖTHLIN, Basler Handelspolitik, 27–28.

²⁴¹ Ibid., 31–32.

²⁴² Rauschenbach Family Book, StadtAS, B III.10.60.02.08/04, “Rauschenbach”, 1838–1872, pag. 1.

²⁴³ FISCHER, Blaue Sensen, 178.

Table 25: Rauschenbach's Product Mix 1716–1731.

Goods Category	Amount of Cargos	Proportion of Total Cargo in %
Scythes	23	82
Ironware	4	14
Straw knives	1	4

Source: AMP.

Regarding Rauschenbach's trade, we can observe that in the initial phase (1716–1719), trade volumes generally remained above the annual average, indicating a relatively strong commercial position. The first recorded year, 1716, registers 16.000 scythes, corresponding to +43 % above the mean. Although 1717 shows a temporary decline to 9.300 scythes (-17 % below the average), trade recovered quickly in the following years. 1718 recorded 14.000 scythes (+25 %), and 1719 reached 15.600 scythes (+40 % above the annual average). In 1721, annual trading volumes amounted to 16.600 scythes, corresponding to +49 % above the average and representing one of the strongest years in the series. A similarly high level was maintained in 1724, which also recorded 16.600 scythes. In 1725, trade volumes approached the annual average with 11.600 scythes. However, the following years reveal a phase of contraction.

Figure 14: Coat of Arms of the Family Rauschenbach.



Source: Rauschenbach Family Book, StadtAS, B III.10.60.02.08/04, "Rauschenbach", 1838–1872, pag. 1.

In 1727, trading volume fell to 8.200 scythes, corresponding to -27 % below the average, while 1728 recorded an exceptionally low level of only 800 scythes, representing -93 % below the average and marking the most significant downturn in the entire series. A partial recovery occurred in 1729, when trading volume increased again to 12.600 scythes, corresponding to +13 % above the average. However, in 1730 and 1731, totals fell again to 6.500 and 6.200 scythes respectively, both more than -40 % below the average.

Table 26: Monthly Scythe Trade of Konrad Rauschenbach 1716–1731.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
1716							
1717							1.200
1718			600				1.200
1719							
1721							
1724				600		600	600
1725			1.600			800	1.400
1727							
1728							
1729							
1730							
1731							
	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Deviation from Annual Average in % ($\bar{x}$ = 11.167)
1716	2.400	600	1.600	11.400		16.000	43.3
1717	600	700	600	6.200		9.300	-16.7
1718	2.000	2.400		7.800		14.000	25.4
1719		8.400	600	5.800	800	15.600	39.7
1721			10.600	3.200	2.800	16.600	48.7
1724	600	3.600	6.000		4.600	16.600	48.7
1725		1.600	2.400	3.800		11.600	3.9
1727			1.800	5.600	800	8.200	-26.6
1728				800		800	-92.8
1729		3.200	4.600	4.800		12.600	12.8
1730		1.400		4.500	600	6.500	-41.8
1731		400	1.000	4.800		6.200	-44.5

Source: AMP.

9.5.2 Zaeslin & Faesch

The company Zaeslin & Faesch consisted of two influential merchant families, which united their business during the 18th century. The family dynasty Faesch was rather well known and numerous regarding their members being active in trade. On two members of the family, who were active at the time under review, we have some information, yet it is impossible to say, who of them was active in the scythe trade. The first, Johann Faesch (1711–1777), son of the merchant Johann Ludwig Faesch and Maria Zaeslin, received early linguistic and commercial training that prepared him for a career in international trade.²⁴⁴ The second, Johann Heinrich Faesch (1691–1770), the son of Emanuel Faesch and Susanna Mitz, pursued philosophical studies after completing the Gymnasium in 1706. He married Ursula Spoerlin, daughter of Sebastian Spoerlin and another Susanna Mitz.²⁴⁵ His career in civic administration and commerce included service as *Sechser* of the *Gartnern* guild in 1733, director of the merchant community in 1738, and, in the same year, town clerk of Liestal in the subject territory of the city of Basel.

The second family was the one of the Zaeslin.²⁴⁶ Johann Heinrich Zaeslin (1640–1701) founded ironworks in Niederschönthal near Liestal, which his son Johann Heinrich Zaeslin expanded.²⁴⁷ The enterprise remained in the family's possession until 1800, when it had to file for bankruptcy because the liabilities of the 85 creditors exceeded the company's total assets by more than a third.²⁴⁸ Yet, the Zaeslin were not only active in ironware production, but financial business was another important pillar of their success during the 18th century. For another Johann Heinrich Zaeslin (1697–1752) from the same family branch, for example, who had a 12.500 pound stake in the ironworks in Wehr and Niederschönthal, the iron trade was only a sideline.²⁴⁹ Johann Heinrich, son of the merchant Jakob Zaeslin and Katharina Faesch, received his early linguistic training in Neuchâtel, where he learned French, followed by a commercial apprenticeship. He undertook numerous journeys, particularly to Paris, where he established valuable connections that also benefited the city-state of Basel. Zaeslin spent several years in Paris as a

²⁴⁴ After studying French in Neuchâtel in 1725, he completed a commercial apprenticeship in Basel the following year. In 1730 he undertook a business journey through Lorraine, and in 1731 he continued his training in the Netherlands at a prominent trading house. A further study trip brought him to England in 1733, from where he returned to Basel via Calais, Flanders, Paris, Lyon, and Geneva. In 1734 he married Valeria Leissler, daughter of Achilles Leissler and Gertrud Ortmann. Professionally active as a merchant and ribbon manufacturer, he rose within Basel's civic and guild structures, serving as *Sechser* of the *Gartnern* guild, later as councillor (1750), envoy across the mountains (1751), envoy to the *Tagsatzung* (1753 and 1756), *Dreizehner* (1757–1776), and ultimately as *Oberster Zunftmeister* (1762–1776). RÖTHLIN, Basler Handelspolitik, 346.

²⁴⁵ Ibid.

²⁴⁶ Regarding the history of writing the name of Zaeslein / Zaeslin, see ZAESLEIN, Schreibweise.

²⁴⁷ MEIER, Basler Eisenhändler, 43–44.

²⁴⁸ Ibid., 46.

²⁴⁹ RÖTHLIN, Basler Handelspolitik, 32.

merchant and banker before returning to Basel. He pursued a successful career as a merchant and banker and served as director of the merchant community from 1729 to 1751. Among the wealthiest Basler citizens of his time, he owned the mansion estate Wenkenhof in Riehen and left a fortune of 153.750 pounds, including the mentioned substantial investment of 12.500 pounds in the ironworks of Wehr and Niederschönthal.²⁵⁰

Figure 15: Painting of Johann Heinrich Zaeslin (1697–1752) by Rigaud.



Source: Wikimedia.

²⁵⁰ RÖTHLIN, *Basler Handelspolitik*, 394; MEIER, *Basler Eisenhändler*, 47.

Besides the connections of the two families through marriage, latter two also established a company, called “Zaeslin & Faesch”, which was very active in purchasing scythes in Austria above and below the river Enns and therefore can be found in the Aschach Toll Registers.

The company, in addition to administering the municipal salt commission of Basel, operated a substantial trade in iron and copper. They also owned ironworks in Liestal, located about three hours from Basel, whose products they distributed both to the surrounding areas and, in particular, to Alsace and Lorraine. Their economic activities were further complemented by a significant exchange of bills and financial business.²⁵¹ In general, the Zaeslin & Faesch can be seen as a connecting spot between the Holy Roman Empire and France. In particular, during the export prohibitions of 1690–1693 against France, the company managed the supply of copper and iron from the Styrian Duchy and Hungary to France. As the Emperor in Vienna was keen to ensure that his mines flourished economically, despite facing strong competition from Sweden (iron ore) and Japan (copper), he tacitly tolerated these illegal transfers.²⁵²

Table 27: Zaeslin & Faesch's Product Mix 1716–1740.

Goods Category	Amount of Cargos	Proportion of Total Cargo in %
Scythes	40	51
Ironware	35	44
Sickles	2	3
Straw knives	2	3

Source: AMP.

Examining the trade of Zaeslin & Faesch, the Aschach Toll Registers reveal that they almost exclusively traded with scythes and ironware in general on the Danube (see table 27). Furthermore, it can be observed that in the initial years (1716–1721), trade activity was modest. The first recorded year, 1716, shows only 850 scythes, corresponding to -79 % below the average, indicating that commercial operations were minimal at this stage. A temporary increase occurred in 1717, when shipments reached 4.150 scythes, slightly exceeding the long-term mean (+2 %). In 1718 the total declined again to 2.900 scythes (-29 %), and the subsequent years 1719 and 1721 recorded even lower levels of 1.600 and 1.500 scythes respectively. The mid-1720s continued to display generally weak activity.

²⁵¹ “Zäslin und Fäsch, Kauff- und Handels-Leute, haben, ausser der Commission des Stadt-Saltzes, einen starcken Eisen- und Kupffer Handel, auch eine zu Liechsthal, 3. Stunden von Basel, gelegene Eisen-Schmiede, woraus sie viele Waare, sowol in der Nähe, als auch besonders nach Elsaß und Lothringen, verschliessen, nebst einem ziemlichen Wechsel-Negotio.“ *HEINSIUS*, *Jetztlebende Kauffmannschafft*, 160.

²⁵² *BOG*, *Reichsmerkantilismus*, 138–39.

Table 28: Monthly Scythe Trade of Zaeslin & Faesch 1716–1740.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
1716							
1717			1.800				
1718			1.600	400	500		400
1719							
1721							
1724			800				
1725							
1727			500				
1728							
1729			500				
1731							
1733							
1734							
1735							
1736							
1737							
1738							
1739						3.200	4.100
1740					3.400		6.400
	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Deviation from Annual Average in % ($\bar{x}$ = 4.060)
1716				850		850	-79.1
1717		700	550	1.100		4.150	2.2
1718						2.900	-28.6
1719				1.200	400	1.600	-60.6
1721				1.500		1.500	-63.1
1724				400		1.200	-70.4
1725		2.300		400		2.700	-33.5
1727						500	-87.7
1728				1.200		1.200	-70.4
1729				2.200	800	3.500	-13.8
1731			350			350	-91.4
1733	500	1.700				2.200	-45.8
1734		3.200	2.400	2.300		7.900	94.6
1735				300		300	-92.6
1736			400			400	-90.1
1737				400		400	-90.1
1738	1.800	2.600	1.600	900		6.900	70.0
1739	700	2.100	2.400		2.700	15.200	274.4
1740	3.800	3.200	3.800	1.300	1.500	23.400	476.4

Source: AMP.

Years such as 1724 (1.200 scythes) and 1725 (2.700 scythes) remained significantly below the average, while 1727 recorded only 500 scythes, representing -88 % below the mean. Similar patterns persisted in 1728 and 1729, although the latter year showed a modest improvement with 3.500 scythes. Overall, the data suggest that throughout the 1720s the company maintained only limited and irregular commercial activities regarding the scythe trade. The year 1731 registered merely 350 scythes, corresponding to -91 % below the mean, while 1733 reached 2.200 scythes, still far below the average. A notable exception occurred in 1734, when shipments rose sharply to 7.900 scythes, representing +95 % above the annual average. 1735, 1736, and 1737 again recorded extremely low totals of only a few hundred units. In 1738, however, trading volumes increased to 6.900 scythes, corresponding to +70 % above the average, marking the beginning of a phase of rapid expansion. This growth intensified dramatically in the following years. In 1739, annual trade reached 15.200 scythes, representing +274 % above the mean, while 1740 recorded an extraordinary 23.400 scythes, corresponding to +476 % above the average. In 1750, the company Heinrich Zaeslin sel. Witwe was the fourth-largest exporter of scythes (22.100 pieces), surpassed only by the Frankfurt companies of Frohn and Bansa & Son as well as by the domestic merchant Simon Redtenbacher.²⁵³

9.6 *The Austrian Exception: The Two Simon Redtenbacher (Rettenbacher) and Maria Magdalena Medlhammerin*

Despite the fact that the long-distance scythe trade was conducted almost entirely by merchants from the commercial hubs of Frankfurt am Main, Nürnberg, or Regensburg, there was one company originating from Kirchdorf in Austria above the river Enns that demonstrated notable success in the competition: the enterprise of the two Simon Redtenbachers. The Redtenbacher family has been involved in the scythe industry of the Kirchdorf-Micheldorf guild for multiple generations. As early as 1607, a scythe servant and direct ancestor of Simon Redtenbacher, named Peter Redtenbacher, can be found in the sources. The family is depicted in Franz Schröckenfux's work on the scythe industry of Austria above and below the river Enns.²⁵⁴ As stated, there existed two individuals with the name of Simon Redtenbacher. Firstly, a Simon Redtenbacher from Kirchdorf in Austria above the river Enns (1665–1715) and secondly, one from St. Peter ob Judenburg (†1754) in Styria.²⁵⁵ Since Redtenbacher from Kirchdorf had no children, he gave his business to his nephew, having the same name as him. Eventually, Simon

²⁵³ FISCHER, *Blaue Sensen*, 179.

²⁵⁴ SCHRÖCKENFUX, *Sensenwerke*, 99–100.

²⁵⁵ When Redtenbacher died, he was labelled as “Handelsherr”, i. e. a merchant, see Pfarre Kirchdorf an der Krems, Sterbebuch 02 (I), 1713–1773, Sign. 301/02, fol. 178v.

Redtenbacher relocated from St. Peter to Kirchdorf in 1715 in order to continue the inherited business. He married Maria Magdalena Medlhammerin (*1691), daughter of councillor and innkeeper (*Gastwirt*) Gregor Medlhammer and his wife Ursula, in 1716. The couple had ten children together.²⁵⁶

After the death of Simon Redtenbacher the younger in 1754, his wife Maria Magdalena rode, accompanied by her sons, each year from Kirchdorf to the Leipzig fair, and the company “Simon Redtenbacher sel. Witwe & Söhne” (“Widow of the late Simon Redtenbacher & Sons”) remained one of the leading enterprises in the scythe trade well into modern times, trading with the Holy Roman Empire and its successor states, France, Switzerland and beyond.²⁵⁷ Maria Magdalena and her sons remained successful in the trade with scythes, as an order by the *Eisenobmann* from 1761 demonstrates, in which she and her sons were obliged to apply for licences for their grand scale long-distance trade.²⁵⁸ This long standing success was without doubt connected to the fact that the important sales market for scythes in Wrocław experienced a decline in the 18th century and was gradually replaced by Leipzig as a main hub for the northern trade flows. Simon Redtenbacher and later his wife Maria Magdalena understood this shift very early and changed their trading direction increasingly from Wrocław toward Leipzig.²⁵⁹ The family business would later turn into the most important scythe producer and exporter of Austria above and below the river Enns in the 19th century.²⁶⁰

Table 29: Redtenbacher's Product Mix 1706–1740.

Goods Category	Amount of Cargos	Proportion in % of Total Cargo >1
Scythes	98	38
Straw knives	63	24
Ironware	58	22
Sickles	11	4
Gunpowder	9	3

Source: AMP.

²⁵⁶ Pfarre Kirchdorf an der Krems, Trauungsbuch 08 (1716–1734), Sign. 201/08, fol. 4v.

²⁵⁷ ZEITLINGER, Sensen, 56; see also Correspondence on the Redtenbach Trade (1675), OÖLA, KA 9, ZA 6, Kiste 10, fol. 38r, demonstrating the early network of the Redtenbach trade.

²⁵⁸ SCHRÖCKENFUX, Sensenwerke, 98.

²⁵⁹ ZEITLINGER, Sensen, 56.

²⁶⁰ Interesting in this regard is the story of Simon Redtenbacher (1844–1885) who was a grandnephew of the older Simon Redtenbacher. Not with surprise, he was an Austrian merchant specializing in the trade of scythes. Following the death of his mother, Therese Redtenbacher (1823–1883), he inherited the company “Simon Redtenbacher seel. Witwe & Söhne”, which at the time constituted the largest scythe trading company in Austria. The company held exclusive export rights for the scythe manufactories of the Kirchdorf–Micheldorf guild. In 1875, Redtenbacher acquired the scythe works at Niederwörth in Scharnstein, also known as Am Moos, and expanded the site into a large-scale industrial operation. Under his direction, the company developed extensive commercial networks that extended as far as the Americas and Inner Asia, underscoring its integration into global trade circuits of the late nineteenth century. JUST, Redtenbacher.

The trade of the Redtenbachers, who dealt almost exclusively in scythes, straw knives, sickles and other ironware (see table 29), shows a development from very low initial activity to a later phase of stable expansion. In the early years (1706–1713), volumes remained far below the annual average, with only 1.000 scythes in 1706 (-91 %) and 1.700 in 1709 (-84 %), while 4.700 in 1710 and 5.000 in 1711 still remained more than 50 % below the average. A gradual increase followed with 5.900 scythes in 1713 (-45 %) and around 6.000–7.000 scythes between 1716 and 1719. A clearer expansion began in the early 1720s, when shipments reached 10.400 scythes in 1721, close to the annual average, and remained similar in 1724 (9.800) and 1725 (9.450).²⁶¹ From the late 1720s onward trade expanded further, rising to 12.200 scythes in 1727 (+15 %) and 17.500 in 1728 (+65 %), while 1729 and 1730 maintained high levels around 15.000 scythes. During the 1730s activity remained consistently strong, with figures such as 14.100 in 1734, 15.150 in 1735, 16.900 in 1737, and 18.400 in 1739 (+73 %), the highest value in the series. Although volumes declined slightly to 13.100 scythes in 1740, this still remained +23 % above the average. In 1750, the Redtenbacher company was the second largest exporter of scythes on the Danube (26.100 pieces).²⁶² The trade of the Redtenbachers demonstrates that the scythe exports were not only ran by merchants from the main trading hubs in Nürnberg, Regensburg, Frankfurt am Main and Switzerland, but also by individuals with origin in the production areas of Austria above and below the river Enns and the Styrian Duchy.

²⁶¹ Fischer wrote down 10.000 scythes for 1725, while the exact number for that year is 9.450 scythes. FISCHER, *Blaue Sensen*, 178.

²⁶² *Ibid.*, 179.

Table 30: Monthly Scythe Trade of Simon Redtenbacher & Maria Magdalena Medlhammerin 1706–1740.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
1706				1.000			
1709				1.700			
1710			500	4.200			
1711			3.200	1.800			
1713			3.500	1.800			
1716			1.200	4.800			250
1717			4.100	500			
1718			2.150	1.900	100		700
1719			3.800	1.200			
1721			7.000				500
1724			5.600	1.600			
1725			2.200	1.000	50		400
1727	1.200	200	3.900	900			
1728			3.100	3.000		1.700	1.600
1729			3.200	3.100		700	500
1730				6.000		800	
1731				2.600		400	800
1733			3.200	1.500	500	300	
1734			4.900	1.200	600		1.000
1735		1.400	3.800	450			1.500
1736			4.900	1.000	700		
1737			2.500	1.200		900	700
1738			1.500	2.100	500	1.700	
1739			5.000			1.900	1.600
1740				3.600			500
	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Deviation from Annual Average in % ($\bar{x} = 10.644$)
1706						1.000	-90.6
1709						1.700	-84.0
1710						4.700	-55.8
1711						5.000	-53.0
1713		600				5.900	-44.6
1716		200		600		7.050	-33.8
1717	300	700		600		6.200	-41.8
1718		800		600		6.250	-41.3
1719	800	500				6.300	-40.8
1721	1.200		900	400	400	10.400	-2.3
1724				700	1.900	9.800	-7.9
1725	1.300	1.300		1.200	2.000	9.450	-11.2
1727	900		1.400	2.000	1.700	12.200	14.6
1728	2.100	1.200	2.200	800	1.800	17.500	64.4
1729	1.000	1.200	150	800	4.500	15.150	42.3
1730	1.500	1.700		2.400	2.700	15.100	41.9
1731	2.300	1.800	1.400		1.150	10.450	-1.8
1733	900	2.800		3.000		12.200	14.6
1734	500	1.800	1.300	2.800		14.100	32.5
1735	800	2.700		3.900	600	15.150	42.3
1736	4.300	1.900	1.000		1.900	15.700	47.5
1737	2.100	3.800	2.100	2.300	1.300	16.900	58.8
1738	5.400	1.700	1.500	2.000		16.400	54.1
1739		3.400	1.800		4.700	18.400	72.9
1740	400	1.400	1.900	4.200	1.100	13.100	23.1

Source: AMP.

10 Conclusion

For much of the early modern period, scythes and other iron goods were among the most significant products manufactured in Austria for the export market. Having conducted statistical investigations on the available data – retrieved from the Aschach Toll Registers – on the transport of scythes on the Danube as one of the main trade routes in the first half of the 18th century, and further on the prosopographic aspects of the merchants involved in that trade, the following conclusions can be drawn: The scythe trade during the time under review was expanding continuously, showing a stable upward-trend. It was mainly organized by scythe masters and servants as the local providers at the one hand, and long-distance merchants on the other hand. Transportation was organized almost exclusively by shipmasters from Austria above the river Enns, rejecting the common argument that this transportation business was monopolized by Upper German shipmasters. While scythe trade was regularly restricted through weather and war, it never experienced an implosion. Instead, downturns in trade were followed by rapid recoveries. The scythe trade was dominated by a rather small group of grand-scale merchants who came from Frankfurt am Main, Nürnberg, Regensburg, Lyon, Basel and Schaffhausen, for whom the scythes were one of the main pillars of their trading activity. The fact that the vast majority of scythes went to those international trading metropolises shows that they most likely, and as partly evidenced by the merchants' networks reconstituted in this research, went onwards to other trading hubs like Amsterdam, London, Hamburg, and via Switzerland to France. Further research on the final destination of scythes from Austria above and below the river Enns remains a desideratum.

Regarding the annual trading cycle, the findings of this thesis recalibrate the hypothesis of Franz Fischer that the scythe trade was uniform throughout the year and that scythe transportation happened on a few, unspecified days during the year. Rather, the annual transport cycle convened around a U-shape: Scythes were transported up the Danube mainly around Laetare in March and St Catharina in November. This was presumably due to the fact that masters and merchants met at the annual fairs in Linz to agree on the number of scythes. The masters then produced in the aftermath of the fairs, bringing the agreed amount of scythes in March and November to the ports in Linz, Aschach and Steyr, where they were shipped upstream. Another explanation would lie in seasonal changes of weather, with the Danube being blocked for transportation in winter through ice and low water in summer.

The closer investigation of the scythe merchants at that time brought the following results: The merchants were based in protestant cities with international market connections. Between those

cities and its merchants, Nürnberg and Regensburg lost with the years their dominance since Frankfurt am Main forced them steadily out of the market. The merchants were highly mobile, several merchant community members conducted far flung journeys for business contacts or education. Moreover, they often settled in different cities than their origin if it was necessary or profitable for business. Most of the merchants were socially and politically highly connected within beyond their regions and many of them held important political positions in their hometowns. Regarding their business strategies, they united themselves often in companies, but operated as well at their own risk. They continuously consolidated their business and connections through marriages and inheritance contracts. They were furthermore well educated in the fields of languages, management and legal strategies. They knew how to apply their knowhow in cases of exchange markets, companies, giving credits, or regulating an inheritance. While being well established with business contacts in the supply markets in Austria above and below the river Enns, almost all merchants had close commercial ties with the main metropolises of international trade of the early modern period. Many of them experienced a social rise throughout their years, of which the scythe trade was certainly a financial backbone. However, not only German and Swiss merchants were active in the market, the case of the Redtenbachers demonstrates that additionally, a domestic company was able to successfully partake in the trade.

11 Abbreviations

AB	Archiv der Bürgergemeinde
AMP	Aschacher Mautprotokolle (Aschach Toll Registers)
AN	Archiefnummer
AVA	Allgemeines Verwaltungsarchiv
fl.	Gulden (1 fl. = 8 shillings = 240 pfennigs)
HA	Herrschaftsarchiv
HHStA	Haus-, Hof- und Staatsarchiv
Hs.	Handschrift(en)
IN	Inventarnummer
ISG FFM	Institut für Stadtgeschichte Frankfurt
KA	Körperschaftsarchive
NA	Notariële Archieven
ÖStA	Österreichisches Staatsarchiv
OÖLA	Oberösterreichisches Landesarchiv
Or.	Original
RAA	Reichsadelsakten
SB	Sonderbestände
Sign.	Signatur
StadsAA	Stadsarchief Amsterdam
StadtAN	Stadtarchiv Nürnberg
StadtAR	Stadtarchiv Regensburg
StadtAS	Stadtarchiv Schaffhausen
StK	Staatskanzlei
UBA Ffm	Goethe-Universität Frankfurt am Main, Archivzentrum
WStLA	Wiener Stadt- und Landesarchiv
ZA	Zunftsarchivalien

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15 Abstracts

15.1 Abstract in German

Beginnend mit dem 15. Jahrhundert etablierte sich die Region um den Steirischen Erzberg als ein Zentrum der Sensenproduktion. Gleichzeitig integrierte sie sich in den überregionalen Großhandel: Sensen wurden in viele Gebiete Europas und darüber hinaus vertrieben. Dennoch gibt es bisher kaum eingehende Untersuchung zu diesem Handel und seinen Akteuren, insbesondere für das 18. Jahrhundert. Diese Arbeit versucht daher, zu einem tieferen Verständnis dessen beizutragen, indem sie seine Organisation, Akteure, Konjunkturen und rechtliche Rahmenbedingungen untersucht. Als Hauptquelle des Handels dienen die Mautprotokolle (Mautrechnungen) von Aschach an der Donau zwischen 1706 und 1740. Die Anwendung statistischer und prosopografischer Methoden auf die digitalisierten Daten aus den Protokollen brachten folgende Ergebnisse: der Sensenhandel expandierte kontinuierlich zwischen 1706 und 1740. Zudem wird das etablierte Argument des durchgehend gleichmäßigen Sensenhandels und dem unklaren Sensentransportzyklus auf der Donau rekalibriert. Es zeigt sich, dass Sensen hauptsächlich im März und November auf der Donau transportiert wurden, wobei die Linzer Märkte eine entscheidende Rolle spielten, indem mit hoher Wahrscheinlichkeit auf ihnen die Kaufverträge zwischen Händler:innen und Meistern geschlossen wurden. Darüber hinaus zeigt die prosopografische Untersuchung der Sensenhändler:innen, dass diese meist wichtige Positionen in der städtischen Verwaltung innehatten, wirtschaftlich äußerst erfolgreich waren und ein weitverzweigtes, grenz- und kulturübergreifendes Handelsnetzwerk besaßen. Während die Nürnberger Kaufleute den Handel zu Beginn des 18. Jahrhunderts dominierten, drangen während der ersten Hälfte des Jahrhunderts zunehmend Frankfurter Kaufleute in den Markt ein.

15.2 Abstract in English

With the 15th century, the region surrounding the Styrian Erzberg became a centre of scythe production, which soon was integrated into the long-distance trade, reaching sale markets on the European continent and beyond. However, the investigation of this long-distance trade of scythes from Austria above and below the river Enns remains in its infancy, particularly with regard to the 18th century. This research contributes to a deeper understanding of this trade, investigating its organization, actors, economic situations, and legal frameworks. Through examining toll registers from the Danubian market town Aschach in Austria above the river Enns between 1706 and 1740, this study uses statistical and prosopographic methods to unravel the knowledge contained in the extracted and digitized data of the registers. The results of the research are that the scythe trade continuously expanded between 1706 and 1740. It recalibrates the common argument that the scythe trade took place uniformly throughout the year and that scythes were transported on a few, unspecified days on the Danube. It rather happened based on a U-shaped cycle: scythes were particularly transported in March and in November, with the markets in Linz playing a decisive role in this process, as it is highly likely that the sales contracts between merchants and masters were concluded there. Moreover, the prosopography of the long-distance scythe merchants demonstrates important structures: the scythe trade west- and northwards was primarily organized by highly influential and economically successful long-distance merchants maintaining a far-flung network beyond cultural and national borders. Whilst Nürnberg merchants dominated trade at the beginning of the 18th century, they were increasingly forced out of the market by Frankfurt merchants during the first half of the century.