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*Social class mobility in the early modern Europe:
a first international comparison*

1. Introduction

It is now commonly accepted that in terms of geographical mobility, non-industrialized parts of Europe were by no means immobile (e.g. Page Moch 2003) With regard to social mobility we know that these societies were not static either. We can find qualitative evidence of stellar upward mobility of some individuals. But we do not know much more. In large measure this is so because the civil register data, used to study occupational class mobility, date from the early nineteenth century onwards. Yet there are reasons and possibilities to study social mobility in pre-industrial Europe.

As to the reasons, to begin, there is a historical interest of knowing how much social mobility there was in the pre-industrial era, and of knowing if industrialisation was indeed a watershed leading to more open societies, as is often claimed. Second, there is a theoretical reason to see if in the absence of the main presumed determinants of social mobility, which are connected to industrialisation, there are still substantial changes and variations in social mobility, hinting at the operation of other determinants.

As to the possibilities, first, there exists a limited number of comparable datasets covering the eighteenth century onwards. And second, industrialisation is a process that started at different times across the European continent, with some countries only industrializing in the second half of the nineteenth century, leaving us with datasets for the early part of that century, that is still in a premodern state.

The questions we begin in this paper to seek to answer are:

- How did intergenerational social class mobility change over time?
- Are there variations in intergenerational social class mobility between countries and regions?

The focus will be on observed rates of mobility (total mobility), that is the share of persons that change classes, in this case between the generations, and not on unequal chances of mobility (relative mobility) as expressed in for example odds ratios or Altham statistics.

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2. Theories on social class mobility

We first discuss two main theories on social mobility, namely modernisation theory and status maintenance theory. Next, we describe the potential disrupting force of wars and revolutions. Then we give an overview of other possible determinants of social mobility, pertinent to early modern societies (for a recent overview of theories, see van Leeuwen and Maas 2010; Maas and Van Leeuwen 2023; 2024). We conclude with a short review of empirical tests for the theories.

2.1 Modernisation theory and status maintenance theory

Was there any noticeable social mobility prior to the Industrial Revolution? According to modernization theorists, after the onset of the Industrial Revolution, the emergence of new employment opportunities independent of parental connections, the spread of novel ideas facilitated by mass communication and transportation, and the anonymity of urban life compared to rural communities all contributed to the erosion of traditional bonds between children and their parents. As a consequence, children would more often obtain a different occupation, sometimes even in another occupational class, than that of their parents. Goode wrote

With industrialization, the traditional family systems are breaking down (...) Elders no longer control the major new economic or political opportunities, so that family authority slips from the hands of such family leaders. The young groom can obtain his bride on his own, and need not obey anyone outside their family unit, since only the performance on the job is relevant for their advancement. They need not rely on family elders for job instruction, since schools, the factory, or the plantation or mine will teach them the new skills (...) . Nor do they even need to continue working on the land, still in the possession of the elders, since the jobs and the political opportunity are in the city. Thus, industrialization is likely to undermine gradually the traditional systems of family control and exchange (Goode 1964, 108-09).

According to modernization theory, there are four broad groups of drivers of increased mobility (Treiman 1970; Knigge et al 2014). (1) Industrialisation – or broader, occupational change - led to new occupations that could not be learned or inherited from the parents but required schooling. (2) Educational expansion also for lower classes not only enabled people to take up jobs they could not learn from their parents, but it also led to differences in cultural capital becoming smaller, and it opened new occupational windows as employers selected employees more than before based on credentials rather than the social class of parents. (3) The growth of a common culture made that more people than before had access to all kinds of news, and specifically to information on job openings. (4) Urbanisation implied anonymization, meaning that an employer could not use social background as a criterion in the hiring process. The result, in the words of Landes (1969, 546), was: «A competitive industrial system ... will increase social mobility, raising the gifted, and lucky, and

lowering the inept, lazy, and ill-fortuned. This is the kind of thing one sees in eighteenth or nineteenth century Germany ... or in nineteenth and twentieth century Japan ... or in France ... or in the India of today».

Modernization theory has not been uncontested, with some scholars arguing that notwithstanding the processes of occupational change and educational expansion, societies have not become as open, in terms of social class mobility, as the theory implies. Social maintenance theory (Collins 1979; Bourdieu and Passeron 1978) agrees on the opening of societies due to these factors but posits that certain groups matched this increasing competition by new, protective mechanisms. When certain resources – such as the possession of land or secondary education – became less efficient in providing high class positions to children, elite parents would be the first to gain access to new resources (e.g. a diploma of higher education) that favored the status of their children.

A few take aways are of importance here. The first is, that both modernization and status maintenance theory predict more social class mobility due to educational expansion, but the latter states that this is being counterbalanced for elites. This leads to opposite expectations for social class mobility: an increase tout court, versus stagnation due to continuing elite social reproduction. The second is that both theories are understood to mean that before the age of industrialization, social class mobility was stagnant. The third take away, however, is that the theories give reasons why this might not invariably have been the case. In the early modern era, there were cities (with more anonymization than in the countryside), there were schools, not just for elites, and there were periods not only of occupational change but also of other ‘disruptive’ changes, such as wars and revolutions, leading to the opening of elite positions for those not born into the elite.

2.2 Wars and revolutions

Sorokin, an early theorist on intergenerational social mobility, explored patterns, processes, and determinants of mobility in his seminal works (Sorokin 1959 [1929 1st edition) and idem 1942). Sorokin’s studies were influenced by events such as the French and Russian revolutions. He observed that vertical mobility in France showed fluctuations with periods of intensification, notably during the French Revolution and the Napoleonic Empire, when significant social upheavals occurred. Wars, often coinciding with revolutions, played a key role in driving vertical mobility, creating vacancies and opportunities for advancement. However, Sorokin also noted a corrective movement following periods of turbulence. Wars and revolutions, particularly when occurring simultaneously, led to temporary increases in absolute mobility, but eventually, corrective measures were implemented to restore stability.

The empirical record on the effects of wars in the pre-industrial period has mainly focussed on internal mobility within the army (Van Leeuwen and Lesger 2005 and esp. 2010; Alfani 2023; 2024, this volume). In general, the military may have played a role in shaping social mobility, with higher ranks often reserved for the nobility, particularly the *grandees* (Van Gelder 2004; Bruijn 2008). Lower-ranking officers could advance based on merit and years of service, while ordinary soldiers, typically

from lower social classes, faced stigma but could still rise through the ranks with skill and endurance. During war this was more likely to happen because more vacancies opened up. Cases of spectacular rise exist and some claim for example that the French conscription system notably facilitated social mobility (Welten 2007), whereas others are more sceptical. Alfani states that

in the army men rising from the ranks were rare ... by contrast, the Church was more generous in offering to lowborn individuals the opportunity to climb high (2024, this volume).

2.3 Other possible determinants

Apart from the effects of wars, there may have been other factors shaping the extent of social mobility across pre-industrial areas and eras. Examples of upward mobility include the creation of new social positions in Europe's colonial empires – much as it did later, see Van Leeuwen and Maas 2022 –, the abolition of slavery in Mediterranean countries post-1700, expanding career opportunities within the Catholic Church due to new religious orders like the Jesuits, colonization movements such as the German Mennonites on the river Wolga, and the end of serfdom in East and Central Europe, freeing former serfs. Historians have also studied downward social mobility at the group level, such as the establishment of serfdom east of the Elbe River, known as *zweite Leibeigenschaft* from the sixteenth century onward. Other examples include the loss of power and privilege among the nobility after the French Revolution, and the relative decline in social status of the peerage in modern economies like the Dutch Republic and England compared to the urban bourgeoisie (see for more details on these examples and the references Van Leeuwen and Lesger 2005 and esp. 2010).

A major factor shaping mobility rates in Europe were economic developments and regional differences – often linked to urbanization, resulting in variation in the occupational structure (Davids and Lucassen 1995). Early modern Europe saw higher mobility rates in regions with a 'modern' economy, characterized by a lower percentage of the labour force in agriculture. In the 16th century, around 80% of the labour force in Europe was in farming, declining to over 50% by the mid-19th century, though much higher in central and eastern Europe. A banana-shaped urban belt emerged across Northern Italy, Southern Germany, the Low Countries, and Southeast England, dominating trade and manufacturing during the early modern period. Outside this belt, urbanization was mainly limited to regional hinterlands of capital cities and certain coastal and inland regions. The urbanized areas offered better upward mobility opportunities compared to more peripheral parts of Europe, but also increased chances of downward mobility, as observed with immigrants in Amsterdam (Kuijpers 2005).

The emergence of craft guilds, partly spurred by urbanization, initially fostered social mobility by providing formal career paths from apprentice to journeyman and eventually master. However, regional variations existed, such as in the coastal areas of the Netherlands where guild requirements were less stringent compared to

Germany, and the tradition of *Wanderjahre* was absent (Lourens and Lucassen 2000). Over time, the position of master within guilds became increasingly restricted to the children and relatives of masters, limiting social mobility. Many apprentices and journeymen were left with the prospect of remaining wage earners for their entire working lives. The dissolution of the guild system in the 18th and 19th centuries reversed this trend, removing barriers to entry for newcomers and ending preferential treatment for insiders' sons.

Population growth significantly impacted social mobility, particularly in early modern Europe, where technological advancements were slow. As population growth outpaced available resources, diminishing returns in agriculture and increased population pressure in rural areas became evident. In regions favouring the inheritance of undivided farms to a single child, many individuals were compelled to seek livelihoods beyond agriculture (Kok 2010). Some migrated to urban centres, hubs of industry and services, while others supplemented their incomes through protoindustry, fishing, navvying, and the shipping industry, which employed many rural residents. Overall, the declining proportion of farmers in the labour force likely contributed to increased total mobility rates. The expansion of protoindustry and services in rural areas created new opportunities previously unavailable. For instance, in seafaring regions like North-Holland, a career path from sailor to merchant via steersman and shipmaster was not uncommon.

From the mid-17th century, naval professionalization occurred in seafaring nations like England and the Netherlands, establishing formal career paths for officers. Prior to this, officers, though often from higher social circles, had more open-ended careers, allowing even common sailors to attain top positions. In civilian life, large merchant companies mirrored the military hierarchy. Initially, founders of companies like the English East India Company and the Dutch VOC held top positions, but control eventually shifted to the urban patriciate. However, opportunities for advancement existed in VOC Asian offices due to high turnover rates and a shortage of European artisans. Commanders could amass significant wealth, enabling upward mobility for themselves and their descendants through advantageous marriages.

2.4 Large scale historical studies on social class mobility

While various studies attributed explanatory significance to processes of modernization, particularly industrialization and educational expansion, during the nineteenth century, they did not quantitatively measure these phenomena. Rather, they study changes in social mobility over time. Van Leeuwen et al. (2016) conducted a comprehensive study examining mobility in France from 1720 to 1986, employing a consistent methodology across various time periods and geographic locations. They observed a general increase in social mobility over this timeframe, starting from their earliest measurements up to the end of the twentieth century, albeit with intermittent periods of stagnation or occasional decline. Additionally, Maas and van Leeuwen (2016) analysed 600,000 marriage records spanning seven European countries between 1800 and 1914. Their findings indicated a trend towards heightened total mobility during the industrialization period across most of the countries studied,

including France, Great Britain, parts of Germany, Hungary, and the Netherlands. Despite being a late industrializer, Sweden exhibited a relatively high level of social mobility, particularly during the final decades of the nineteenth century.

Two contributions to this special volume on preindustrial Europe use the same social class scheme as we do and thus produce comparable results. The study by Goldberg (2024, this volume) on the city of Leipzig is discussed below when we present the results for our German cases. Brea-Martinez and Pujadas-Mora (2024, this volume, Graph A1) analyse intergenerational mobility in greater Barcelona, 1570-1879. They show that in the first period (1570-1639) just under 60% of the bridegrooms are socially immobile, thus just over 40% are mobile, and this share increases in the proto-industrial period (1750-1829) and grows further in the early industrial period (1830-1879).

3. Datasets on social class mobility in pre-industrial German, French, and Swedish areas

Here we will extend these studies by looking at datasets in French areas, including the ones just discussed, German, and Swedish areas. We will describe total class mobility – the percentage of the population that changes classes between the generations – subdivided into upward and downward mobility and into different forms (e.g. from agrarian to non-agrarian). Since the vital registers we use, are in most areas silent about occupational activities of women, we are left studying only men, that is to look at social class mobility between fathers and sons.

Care has to be taken when describing mobility patterns and comparing them over time and between countries. The geographical areas differ per country and period, and so does the availability of occupational information. Total mobility is influenced directly by the marginal distributions of a mobility table, that is, amongst others by changes in the class distribution. The class distribution of the regions, localities, and individuals that are included in the data very likely deviate from the class distribution of the country as a whole. And although we deleted periods and regions for which the data were obviously incomplete, it is never the case that the complete population is represented in the data because in all datasets there is a sizable number of men for whom information on their occupation is lacking. Thus, we certainly cannot assume that the small selection of localities for which we have data represents the areas they fall under, and also not that as a whole they would represent ‘Europe’. Table 1 presents the datasets.

Generally, we look at church registrations of marriages where the occupation of the bridegroom was listed and that of his father (if alive and present). This leads to father-son combinations of occupations that we will code in a common occupational coding scheme and a common class scheme, discussed later. While we focus on first marriages – to make the mobility processes studied simpler – we cannot in all cases, remove second or higher marriages. Table 1 lists a main publication by the main author associated with the dataset, and, of course, we are most grateful to them that we can analyse these data.

Tab. 1. Characteristics of the datasets

Period	Type of data	Coverage	N original/ N analyses	Reference
German places				
1689-1799	Marriages (church), father's and son's occupation at son's marriage	Parish St. Georgen in Berlin	All marriages 5396	Kapelle et al. (1988); Schultz (1992)
1730-1849	Clan registers, father's and son's occupation with highest status	Complete population of villages and cities: Hamburg, East Frisia, Hartum, Saarfand, Herrenberg	First marriages 3816	Inhof (1998)
1660-1850	Clan registers, father's and son's occupation with highest status	Complete population of villages	First marriages 2241	Knodel (1988)
1730-1850	Marriages (church), father's and son's occupation at own marriage ¹	Krummhörn region in East Frisia	First marriages 3330	Voland (2011)
French places				
1716-1819	Marriages (church/civil), father's and son's occupation at own marriage	40 villages spread over France	All marriages 1,863	Henry & Houdaille (1978)
1740-1792	Marriages (church), father's and son's occupation at son's marriage	Department Pas de Calais	First marriages 59,014 / 7,175	van Leeuwen et al. (2016)
1670-1850	Marriages (church), father's and son's occupation at son's marriage	City Vendome	First marriages 2647	Pélessier, Rébaudo & Brizions (2008)
1803-1850	Marriages (civil), father's and son's occupation at son's marriage	France: Tra-families	First marriages 17,598 / 8,733	Dupaquier (2004); Leroy, Nicolas & Pélessier (1998); Bourdieu, Kesztenbaum, & Postel-Vinay (2014).
Swedish places				
1751-1850	Marriages (church), father's occupation around son's birth, son's occupation around age 30	Sundsvall region	All men ² 11,352 / 3,211	Demographic Data Base, CEDAR, Umeå University
1771-1850	Marriages (church), father's occupation around son's birth, son's occupation around age 30	Västerbotten region	All men ² 10,697 / 6,358	Demographic Data Base, CEDAR, Umeå University
1740-1850	Marriages (church), father's occupation around son's birth, son's occupation around age 30	Linköping region	All men ² 21,007 / 4,264	Demographic Data Base, CEDAR, Umeå university
1770-1850	Marriages (church), father's occupation around son's birth, son's occupation around age 30	Norland	All men ² 3,115 / 1,486	Demographic Data Base, CEDAR, Umeå university

¹ (First) marriages during the period of investigation; ² Men aged 30 during the period of investigation

3.1 German areas

For localities in current Germany, we have some 34 thousand records in the period 1660-1850. After selecting records with information on the occupation of fathers and sons, about 15 thousand records remain. These relate to the following localities. (1) a parish in a suburb of Berlin (Kappelle et al. 1988; Schultz, 1992). (2) the population of the following villages and cities: Hamburg, East Frisia, Hartum, Saarland, and Herrenberg. These well-known Imhof (1988) data in all but one case relates to clan registers of villages and localities (*Dorf- und Ortschaftsbüchern*), these are complete village genealogies based not just on marriage registers but also on registers of baptism and burial. In the case of Hamburg, the data are from genealogies (*Geschlechterbücher*). These are thought to be more selective than the clan registers. For many individuals in this dataset more than one occupation is recorded. The occupations are, however, ordered alphabetically and not dated. We chose the highest occupation, both for fathers and sons. (3) The Knodel (1988) data also relate to village genealogies (*Ortschaftsbücher*) and share the same characteristics as the Imhof data. They relate to a subset of villages from more than 100 villages with a genealogy and were chosen to reflect an interesting variety of social, economic, and demographic settings. (4) The Krummhörn region in East Frisia. In Voland's (2011) study of the Krummhörn region in East Frisia, church marriage registers and registers of proclamation spanning approximately the years 1700 to 1900 were examined. During the early modern period, the Krummhörn region in East Frisia was home to around 15,000 inhabitants.

3.2 French areas

For France we have slightly less than 100 thousand cases covering the period 1670-1850. Of these 20 thousand remain for analyses. We published on these data before (Maas and Van Leeuwen 2010; Van Leeuwen et al. 2016). They come from the following datasets. (1) Henry's 40 villages. The 'Henry dataset', gathered in the 1960s and 1970s by French demographer Louis Henry, has been recently digitized by the INED under Alain Blum and Isabelle Séguy's supervision (Séguy 2001). Henry focused on studying French demographic history and fertility trends. He noted all vital events in a large sample of French communities from 1670 to 1829 (later extended to 1869) and reconstituted populations in 40 villages over the same period. The data, derived from parish registers maintained by Roman Catholic Church clergy, include vital events such as births, marriages, and deaths. (2) The TRA data began with all marriages involving men whose family names started with the letters TRA, occurring in mainland France between 1803 and 1832, along with marriages of their descendants (Bourdieu, Kesztenbaum, and Postel-Vinay 2014; Dupaquier 2004; Dupaquier & Kessler 1992). The nineteenth-century marriage data were obtained by consulting indices of decennial marriage tables and retrieving civil marriage records of TRA respondents.

The two other datasets we utilize enable us to connect the epochs before and after the French Revolution. The French Revolution marked the beginning of civil

registration of marriages, upon which the TRA dataset relies. This event essentially secularized a task that had been traditionally performed by the Roman Catholic Church for centuries, and on which the Henry data are based. (3) The county of Vendôme was granted as a duchy and peerage of France in 1515. Members of the Association de Généalogie Vendômoise have long collected data for the small city of Vendôme, located south of Paris. While the oldest marriage certificate dates to 1668, data for this early period are too limited for analysis. Consequently, we have chosen to focus on the period after 1720. (4) The Association Généalogique du Pas-de-Calais has amassed vital data for the province (department) of Pas-de-Calais, situated in the northern region of France, overlooking the cliffs of Dover and adjoining Belgium. Our analysis focuses on first marriages of grooms from 1740 onwards.

3.3 Swedish areas

Our Swedish dataset comes from the Demographic Database in Umeå, which digitized and linked vital registers in several parts of Sweden (Alm Stenflo 1994; Edvinsson 2000). It encompasses individuals residing in 37 parishes across Sweden, primarily concentrated in four regions: the northern inland area, the Skellefteå region (both non-industrial), the industrialized Sundsvall region, and the southern Linköping region. While these regions do not encompass the entirety of Sweden, they represent a diverse array of communities. This includes individuals from varying occupational backgrounds such as small and large-scale farmers, nomadic reindeer herders, artisans employed in small workshops as well as larger iron foundries, along with industrial workers and industrialists at the forefront of Sweden's rapid industrialization. During this transformative period, Sweden transitioned from a predominantly rural and agrarian society to one where industrial production assumed increasing significance. From a religious and ethnic standpoint, Sweden was largely homogeneous, with most inhabitants being Caucasian and members of the Lutheran state church. While there were some Jewish communities in Sundsvall and Linköping, as well as a Finnish-speaking population in Tornedalen (including Nedertorneå, Karesuando, Jukkasjärvi, and Gällivare), Karesuando and Gällivare also boasted a sizable Sami population. We published before on the Swedish data, but for a later period (Maas and Van Leeuwen 2002).

4. Creating mobility tables

4.1 From occupational titles to HISCO and HISCLASS

For all the areas under study we analyze mobility tables, and to make these we need to place occupational titles into social classes. To do so in a comparable way, occupational titles were first coded into a common historical occupation classification system (HISCO) and then into a classification system based on HISCO for social class: (HISCLASS). Later we will also use the social status scale HISCAM (Lambert et al. 2013; for an overview, see van Leeuwen 2020).

HISCO, the Historical International Standard Classification of Occupations, has been developed to classify occupational titles from historical sources (Van Leeuwen, Maas and Miles 2002; 2004). It is a comprehensive system derived from the International Labour Organization's (ILO) International Standard Classification of Occupations (ISCO) from 1968. With ten major groups subdivided into minor and unit groups, HISCO offers detailed coding, comprising approximately 1,600-unit groups. It is organized in a treelike fashion, with the 'major groups' being characterized by the first digit of the code: 0 and 1 Professional, technical and related workers; 2 Administrative and managerial workers; 3 Clerical and related workers; 4 Sales workers; 5 Service workers; 6 Agricultural workers, fishermen and hunters; 7, 8 and 9 Production workers, transport equipment operators and laborers. For example, codes 6-xx.xx represent the primary sector, with 6-2x.xx focusing on agricultural and animal husbandry workers. Specific categories include field crop and vegetable farm workers (6-22.xx), with subcategories like general field crop farm worker (6-22.10) and wheat farm workers (6-22.30). HISCO also incorporates additional variables (Status, Relation, and Product) to capture social and employment status, and product-related details found in historical records. The Status variable is especially noteworthy, distinguishing ownership types, artisan career stages, educational levels, and indications of social status. Once the data are coded in HISCO, it is relatively simple to recode them into the HISCLASS social class system (Van Leeuwen & Maas 2011). HISCLASS, in its fullest form has 12 social classes based on a combination of whether it is a manual or a non-manual occupation, the skill level, whether the occupation usually involves supervising others or not, and whether it is in the primary sector or not. We use this class scheme here, but due to the small number of cases in some social groups, we use a collapsed version that has 5 social classes: (1) non-manuals, (2) skilled workers, (3) farmers, (4) unskilled workers, (5) farm workers. One issue that needs a further decision when recoding HISCO into HISCLASS is what to do with occupation titles of the type "worker" without any further specification. These workers could either be classified as rural unskilled workers or as urban unskilled urban workers, in other words they need to be allocated to one of two social classes. We use the standard solution in HISCLASS to base the allocation on the share of farmers in the locality: if there are many, we allocate the workers into the social class of rural workers, else we consider them to be unskilled workers outside of agriculture.

4.2 Missing occupational information

Occupational mobility can only be analysed if occupational information exists both for the bridegroom and his father. There are, however, bridegrooms whose father was elsewhere, deceased or, less likely, present at the marriage of his child but without a stated occupation. These cases cannot be used to calculate mobility rates, but we can compare them with the cases with full information, see Table 2. There does not seem to be a systematic bias resulting from removing the bridegrooms whose fathers do not have a stated occupation at the marriage of their child. The only exception are the Swedish regions, where farmers will be overrepresented in our

analysis. This is probably due to the fact that occupations of the parents are not listed on the marriage certificate of the children but require linking several documents. These are more likely to be found in the same area for a stable population such as farmers.

Tab. 2. **Class distribution of sons before and after deleting cases without information on occupational class of father**

German places								
	Germany St. Georgen		Germany Hamburg and villages		Germany villages		Germany East Frisia	
	Before	After	Before	After	Before	After	Before	After
Non-manual	17.5	12.8	29.2	32.2	11.4	8.5	16.9	15.7
Skilled workers	32.4	33.8	18.9	19.7	24.0	26.3	23.0	25.6
Farmers	1.8	2.2	30.3	30.6	31.8	33.8	9.7	8.2
Unskilled workers	42.5	44.3	18.8	15.6	22.3	21.7	49.6	49.8
Farm workers	5.8	6.9	2.8	1.9	10.5	9.7	0.8	0.6
% missing	44.6		53.5		61.1		52.6	
French places								
	France 40 villages		France Pas de Calais		France Vendome		France Tra-families	
	Before	After	Before	After	Before	After	Before	After
Non-manual	10.0	10.4	14.6	16.6	17.5	17.3	9.6	9.6
Skilled workers	9.1	9.4	22.2	25.2	32.1	33.5	18.3	19.6
Farmers	53.7	54.6	12.9	8.1	11.8	11.5	39.0	38.3
Unskilled workers	20.3	19.1	43.3	42.6	31.8	30.8	25.7	25.1
Farm workers	6.9	6.6	7.0	7.5	6.8	6.8	7.4	7.4
% missing	74.9		75.8		61.4		46.2	

Swedish places								
	Sweden Sundsvall		Sweden Västerbotten		Sweden Linköping		Sweden Norrland	
	Before	After	Before	After	Before	After	Before	After
Non- manual	11.3	6.0	6.1	4.2	8.2	7.3	5.9	3.9
Skilled workers	11.3	7.1	1.9	1.5	2.5	2.1	0.8	0.4
Farmers	27.7	37.5	45.4	51.2	10.7	16.1	30.6	39.4
Unskilled workers	11.2	7.9	12.1	11.7	9.9	9.8	6.2	6.1
Farm workers	38.5	41.5	34.4	31.4	68.7	64.7	56.5	50.1
% missing	69.1		36.9		79.1		49.8	

4.3 Creating social class mobility tables

Table 3 present an example of an intergenerational mobility table. The high percentages on the diagonal of the table show that in the German villages, 1660-1850, most men remained in the same class as their fathers. In order to calculate upward and downward mobility rates, the classes need to be ordered from high to low status. We calculated the mean status (HISCAM) of the occupations of all men in each class. For the German villages this was 72.57 for non-manuals, 49.99 for skilled workers, 60.75 for farmers, 45.37 for unskilled workers, and 41.54 for farm workers. Farmers thus on average have higher status than skilled workers, which means that sons of farmers who become skilled workers are downwardly mobile. We did this check for all regions and almost always find higher status of farmers compared to skilled workers. When we reverse farmers and skilled workers in the table, below the diagonal are the cases where the father belonged to a higher social class than his son - the downward mobile cases – and above the diagonal are the upward mobile sons. Based on such tables, we can calculate total, upward and downward mobility.

Tab 3. Example of a mobility table: Germany: villages, 1660-1850 (Knodel data)

		Father's class				
		Nonmanual (%)	Skilled workers (%)	Farmers (%)	Unskilled workers (%)	Farm workers (%)
Son's class	Nonmanual	52.8	7.3	4.2	4.5	6.7
	Skilled workers	16.7	56.5	15.3	18.7	5.9
	Farmers	18.8	16.8	63.0	17.5	14.6
	Unskilled workers	8.3	16.1	14.4	54.1	12.6
	Farm workers	3.5	3.3	3.1	5.3	60.3
	Total	100.0 (144)	100.0 (614)	100.0 (826)	100.0 (418)	100.0 (239)

5. Analyses

5.1. The size of the primary sector

Although all datasets refer to periods before industrialization, the class distribution differs substantially between regions and over time. Graph 1 presents the share of the bridegrooms working in agriculture. Panel 1a shows the German places, ranging from about half of the bridegrooms in agriculture at most to less than a tenth. The low percentage in agriculture for East-Frisia is puzzling. We therefore had a closer look at the occupational distribution. In East-Frisia the unskilled working class was especially large (between 40 and 50%) and consisted almost exclusively of occupational titles for workers without further information (*Arbeiter*, *Heuermann* and *Tagelöhner*). Given the small share of farmers in the region these have been put in the class of unskilled workers as opposed to farm workers. We, however, cannot at present exclude that part of them were actually working as farm laborers. Somewhat unexpectedly, some of the lines rise over time, e.g. for the Knodel villages and for Hamburg and surrounding villages, indicating a growing farm sector.

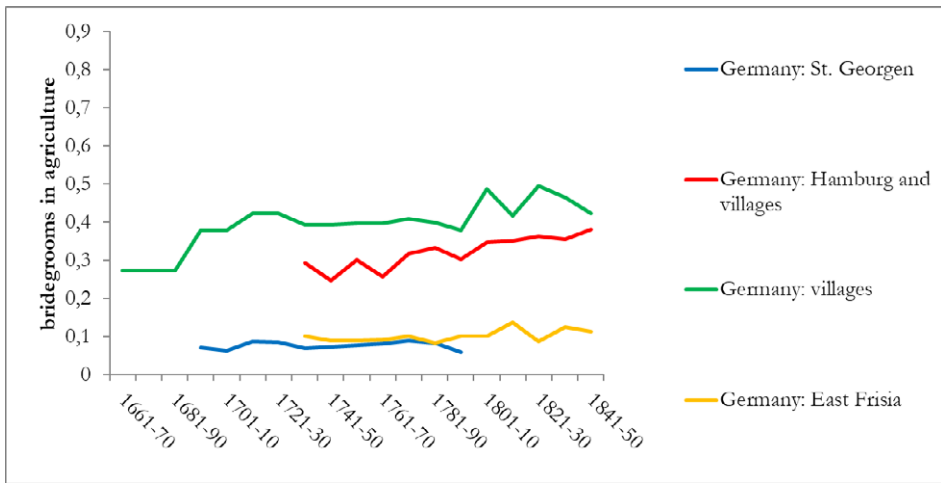
Panel 1b of Graph 1 shows the French places, encompassing the 40 mostly agricultural villages studied by Louis Henry as well as the city of Vendome in which the farming population, as could be expected, was a minority. The nationally representative TRA-sample shows that France in the first half of the nineteenth century, still contained a large agricultural sector, only a little smaller than that of the 40 villages in the brief period where they overlap. In the department Pas de Calais, the agricultural sector was relatively small. Further analyses show that this was not due to misclassifying large numbers of general workers, as these are rare. Panel 1c relates to the Swedish places, ranging from the overwhelmingly agricultural Norrland to the Sundsvall district. Here again the farming population increases in all regions and stagnates towards the middle of the 19th century.

The aim of this study is not to test hypotheses on determinants of mobility rates. However, if the extent of mobility is mainly driven by the size of the farming class,

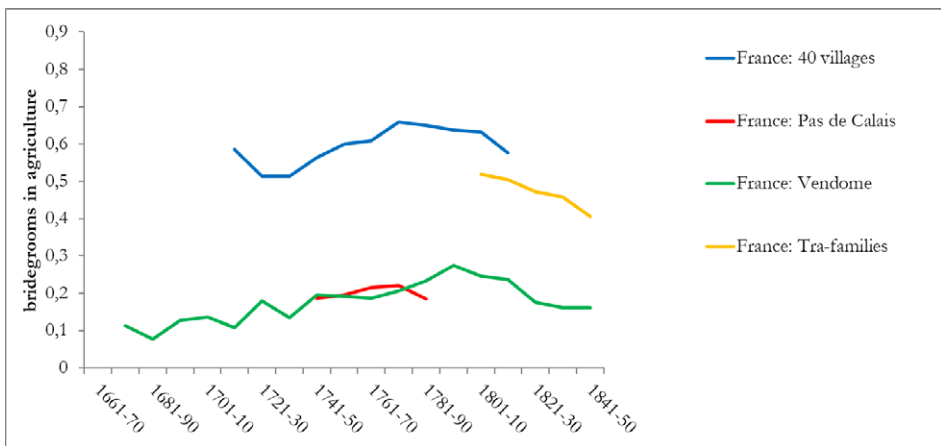
then we would expect least mobility in the Swedish regions, average levels of mobility in the two German sets of villages, the French villages and the whole of France (Tra-data), and most mobility in the Berlin parish of St. Georgen, East Frisia, Pas de Calais and the city Vendome.

Graph 1. Share of the bridegrooms working in agriculture

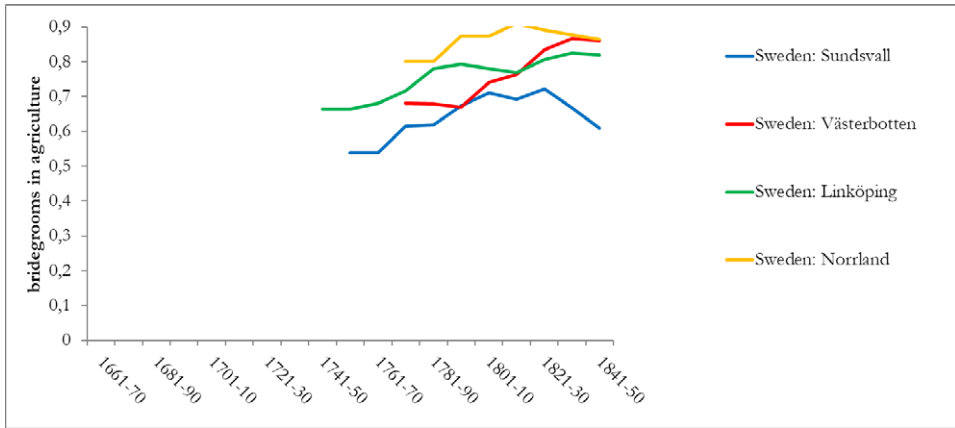
Panel a. German places



Panel b. French places



Panel c. Swedish places



5.2 Intergenerational social class mobility rates

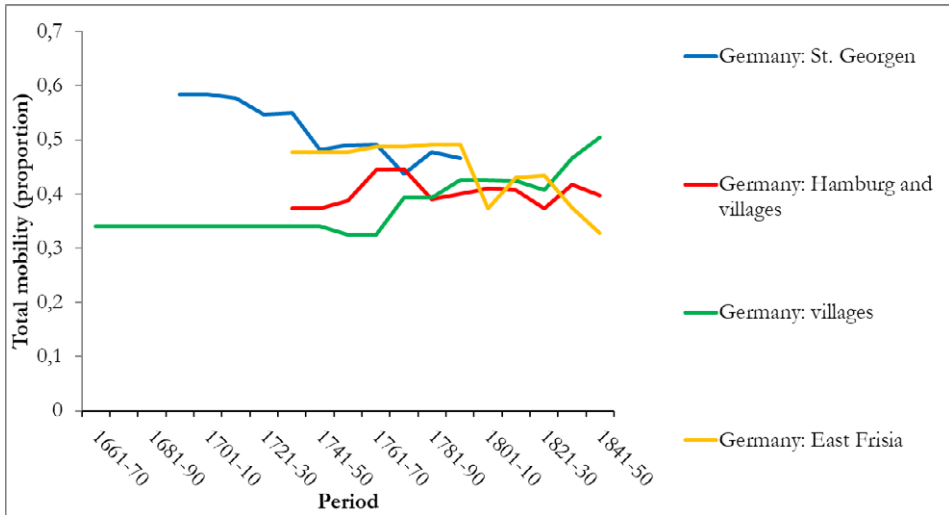
Graph 2 shows total mobility rates for all areas, that is: the percentage of bridegrooms who are in a different social class than their father. Panel a covers the German places. From the graph it can be concluded that Germany was certainly not an immobile society. The rate of intergenerational mobility varies between 60% (parish St. Georgen in the beginning of the 18th century) to 34% (German villages in the same period). Whereas in the beginning of the observed period the regions with many farmers (in the two village-datasets) show less mobility than those with few farmers, this difference disappears towards the end of the 18th century. Goldberg (2024, this volume) reports mobility rates of similar magnitude for the city of Leipzig. But whereas we find a decrease of mobility in the city of Berlin, in Leipzig intergenerational mobility increased from about 40 to 65%.¹ Panel b refers to the French regions. Intergenerational mobility rates do not differ much between the 40 rural village, the province of Pas de Calais and the city of Vendome. The graphs for the Tra-dataset, suggest that in the first half of the nineteenth century there was more mobility in the city Vendome compared to whole of France. Mobility increased in the beginning of the 18th century, but this trend is solely based on data of the city Vendome. It increased again in the first half of the 19th century, a period in which the farming sector declined. Panel 2c relates to Swedish places. In these rather rural areas, there is certainly not less mobility than in the other countries. Mobility rates range between 60% and 36% and converge to around 50%. Overall, there appears to be no clear relationship between the size of the farming sector and the rate of

¹ Goldberg (2024, this volume) reports on intergenerational social class mobility in the city of Leipzig. 1550-1850, a.o. using the HISCLASS scheme. Graph 10 of this study shows that prior to 1730 about 60% of sons are in the same class as their fathers, that is 40% are socially mobile. The share of immobile men drops until the end of the 18th century to about 35%, thus leading to about 65% of sons being mobile, and this remains so for the first half of the nineteenth century.

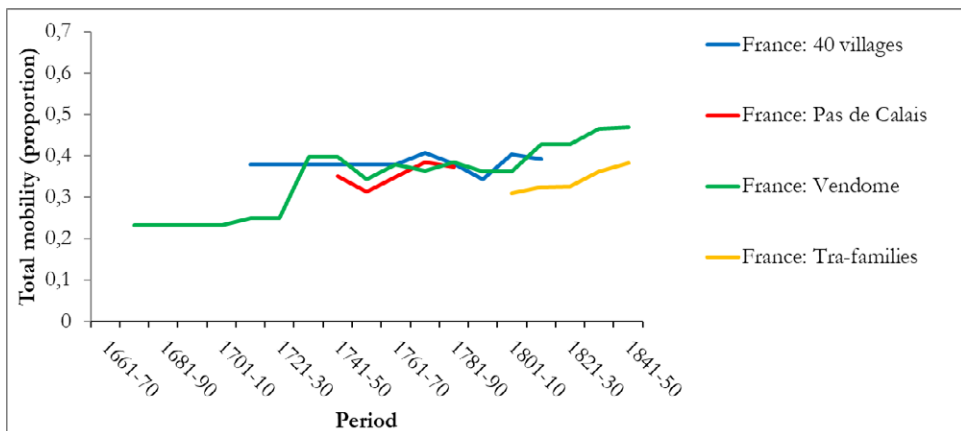
intergenerational mobility. Either this relationship does not exist, or it is not visible because the mobility rate is affected by many other factors.

Graph 2. Total mobility. Number of class mobile bridegrooms as % of total number of bridegrooms

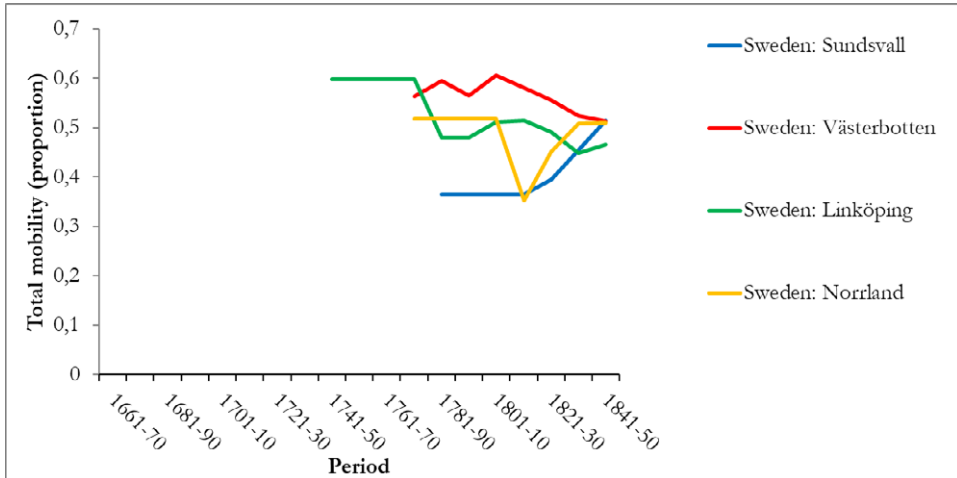
Panel a. German places



Panel b. French places



Panel c. Swedish places



5.3 Trends in social class mobility

The graphs suggest that in some regions mobility increased, whereas in other regions it decreased. However, the numbers of cases in the mobility tables differ between regions and vary over time. Therefore, from the graphs, it is difficult to conclude whether these changes are real or the result of random fluctuation. In Table 4 we estimate whether there are significant linear (model 1) or quadratic (model 2) trends over time in rates of total mobility, for German (panel a), French (panel b), and Swedish places (panel c). Generally, the trends that can be observed in Graph 2 appear to be significant (i.e. we can assume that the mobility rate was not constant over time). And, as could be observed in the graph, trends differ between places within countries. For example, there is a significant linear decrease of the log odds of mobility in the Berlin parish St. Georgen, and a linear increase of similar size in the German villages. The decrease in the log odds of mobility in East Frisia is nonlinear, and mainly happening at the end of the observation period. In Hamburg and villages no significant trend is observed. In France the log odds of mobility significantly increase in all regions, except the 40 villages. And the pattern of convergence of mobility in the different regions in Sweden is backup by positive trends in Sundval and negative trends in Västerbotten and Linköping.

Tab 4. **Changes in total mobility: linear and quadratic (logistic regression of intergenerational mobility on time)**

	b	sign.	b	sign.	b	sign.	b	sign.
a. German places								
	Germany: St. Georgen		Germany: Hamburg and villages		Germany: villages		Germany: East Frisia	
Model 1								
Constant	.393	**	-.390	**	-.770	**	.177	
Time	-.058	**	.000		.061	**	-.065	**
Model Chi ² (df)	34.452	(1)	0.001	(1)	27.893	(1)	32.661	(1)
Model 2								
Constant	.578	**	-.464		-.761	**	-.199	
Time	-.135	**	.031		.054		.075	
Time squared	.006		-.002		.001		-.010	**
Model Chi ² (df)	37.14	(2)	0.528	(2)	27.943	(2)	39.983	(2)
N	5,396		3,816		2,241		3,330	
b. French places								
	France: 40 villages		France: Pas de Calais		France: Vendome		France: Tra-families	
Model 1								
Constant	-.522	**	-.725	**	-1.193	**	-.863	**
Time	.007		.047	**	.061	**	.087	**
Model Chi ² (df)	.138	(1)	8.535	(1)	48.938	(1)	26.872	(1)
Model 2								
Constant	-.544	*	-.661	**	-1.448	**	-.846	**
Time	.017		-.023		.122	**	.068	
Time squared	-.001		.013		-.003		.004	
Model Chi ² (df)	.153	(2)	9.601	(2)	51.583	(2)	26.950	(2)
N	1,863		7,175		2,647		8,733	

c. Swedish places				
	Sweden: Sundsvall	Sweden: Västerbotten	Sweden: Linköping	Sweden: Norrland
<i>Model 1</i>				
Constant	- 1.241 **	.502 **	.390 **	-.122
Time	.212 **	-.058 **	-.054 **	.007
Model Chi ² (df)	45.293 (1)	20.597 (1)	13.828 (1)	.073 (1)
<i>Model 2</i>				
Constant	- 1.583 **	.323 *	.453 **	.462
Time	.371	.040	-.074	-.324 **
Time squared	-.017	-.011	.001	.037 **
Model Chi ² (df)	45.795 (2)	23.662 (2)	13.917 (2)	7.792 (2)
N	3,211	6,358	4,264	1,486

* = $p < .05$, ** = $p < .01$; All time effects are in decades (years/10).

For France we tested the Sorokin hypothesis of the effects of ‘great’ wars and revolutions in a previous study (Van Leeuwen et al. 2016). We looked at the period of the French Revolution and the Napoleonic Wars, 1789-1815, which killed, according to estimates, 1.7 million French. While this is not of the same magnitude as the shocks of the Black Death or the Thirty-Year War (Alfani 2024, this volume), which caused wealth mobility to increase, it was as big a shock on French and European soil as it gets after the plague. In addition, unlike the pest that one either succumbed too or survived in one piece, the French Revolution and the following wars not just killed but also took many more men out of the labour market due to non-fatal inflictions that made them ill-suited for their former work. So arguably the effects of wars are bigger than the number of casualties suggest. Wealth is not social status, and in regions with partible inheritance, according to law or custom, the death of a patriarch with more than one son, generally would cause a redistribution of wealth from the one patriarch to his sons (Alfani 2024, this volume). In the case of social status, there is not such clear-cut logic, because a father’s occupation not necessarily has to be filled by his own son (although this might be the case for farmers and other owners of means of production). In a nutshell, if the Sorokin effect existed then the French revolution and its aftermath arguably forms the second-best testing case after the plagues.

Our tests revealed that total mobility stagnated before the French Revolution and accelerated thereafter. The Vendôme and the Pas-de-Calais data show an increase in absolute mobility in the first few decades of the nineteenth century compared with the second half of the eighteenth century. This increase levelled off

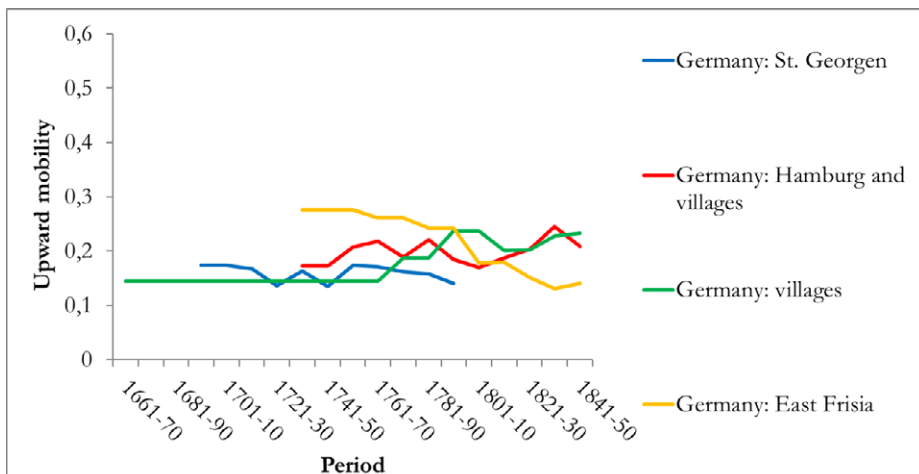
after the mid-nineteenth century. Regression models in which we add parameters for the overall trend and for the periods of war reveal that total mobility might even have declined during the French Revolution and the Napoleonic Wars (and during the two world wars). But the effects are not significant and thus we cannot conclude that total mobility changed during these three upheavals.

5.4 Upward and downward social class mobility

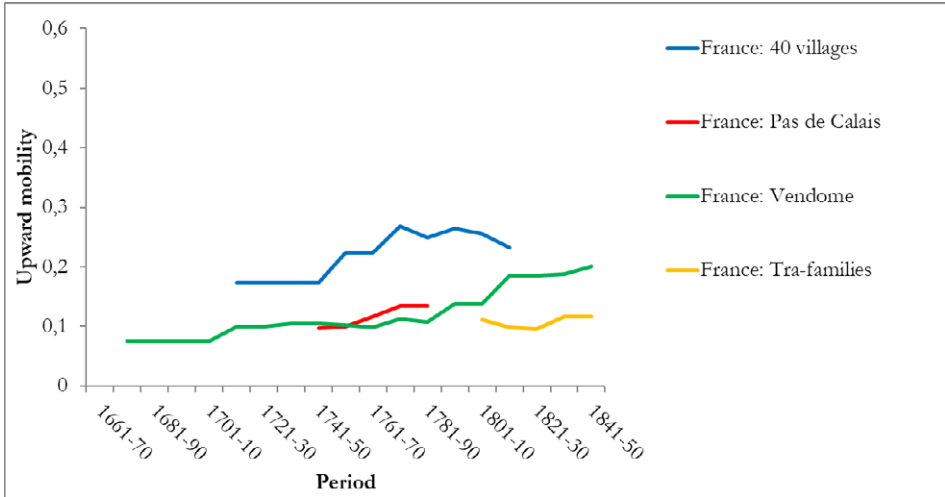
If mobility is mainly driven by sons of farmers leaving the farming class, one would expect to mainly observe downward mobility. These sons are most likely to become (un)skilled workers, who on average have lower status than farmers. However, if most mobility is due to sons of workers obtaining more skills, upward mobility is more likely. We show trends in upward and downward mobility in Graph 3 and 4. Graph 3, panel a, depicts the share of upward mobile bridegrooms in German places. It ranges between 15 and 30%. In the two village-datasets upward mobility increases after 1750, but in East Frisia it decreases in the same period. The upward mobility rates in the French places in panel b, are of similar size as those in Germany and tend to increase somewhat over time. There is less upward mobility in the Swedish places (Panel c), despite the odd bump for Västerbotten.

Graph 3. Upward mobility. Number of upwardly class mobile bridegrooms as % of total number of bridegrooms

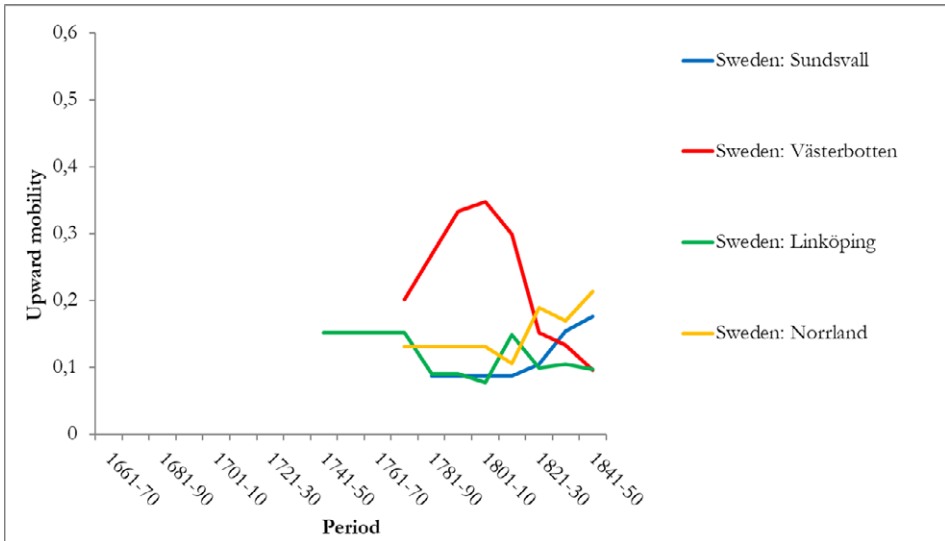
Panel a. German places



Panel b. French places



Panel c. Swedish places

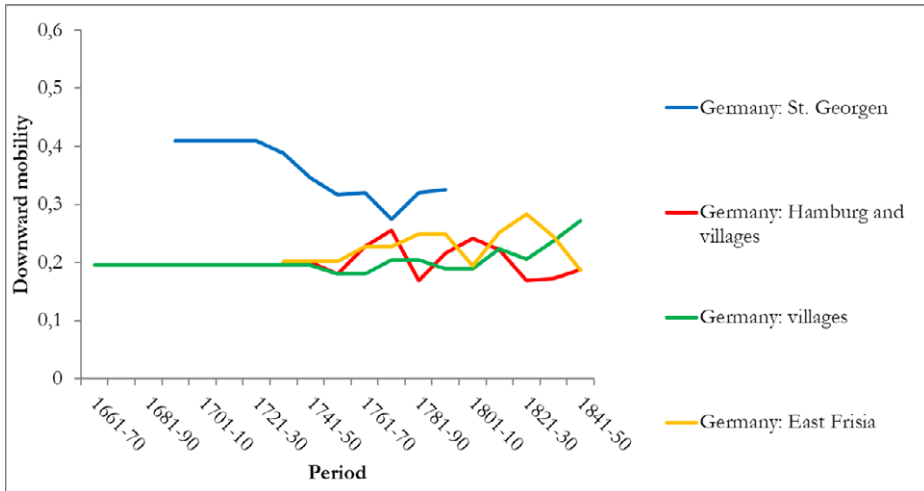


Graph 4 depicts the share of downward mobile bridegrooms. The rate of downward mobility was rather like that of upward mobility in German places (panel a) and French places (panel b). Only in the parish of St Georgen in Berlin the rate of downward mobility was exceptionally high (between 40 and 30%). Sweden deviates from Germany and France in that it shows clearly higher rates of downward mobility

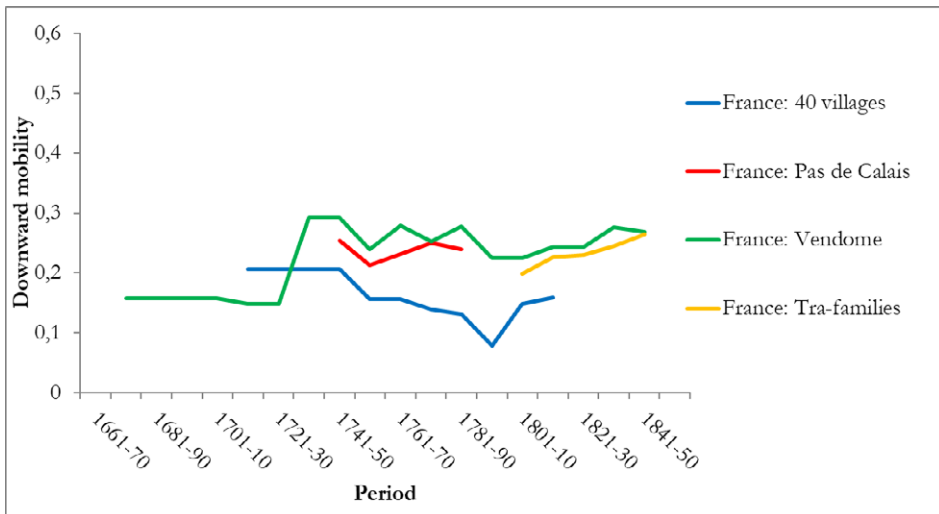
(25 to 45%) compared to upward mobility (10 to 20%). This latter finding suggests that in the predominantly agrarian Swedish society mobility indeed mainly consisted of sons of farmers ending up in a lower occupational class.

Graph 4. **Downward mobility. Number of class mobile bridegrooms as % of total number of bridegrooms**

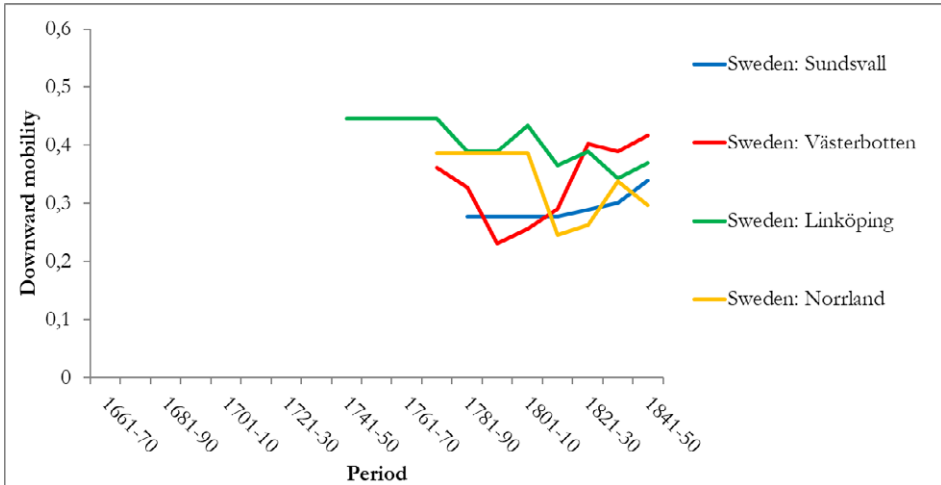
Panel a. German places



Panel b. French places



Panel c. Swedish places



5.5 Intersectorial social mobility

To shed further light on types of upward and downward mobility we distinguish seven types of mobility: farm to farm labor; farm to other; farm labor to farm; farm labor to other; other to farm, other to farm labor, not farm related. We expect the high rate of downward mobility in Sweden to be caused by sons of farmers entering the working class. That is also what we observe: between 29 and 37% of all mobility relates to farmers' sons becoming farm laborers. They are downwardly mobile but stay in the farm sector. This percentage is much higher than in Germany (below 3%) and France (below 6%). This high rate of downward mobility in the farming sector, however, does not only indicate a general impoverishment in this sector, but also a weak barrier between being a farmer and being a farm laborer. In Norrland and Västerbotten there is also considerable mobility in the opposite direction (resp. 23 and 15%). This type of mobility is very rare in the German and French areas (always below 4%, except in the 40 villages where it reaches 9%).

In Germany and France farmers' sons are also likely to leave the farming class, but with a different destination. They do not become farm laborers but skilled and unskilled workers outside the farming sector. In the German villages 30% of all mobility is of this type. In France as a whole, this is even 34%. It differs between region to what extent reverse mobility (from other sectors into the class of farmers) occurs. Generally, this seems to be most likely in more rural areas. E.g. in German villages 22% of all mobility is from outside the agricultural sector into the farming class. In the 40 villages in France this is 31%. In the Berlin parish St. Georgen there are only few farms, making it unlikely for people outside of the agricultural sector to become a farmer (1.1%) and the same is true for the city Vendome (1.2%).

The rural character of Swedish society is also visible in the very low percentage of all mobility that does not involve a father or son from an agricultural class. This

most frequently occurs in the most industrialized region (Sundsvall: 10.2%). This is much lower, though, than in German places (between 30 and 74% of all mobility) and in French places (between 20 and 56%). What also sets Sweden apart is the high share of mobility from outside the farming class (fathers are (un)skilled workers) into farm labor (between 17 and 33%). Not only the barrier between farming and farm labor, but also that between farm and other labor seems to be relatively weak.

Tab 5. Types of mobility per sector

a. German places				
	Germany: St. Georgen	Germany: Hamburg and villages	Germany: villages	Germany: East Frisia
From farm to farm labor	1.6	1.2	2.8	0.1
From farm to other	19.1	26.6	30.2	11.9
From farm labor to farm	0.3	1.7	3.8	0.1
From farm labor to other	8.3	2.6	6.5	1.9
From other to farm	1.1	29.4	21.9	11.2
From other to farm labor	4.8	1.6	5.1	1.2
Not farm related	64.9	36.9	29.8	73.7
	100.0	100.0	100.0	100.0
b. French places				
	France: 40 villages	France: Pas de Calais	France: Vendome	France: Tra-families
From farm to farm labor	5.9	2.7	5.4	5.2
From farm to other	23.6	24.0	26.3	34.0
From farm labor to farm	9.0	0.1	0.3	1.4
From farm labor to other	6.0	8.1	7.7	10.8
From other to farm	31.1	1.9	1.2	12.3
From other to farm labor	4.1	9.8	2.8	4.4
Not farm related	20.3	53.4	56.3	31.9
	100.0	100.0	100.0	100.0
c. Swedish places				
	Sweden: Sundsvall	Sweden: Västerbotten	Sweden: Linköping	Sweden: Norrländ
From farm to farm labor	34.0	29.3	36.9	35.8
From farm to other	10.1	10.3	8.6	6.2
From farm labor to farm	8.3	14.7	3.3	22.6
From farm labor to other	11.6	4.7	8.6	6.0
From other to farm	7.2	18.8	4.5	9.8
From other to farm labor	18.4	17.1	32.9	17.4
Not farm related	10.2	5.1	5.1	2.1
	100.0	100.0	100.0	100.0

6. Conclusion and discussion

Preindustrial occupational datasets do exist, and in sufficient quantity. So, although they are rare compared to those for later periods, it is quite possible to extend the debates regarding intergenerational social class mobility into the preindustrial era. This article is the first attempt to do so for several countries comparatively. This was only possible because several scholars made their data available for secondary analysis – a very laudable practice. We have reported known issues with the data, and our solutions or our present ignorance. A main issue is that we at present have mostly information on scattered localities. The Tra-dataset for France forms an exception, but it relates only to the period from the 19th century onwards. And we presented initial results.

We coded the data uniformly in the occupational coding scheme HISCO and the social class scheme HISCLASS - and for a few analyses into the social status scale HISCAM. A perennial issue plaguing social class mobility studies using vital registers is that for a considerable set of father-son social class ties, there is missing information on the father. This is the case for the datasets we reanalysed here too, but, fortunately for present purposes, for most regions we did not observe a difference in class distribution between complete and incomplete cases.

We investigated total, upward, downward and sectorial mobility. In the country for which we presently arguably have the best data, France, the rate of intergenerational mobility increased, albeit irregularly from the 1720s until 1850 (actually until the end of the twentieth century, as we showed in another study (Van Leeuwen et al. 2016)). For the German and Swedish places, no clear picture can yet be observed: total mobility trajectories vary among places and over time, as do upward and downward mobility. Sweden stands out by a relatively high rate of downward mobility, mostly consisting of farmers' sons becoming farm laborers. More than expected, however, sons with fathers from outside the farming class succeeded in becoming a farmer. Barriers between the sectors seem to have been weak in Sweden.

We can draw two broad conclusions. The first is that pre-modern social class structures were not as stable as either modernization or status maintenance theories claim. The second is that in the case of France, for which we have excellent long-term records, even the major shock of the French Revolution and its aftermath did not cause an observable Sorokin effect for men.

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