Marco H.D. Van Leeuwen, Ineke Maas, Danièle Rébaudo, and Jean-Pierre Pélissier

Social Mobility in France 1720–1986: Effects of Wars, Revolution and Economic Change

Abstract

The most basic question concerning social mobility—whether it has decreased, increased or remained in a constant flux over time—was formulated a century ago by Sorokin. Despite the enormous progress made by historians and sociologists, and the innumerable studies and the steady increase in the available data and methods of analysis, this question has still not been answered conclusively, because, we argue, of a lack of robust data covering a window of sufficient time span. In this article, we create and look through such a window, analysing intergenerational social mobility in France from the beginning of the eighteenth to the end of the twentieth century. We consider very long trends in total and relative mobility, and their association with the process of economic change, as well as perturbations of a shorter nature due to wars and revolutions. The results indicate that overall both absolute and relative mobility increased between 1720 and 1986, however not continuously, and not in synchronicity with the historical process of industrialization.

Introduction

In this article we chart the transfer of social inequality between the generations over the past three centuries. We consider very long trends, and their association with the process of economic change, as well as perturbations of a shorter nature due to wars and revolutions. In doing so we follow in the footsteps of Pitrim Sorokin.

The most basic question concerning social mobility—whether it has decreased, increased or remained in a constant flux over time—was formulated a century ago by Sorokin.[1] Despite the enormous progress made by historians and sociologists studying social mobility, and the innumerable studies and the steady increase in the available data and methods of analysis, this question has still not been answered conclusively, because, we argue, of a lack of data covering a window of sufficient time span. In this article, we create and look through such a window, analyzing intergenerational social mobility from the beginning of the eighteenth

Journal of Social History vol. 49 no. 3 (2016), pp. 585–616
doi:10.1093/jsh/shv054

to the end of the twentieth century in France using a combination of three remarkable datasets.

A number of landmark studies[2] have shown the importance of distinguishing between observed or total mobility on the one hand and relative mobility on the other, that is mobility net of changes in the marginal distributions of a mobility table, caused, *inter alia*, by shifts in the occupational distribution. France has undergone important structural economic changes over the past three centuries which make this distinction important here too.

The main aim of the present study is to answer Sorokin's classic question about long-term changes in social mobility. But we will also consider why social mobility changed. We will look at the effects of wars and revolutions, including the French Revolution and the Napoleonic Wars, and investigate whether there is an observable coincidence between changes in mobility and what is often claimed to be one of the main determinants of changing social mobility: industrialization. The questions we seek to answer are:

1. Has total intergenerational social mobility increased, decreased or remained constant in France over the past three centuries?
2. Has relative intergenerational social mobility increased, decreased or remained constant in France over the last three centuries?
3. Have revolutions, wars and economic change affected total and relative mobility in France over these three centuries?

Many studies on mobility during or even before industrialization make use of relatively small datasets covering one or a few regions or cities and comparing only a few years.[3] Comparisons between studies are difficult because they differ with respect to the classification of occupations and the class schemes used.[4] Comparability is also a concern for the few studies comparing data from marriage records for the period of industrialization and surveys for later periods.[5] The few studies analyzing relatively large datasets over a longer period usually cover mainly the nineteenth century, meaning that they either miss the onset of industrialization[6] or cover only its early stages.[7]

In this study we will use three large datasets on intergenerational mobility in France that together cover the period 1720–1986, a period beginning long before industrialization and including many decades in which France can be considered to have been industrialized. It also covers a prime example of regime change, the French Revolution. The datasets are of an exceptional size, and the extension of the data to include the eighteenth century is unique. All occupational information in the datasets is classified using the same occupational classification and converted using a standard procedure into the same class scheme. The sources used are marriage records. Analyses are restricted to men, because occupational information is often lacking for women. Before discussing the French datasets, we will survey theories on the process of industrialization and its determinants.

Sorokin on Trends in Social Mobility and Their Determinants

Pitrim Sorokin was the first theorist on patterns, processes and determinants of intergenerational social mobility. His work is incredibly rich but complex. He wrote two books that are of specific importance for the present study: *Social and*

Cultural Mobility (1959 [1929]), and *Man and Society in Calamity: The Effects of War, Revolution, Famine, Pestilence upon Human Mind, Behavior, Social Organization and Cultural Life* (1942). Taken in combination they still provide a good framework for the study of absolute intergenerational social mobility.[8] As much of the richness of Sorokin's study seems not to have survived into the present historiography, we will present his views in some detail.

Sorokin discussed the proposition, *not* his opinion, that

> there seems to be no definite perpetual trend toward either an increase or a decrease of [. . .] mobility. [. . .] What has been happening is only an alternation—the waves of a greater mobility superseded by the cycles of a greater immobility—and that is all.[9]

He noted that

> In these dynamic times, with the triumph of the electoral system, with the industrial revolution, and especially a revolution in transportation, this proposition may appear strange and improbable. The dynamism of our epoch stimulates the belief that history has tended and will tend in the future toward a perpetual and 'eternal' increase of vertical mobility.[10]

On the basis of the scattered evidence available to him, such as the percentage of "upstarts" among emperors in the Roman Empire and among monarchs and presidents in England, France, Germany, Russia and the USA of his time,[11] Sorokin saw no *eternal* trend.[12] This leads us to our *first hypothesis*: there has been no trend in absolute mobility over time. We will study this by examining whether there has been a clear increase or decrease in absolute mobility in France over the past three centuries.

While Sorokin's general proposition is often cited, it is seldom noted that he did see clear periods of increased social mobility. He stated that "within Western societies during the last century there seems to have existed a trend toward a decrease of inheritance of occupation,"[13] and "in our societies, the percentage of hereditary transmission of occupation from the father to his children is much lower" than in Antiquity or the Middle Ages.[14] The empirical data on which this conclusion is based end in the period 1900–1926.[15] This makes "the last century" the nineteenth century. So according to Sorokin the nineteenth century saw an increase in intergenerational mobility among men.

The French and Russian revolutions were at the back of Sorokin's mind when he wrote his studies. He dealt specifically with social mobility in France over the *longue durée*:

> [. . .] vertical mobility, from the second half of the fourteenth century [. . .] seemed to become somewhat more intensive [. . .] With fluctuations the process went on up to the beginning of the eighteenth century (from 1715 to 1789) when the mobility was strongly checked again. The great French Revolution and the period of the Napoleonic Empire, when those 'who had been nothing became everything,' and contrariwise, were again the periods of most intensive vertical social mobility.[16]

For France this leads to our *second hypothesis* on absolute social mobility between the generations: absolute mobility stagnated in the eighteenth century until the French Revolution, but increased from then onwards.

Sorokin also theorized about factors that perturbed social mobility. Although he mentions in passing 'industrial and commercial transformations' as causes,[17] he is most explicit about wars and revolutions opening up mobility regimes, writing:

> By destroying a considerable proportion of the population any large-scale calamity creates many vacancies in the various strata of the society affected and its institutions. These vacancies occur not only in the lower positions but also in the higher ones, which frequently have to be filled from the lower ranks.[18]

And

> [. . .] those who were nothing before the revolution now become everything, and vice versa. Monarchs, aristocrats, the upper classes, the rich and privileged, even the middle classes, are overthrown by major revolutions, and many former slaves and serfs, peasants and labourers, and other poor and oppressed ones now climb to much higher positions, including the very highest ones.[19]

Elsewhere he writes that war "is one of the dynamic forces that profoundly influence the vertical mobility of the combatants as well as of the civil population. With its large-scale casualties it creates numerous vacancies to be filled by new incumbents."[20] Wars and revolutions often coincide, as in the case of World War I and the Russian revolution.[21] These periods of perturbations see exceptionally strong increases in mobility.

Afterwards there is often a corrective movement, as he describes in a somewhat long but illuminating statement.[22] This correction is due, he says, to wholesale and indiscriminate mass promotion during the turbulence.

> As a result [. . .] many persons occupy very responsible positions whose duties they are incapable of adequately discharging. Conversely, among the depressed upper and middle classes now in the position of skilled and semiskilled manual workers there are many persons whose abilities qualify them to perform the duties of the upper classes. The new revolutionary society presently begins to suffer from this defective distribution of its members among the various strata [. . .] The exigencies of life necessitate a correction of the dislocation through the demotion of many a revolutionary and through the reinstatement of many of the previously demoted members of the upper and middle classes. [. . .] Hence the ultimatum of history to the revolutionary government: Either perish or redress the situation. Hence the reverse circulation which characterizes the [. . .] post-revolutionary period.[23]

This leads to our *third hypothesis*: Wars and revolutions, especially if these occur in combination, lead to an increase in absolute mobility, but for a limited period only.

Many of Sorokin's observations are, for that matter, generalizations drawn from the empirical data at his disposal, and today these generalizations can be tested against profoundly better data.

After Sorokin: Wars, Revolution and Social Mobility

Later historical research has not paid much attention to the effects of war on mobility patterns, with a few noteworthy exceptions. Winter studied the effects of the Great War on British social stratification.[24] During this war all sections of society were enlisted. Casualty rates were high, but they were higher for men from the middle and upper classes than for those of working-class origin. The middle and upper classes thus suffered disproportionate losses during the war. This may have caused increased upward mobility from the working classes into the middle and upper classes during and after the war, but Winter did not study this. Penn reported that in England during the two world wars the drain of able-bodied male workers to the trenches and battlefields meant that others, notably women, had to be brought in to carry out work from which they were previously excluded, a situation soon reversed after the war.[25]

While this is the sort of effect Sorokin wrote about, other studies have considered the effects of army careers on veterans. Lee studied what became of recruits serving in the Union Army during the American Civil War.[26] His results show that their fate—in terms of being able to obtain a white-collar job—depended on their social position before they were enlisted as well as on their rank in the army. Unskilled recruits greatly enhanced their chances of finding a white-collar job afterwards if they had succeeded in becoming a corporal, sergeant or officer while in the army. In a follow-up study Lee showed that these veterans were more likely than non-veterans to obtain a white-collar job, owing, he thinks, to the extra skills the army taught them as well as to their having developed a greater appetite for geographical mobility, which took them to where labor market opportunities were better.[27] It is this latter type of study that has dominated sociological research on the effect of wars in the twentieth century on the mobility chances of soldiers and officers serving in the army.[28] However, these studies do not theorize about the degree of mobility in a society in general and are therefore less useful for answering our research question.

After Sorokin: Theories on Trends in Social Mobility and Its Determinants

The main modern hypotheses on absolute intergenerational mobility have been formulated by Lipset and Zetterberg[29] and the "logic of industrialism" school.[30] Combined, they claim that industrialized countries show comparable levels of total mobility and that these levels are higher than they were before industrialization. This has been eloquently phrased by Landes in *The Unbound Prometheus*:

> Just as the *industrial system* tries to combine non-human factors of production efficiently, so will it seek to maximize its returns from wages and salaries by putting the right man in the right place [. . .] The logical concomitant [. . .] is mobility [. . .] A competitive industrial system [. . .] will increase social mobility, raising the gifted, ambitious, and lucky, and lowering the inept, lazy, and ill-fortuned.[31]

The work of the logic of industrialism school can be read to indicate that total mobility is the same in industrial nations, and higher than in non-industrial nations, a country-comparative proposition that we cannot test here. But we can

test the dynamic version, our *fourth hypothesis*: Total mobility increased in France due to the process of industrialization, which started in France during the nineteenth century.

Consensus now exists that total mobility varies between industrialized countries and that within these countries it has not been stable over time in the post-industrialization era.[32] Following this conclusion, attention shifted from total to relative mobility, leaving important questions unanswered. Was the level of total mobility considerably lower before industrialization than afterwards? And was industrialization the watershed between low and high levels of mobility, or were the periods before and after industrialization both characterized by slow trends or even irregular changes in total mobility levels?

Hypotheses on the consequences of industrialization for *relative* mobility have been formulated by Treiman.[33] According to him, industrialization leads to increased specialization of labor and an increase in the proportion of professional, technical, administrative and clerical jobs. The skills needed for such jobs are new and cannot therefore be passed on by parents to their children; this modernization of the labor market thus leads to a decrease in social immobility between the generations, or, in other words, an increase in social mobility. In these new specialized jobs, formal education becomes more important for acquiring occupationally relevant skills. This results in a shift from ascriptive to universalistic achievement criteria as a basis for occupational role allocation. At the same time, the influence of parental class on educational attainment decreases as well. Virtually free mass education becomes available for children from all classes. Further, children of industrial workers are less often pressed to leave school at an early age in order to go to work than was the case with children of farmers and farmworkers. Education not only becomes the main requirement for entering higher-class jobs, it also broadens acquaintance with a wider set of occupations and provides social skills that will enable a person from a lower class to take advantage of such opportunities. As a result, the relative chances of individuals from different classes of origin reaching certain destination classes become more equal.

Increased specialization and educational expansion were long-term processes that continued right up until the end of our research period. Treiman's description of the consequences of industrialization is therefore most in line with a gradual increase in relative mobility after the onset of industrialization.[34] This leads to our *fifth hypothesis*: The onset of industrialization coincides with a trend towards greater relative mobility.

Featherman, Jones and Hauser[35] and Erikson and Goldthorpe,[36] however, argue against changing relative mobility within industrialized countries. They stress that within industrialized countries the organization of occupations across societies—which occupations yield more socioeconomic resources and which are the most desirable—is similar and constant over time. This similarity leads to stable relative mobility: sons of higher-class parents have more resources that enable them to reach the most desirable, higher-class positions themselves. In the status maintenance theory[37] it is further argued that even if certain resources become less efficient in opening up higher-class positions to sons (through, for example, the direct transfer of means of production), higher-class fathers will be the first to gain access to new resources and ensure that their sons use them in order to reproduce their own status (e.g. through differential education in elite

schools). Based on the status maintenance theory one can assume that in industrial and pre-industrial societies alike the higher classes are able to secure higher-class positions for their children; only the mechanism changed. This notion leads to *hypothesis 6*: There is no trend in relative mobility over time owing to compensatory strategies pursued by the social elites

The empirical research is inconclusive. Erikson and Goldthorpe[38] conclude that relative mobility showed no considerable change in industrialized countries, whereas Ganzeboom, Luijkx and Treiman[39] found sizable increases in relative mobility after 1955, a period not only of industrialization but also of strong educational expansion. They concluded that relative mobility grew by a mere one per cent per annum. Such slow growth requires a long time horizon if it is to be observed, and this is lacking in most studies.[40] Research on various parts of Europe during industrialization found increasing relative mobility,[41] no change in relative mobility[42] or even indications of decreasing relative mobility.[43]

A recent study by Clark, covering the period from the Middle Ages to the present, claims that the "underlying" social status of father and son are highly correlated ($r = 0.75$) and that this correlation does not vary between societies nor change over time.[44] This conclusion is based on a novel method. It starts by identifying surnames among an elite in the distant past. Names are selected that are nowadays rare. Then Clark calculates to what extent people with these surnames are overrepresented among later elites compared with people with more common surnames.[45] An intergenerational correlation of status is derived from two or more such observations of relative representation. Although Clark did not study France, his research includes a broad range of societies covering Sweden, medieval England, China and Chile, and he claims his conclusion is universal. This claim is related thus to the hypothesis that relative mobility is the same (in all societies and all time periods). Clark's main concern, however, is with the transfer of "underlying status" or "social competence" between generations. This underlying status is related to observed class position—the topic of our study—but with a sizable degree of error. Even if the use of elite names is sufficient to warrant conclusions regarding the general population and thus that the law of social mobility is upheld, it remains an open question to what extent observed class position is affected by modernization, war and revolution.

Earlier Research on France

Very little is known about intergenerational mobility in France before 1800. Using marriage and notarial death certificates Daumard and Furet[46] constructed father-son mobility tables for Paris in 1749. This was a tremendous innovation, but it relates to one year only and thus says nothing about social mobility over time. A few scattered village studies have been written on the basis of family reconstitution (linking baptismal, marriage and burial registers) which, often as a side step, have paid some attention to social mobility. Occasionally, special sources have permitted the analyses of social mobility for specific groups.[47] In general, the picture that emerges is one of immobility, especially in the seventeenth century, though this is contested. Collins argues that social mobility was a direct function of geographical mobility: those who were not born into the existing village elite had to move in order to advance socially.[48] According to him, there was substantial geographical (and thus social?) mobility, but it could not be

observed in the many local studies (which dealt with stable residential populations). We lack large-scale data supporting this claim for the eighteenth century, but for the nineteenth century scholars have shown that there was substantial migration at, or before, marriage, and that this influenced marital mobility.[49]

There are a number of regional studies investigating whether total or relative mobility increased in France during the nineteenth century, a period of early industrialization.[50] Aminzade and Hodson compared Toulouse in 1830 and 1872.[51] Both years saw very little mobility. They found a slight decrease in the overall rigidity of class boundaries, an expression of relative mobility. Fukumoto and Grusky compare Marseilles in 1821–1822, 1846–1851 and 1869.[52] They, too, conclude that levels of inequality and disadvantage were extreme. They found increasing total mobility, but no change in openness. Pinol studied total mobility in Lyon for the 1872–1874 and 1899–1900 birth cohorts and concluded that the second cohort was slightly less mobile than the first, and that it showed less upward mobility in particular.[53] There is one larger study covering the nineteenth century and one comparing the late nineteenth with the twentieth century. Bonneuil and Rosental compared three periods for the whole of France: 1810–1847, 1848–1870 and 1871–1910.[54] Using logistic regression analysis they concluded that the likelihood of upward mobility increased and that of downward mobility decreased over the century. Upwardly mobile men are also found to be upwardly mobile over a longer distance later in the century. For France in the nineteenth century Bourdieu, Ferrie and Kesztenbaum compared two marriage cohorts of fathers.[55] Assuming a thirty-year lag between father's and son's marriages, these cover the periods 1866–1904 and 1915–1935. These data are compared with survey data from 1977. They find that total mobility increased over time. Relative mobility increased sharply between 1866–1904 and 1915–1935, but they found less relative mobility in 1977 compared to that in 1915–1935.

Several studies have compared changes in intergenerational mobility during the twentieth century. In the seminal work of Erikson and Goldthorpe,[56] the very notion of a "constant flux"—the absence of a sustained time trend in relative mobility—was in large measure based on the English and French experience in their dataset, for France a survey carried out in 1970 in which the age groups were treated as referring to birth cohorts. However, in a previous study using two surveys (from 1953 and 1970) Goldthorpe and Portocarero[57] found indications of a decrease in the relative immobility of men between 1953 and 1970, and other studies subsequently replicated this finding and demonstrated that this increase in openness continued up to the end of the twentieth century.[58]

Wars and Economic Developments in France: Eighteenth-Twentieth Centuries

As the hypotheses in the literature focus both on trends in absolute and relative mobility and on the way these are influenced by wars and industrialization, we describe these two latter factors here. A description of belligerence is relatively simple. We focus only on wars on French soil (the hexagonal) and not, for example, on wars in the French colonial empire, as the former are likely to affect social mobility patterns in France most. Nor do we consider the short-lived Franco-Prussian War (1870–1871). This leaves both world wars (1914–1918 and 1940–1945) as well as the period of the French Revolution and the Napoleonic Wars (1789–1815). The French Revolution and the Napoleonic Wars are

estimated to have claimed 1,700,000 French victims, as did World War I (about 4% of the population), while it is estimated that there were 570,000 French victims in World War II, about 1.4% of the population.[59] While all numbers are rough estimates only, they do suggest that losses of this magnitude may give rise to serious problems on the male labor market, thus creating a window of social mobility for those surviving. This is all the more so as the numbers and percentages given tend to understate the effect on social mobility patterns, in two ways. First, the proportion of the male labor force killed will have been substantially higher than the proportion of the total population who perished (women, children and men not active in the labor force). Furthermore, apart from the men killed, there were many others wounded, mutilated or burdened with such mental scars that it was difficult for them to return to their former work, and they had to be replaced.

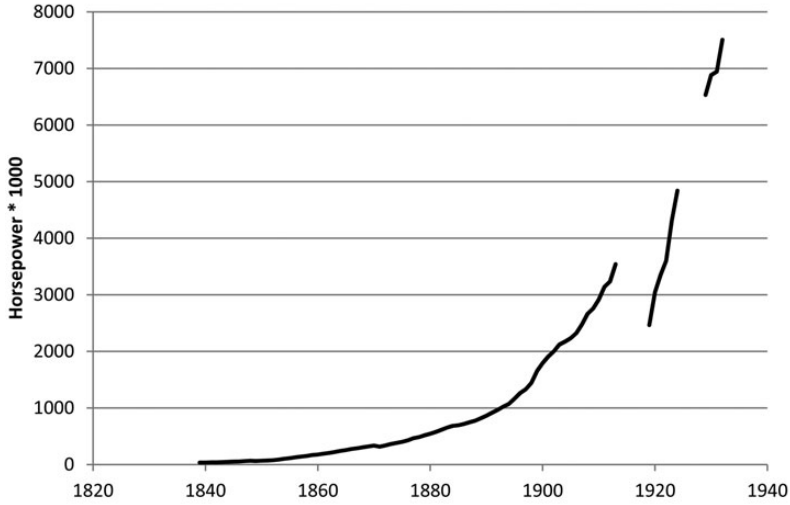
As to industrialization, it has been defined by Davis as "the use of mechanical contrivances and inanimate energy (fossil fuels and water power) to replace or augment human power in the extraction, processing, and distribution of natural resources or products derived therefrom."[60] In the second quarter of the eighteenth century steam engines began to appear in French mines and foundries. Early in the nineteenth century, steam engines and machines were deployed in other sectors of production. During the 1880s the first hydroelectricity plants were built in the Alps to supply energy for nearby cities and industry, and at the end of the decade electric lights appeared in Paris for the first time.[61] Steam engines first began to be used in agriculture in 1851, in the Nord and Paris regions, to thresh grain. Between 1852 and 1858 their number increased from 81 to 2,253, rising to 9,000 by 1882.[62]

The *number* of steam engines, not including those in steam trains and steam vessels, rose from 2,591 at the start of the series in 1840 to 8,064 in 1855 and 74,636 in 1900, growing at a more modest rate to 82,238 by 1910. It stayed at that level until the brink of World War I, sinking to 66,100 by the end of the war (in 1919). We have no data for the next decade, but in 1929 the number of steam engines was put at 67,461, declining to 61,227 in 1932, the final year for which we have data.[63] By then, however, steam was no longer the dominant source of innate energy. Perhaps the number of steam engines was less relevant than the *output* from fixed steam engines for the period up to 1932. As Figure 1 panel A shows, output grew throughout this period.

For the years after 1932, we can turn to a series on electricity compiled by Mitchell.[64] We know that electricity was used in France from 1845 onwards, initially by railway companies to operate signs but from the 1870s onwards also in factories.[65] Electricity was produced in part by steam engines: between 1898 and 1905 the number of steam engines producing electricity doubled, quadrupling again by 1913.[66] During the 1920s there was further expansion in the use of electricity, notably in heavy industries such as metallurgy and textile. By then, electrical machines were superior to steam engines in industry and used more frequently (with the exception of steam locomotives in transport). Certainly by the 1930s electricity was the dominant source of energy in French industry.[67]

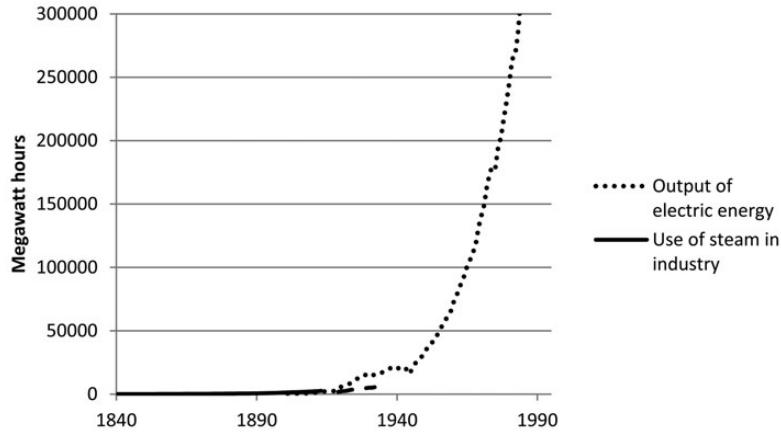
Panel B of Figure 1 displays both the series for steam engines only and the series for the output of electricity from all sources from 1901 onwards, both expressed in megawatts (we disregard minor breaches in the series as reported by Mitchell, as these make no difference to the lines displayed). The series on total

A **1839-1932: Power generated by of steam engines, in horsepower ('000)**



Source: *Annuaire Statistique de la France*: 1922, p. 64; 1897, p. 245; 1926, p. 66; 1931, pp. 161-162; 1932, pp. 174-175; 1933, pp. 155-156; 1935, pp. 143-144.

B **1839-1986: Power generated by steam engines, and total output of electricity, both in megawatt hours**



Source: *Annuaire Statistique de la France* (see above) and Mitchell, *International Historical Statistics*, pp. 562-567.

Figure 1. Industrialization in France 1840–1986.

energy output shows, most notably, a dramatic increase after World War II. While the series measures total output and not per capita output (which would show a slower increase), it is clear that postwar developments were driven not solely by

population growth, but mainly by a growth in energy-demanding production processes and by an increase in consumer energy demands. The latter also illustrates that in the second half of the twentieth century no single measure of energy can any longer be regarded as an approximate indicator of industrialization. In fact, an increasing part of the energy-consuming French population was working in the service sector.

Taken together, the two series presented in Figure 1 suggest a continuous process of industrialization from the start of the series in 1840 to the mid-twentieth century—one disrupted only by two world wars and possibly the economic crisis of the 1930s.

Data

The first dataset we discuss is the "3,000 families survey," better known as the TRA dataset.[68] The survey is based on civil birth, marriage, divorce and death certificates for all French persons whose surnames begin with the three letters TRA. This resulted in patronymic genealogies starting with 3,000 couples who married between 1803 and 1832. Descendants of these families were followed into the twentieth century. TRA was chosen because surnames starting with these three letters occur in all languages spoken in France (including Alsatian, Breton, Catalan and French itself). The dataset includes 69,588 certificates of first marriages of bridegrooms for the period 1803–1986. The certificates contain detailed information on the occupations of the bridegroom and his father. The TRA dataset is exceptional because of its extensive scope, in terms of geography, duration and the sheer number of observations.

The other two datasets we use are smaller, but they allow us to follow the long trail of social mobility even further back than 1803, thus allowing a comparison of mobility regimes before and after the French Revolution. The French Revolution inaugurated the commencement of the civil registration of marriages—on which TRA is based—and it did so by secularizing, so to speak, a task that the Roman Catholic Church had been carrying out for centuries. Local churches in parishes all over Europe recorded the births, deaths and marriages of their parishioners, in part because of church interests (a marriage is a sacrament in Catholic doctrine), in part because of worldly interests, such as establishing who was entitled to inherit from whom, and who was entitled to local poor relief. For many years members of the Association de Généalogie Vendômoise have been collecting such data for the small city of Vendôme, south of Paris. The oldest marriage certificate dates back to 1668. However, data for this early period are too scarce to be used in our analysis. We selected the period 1720 to 1870, for which there are at least 300 first marriages with complete information per twenty-five years. In total the selected dataset comprises 7,348 marriages.

The Association Généalogique du Pas-de-Calais has collected vital data for Pas-de-Calais, a department in the north of France, facing the cliffs of Dover and bordering Belgium. We selected 63,346 first marriages of grooms for the period 1740–1892, using the same criteria as for Vendôme. For the period up to around the start of civil marriage registration the dataset includes approximately 1,000 marriages per year. After 1792 this number dropped to around forty, permitting less detailed analyses.

Not all certificates in the datasets can be included in the mobility tables, because information on both the occupation of the father and the occupation of the son need to be available. This is frequently not the case (Table 1), often because the father had died by the time his son married for the first time, but also because the father might have been away at the time of his son's wedding, or perhaps he simply did not have an occupation at the time. The occupational information on the bridegrooms is much more complete than that on the bridegrooms' fathers, but it still leads to the exclusion of some additional cases. The rules on what information churches had to include on the marriage certificate were not completely standardized, and some priests therefore failed to note occupations, leading to a large loss of cases especially for Pas-de-Calais.

How problematic this loss is depends on whether it is random or systematically biased. We investigated this by comparing the class distribution of the sons of fathers with and without occupational information (Table 2).[69] For all three datasets we can conclude that although a chi-square test indicates significant differences, even when combined the many causes of missing data on the occupation of the father did not seriously distort the class distribution of the sons. In the TRA dataset, covering the whole of France, there is a slight over representation of farmers among bridegrooms, whereas in the department of Pas-de-Calais this class is slightly under represented. But the differences in class size between sons with and without a known class of the father are never more than six per cent.

There is one other methodological issue we would like to mention. Our analysis is based on comparing a young man's stated occupation at marriage with the stated occupation of his father at the same moment in time. This means that the two individuals are being compared at different points in their life course, let us say around age 25 and age 50. Although this potential problem is well known among historians of social mobility, it is still the standard procedure, in some measure because it is what the historical source, the marriage records, allows. However, there are two reasons why this problem might not be as disadvantageous as it seems. The first is that the moments in the life course at which father and son are observed remain approximately the same over the whole period studied, so this cannot explain trends over time. It is for this reason, we assume, that historians are generally comfortable about using this source. The second is that occupation at marriage is generally not the first occupation, and life-course data on occupational status over time show that, during this period, status did not grow to any large extent between age 25 and age 50.[70]

Table 1. Overview of cases per dataset

	France 1803–1986	Pas-de-Calais 1740–1892	Vendôme 1720–1870
Total N	69588	63346	7348
Father's class missing because father deceased	18815	22453	1913
Father's class missing for other reasons	11592	24447	1732
Only son's class missing	2599	7278	713
Valid N father's and son's class	36582	9168	2990

Table 2. Selectivity analyses: son's class distribution by valid or missing father's class

	Father's class valid or missing					
	France		Pas-de-Calais		Vendôme	
	valid	missing	valid	missing	valid	missing
Son's class:						
Non-manual	18.0	19.8	14.9	13.2	15.7	18.1
Skilled workers	22.3	21.5	24.4	20.5	32.9	30.2
Farmers	29.5	24.9	10.2	15.8	11.9	11.0
Low/unskilled workers	24.9	28.0	43.3	43.9	31.7	33.2
Farmworkers	5.4	5.7	7.2	6.6	7.8	7.6
N	36582	26097	9168	18846	2990	2859

France: χ^2 204, df 4, $p < 0.00$; Pas-de-Calais: χ^2 195, df 4, $p < 0.00$; Vendôme: χ^2 10.5, df 4, $p < 0.05$.

Occupational Specialization

Differing occupational terminology has hindered international and temporal comparisons of occupational mobility for a long time.[71] Such comparisons became possible with the development of the Historical International Standard Classification of Occupations (HISCO),[72] based on the International Standard Classification of Occupations (ISCO-1968) of the International Labour Office. HISCO is a detailed occupational classification scheme, distinguishing 1,675 different occupational categories. All occupational information in the three datasets has been classified in HISCO.

Coding the thousands of French occupational titles in a comparable framework (HISCO) is not only necessary if we are to study social mobility according to social class, but also expedient if we are to document the process of economic change over time through occupational specialization. It is to this task that we now turn, supplementing the macro data presented on steam engines and electricity over time. Using our datasets we can amalgamate individual-level data to create macro-level indicators of occupational specialization in general, and the move towards modern industrial occupations in particular. These new indicators have the advantage of being more pertinent to the process of choosing a new occupation. In addition, they cover the entire period we are studying (as they are calculated from the data we are analyzing). This allows us to test not only the effect of steam-based industrialization in the nineteenth century, but also the potential effect of a pre-steam industrial surge.

First we look at the number of different occupations over time. HISCO, like any other occupational classification scheme, has a fixed number of categories (1,675 at the finest level). These have been created to cover all forms of work over a long period of time. HISCO thus accommodates both old and new types of work. It includes, for example, an occupation that was already almost obsolete by 1800 and would soon disappear completely, but also an occupation that did not yet exist in 1800 but that would come into existence later. From time to time a type of activity arises that simply cannot be contained within an existing occupational box. HISCO has a code for nuclear physicist (0–12.80), for example, whose

activity is defined as: "conducts research into structure and characteristics of atoms, molecules and nuclei to increase scientific knowledge or to discover practical applications of atomic, molecular and nuclear physics." We use the degree to which all occupational boxes in the occupational classification scheme are covered as a measure of occupational specialization. For this, we used the occupations of bridegrooms at marriage in our datasets coded into HISCO and count how many of the 1,675 HISCO categories are in use per 1,000 bridegrooms.

Secondly, we study the proportion of bridegrooms in our datasets working in industry. We selected all HISCO categories that involve working with a machine or electrical device. We use "industry" thus in the sense that Davis reported above, and not in the more encompassing sense of being neither agriculture nor services that would include many types of production work not involving machines or electrical devices. Industrial occupations in our more narrow sense of the term include, for example, telegraphers, bus conductors, machinery mechanics and crane drivers. Occupations that can also be carried out by hand are not included. In the broader HISCO group of Weavers and Related Workers, to give an example, the Beam Warper, Loom Threader (Machine), Cloth Weaver (Machine, except Jacquard Loom), Lace Weaver (Machine), Carpet Weaver (Machine) and Net Maker (Machine) are considered industrial given the definition of the type of activity they involve. Other weavers such as Weaver, Specialisation Unknown and Cloth Weaver (Hand) are considered non-industrial because it is either unclear whether a machine is involved, or it is explicitly stated that this is not the case. It is likely that a considerable share of those who worked in the industrial sector have not been captured by this rather strict procedure. This is because a considerable number of bridegrooms gave occupational titles regarding which we cannot be sure whether they involved a machine. Those ended up in unspecified HISCO categories (e.g. Weaver, Specialisation Unknown). We are again conservative thus in assigning an occupation to the industrial sector. We are conservative, too, in another way. Non-industrial occupations that grew in size as a consequence of industrialization, for example secretaries and bank employees, are not included among industrial occupations either.

Figure 2 shows how these indicators of occupational specialization (panel A) and industrialization (panel B) changed in France over the past three centuries. These indicators are pertinent to our hypotheses as they express the occurrence of new occupations that cannot be transferred from one generation to the next. A number of points relevant for our purposes emerge from the six series (two indicators for each of the three datasets). First, the past two centuries have seen a growth in economic modernization throughout France. If we look at the percentage of grooms with an industrial occupation (panel B) we see rapid growth after *c.* 1870, punctuated by both world wars and the depression of the 1930s. The specialization indicator (panel A) also, by and large, shows this growth process, but starting as early as the nineteenth century.

Total Mobility

In order to calculate total mobility rates, occupations need to be grouped into classes. Standard methods for this have only recently been developed for historical data. Following a procedure developed by Bouchard a class scheme was linked to HISCO.[73] This new social class scheme—called HISCLASS—sorts

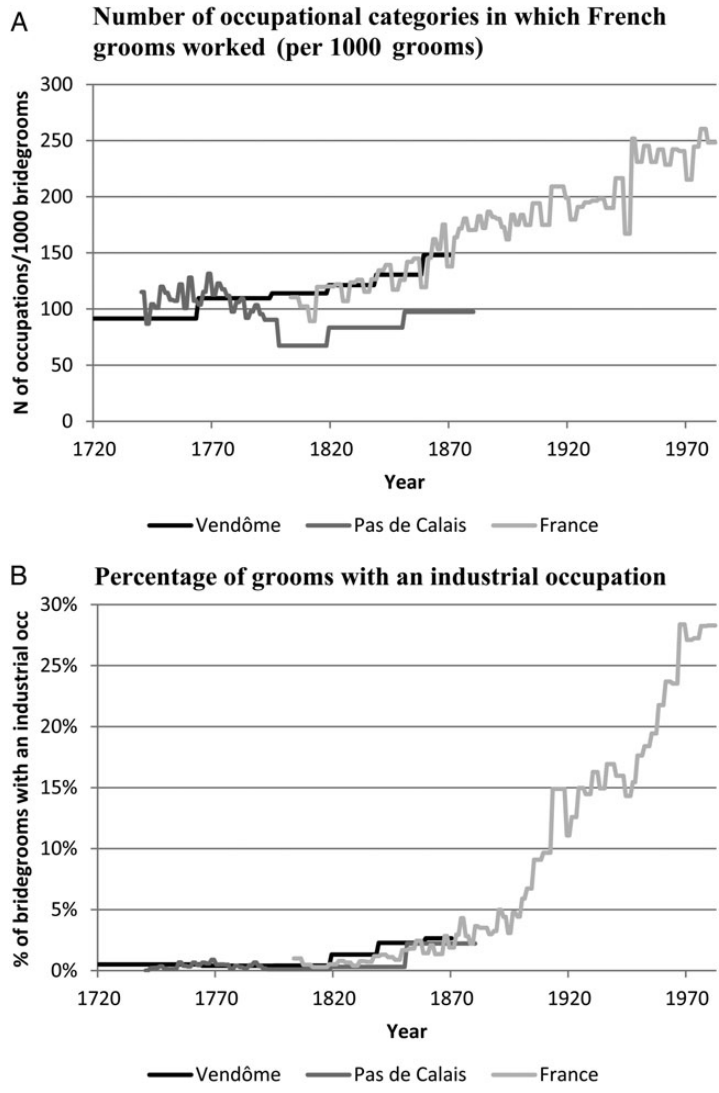


Figure 2. Occupational specialization and industrialization in France, 1720–1986.

HISCO categories into classes based on (a) the manual-non-manual divide, (b) skill level, (c) the degree to which a worker supervises others and (d) the economic sector. Employment status, in the sense of being employed, an employer, or a working proprietor, is not used, because this type of information is not often given in historical datasets. HISCLASS distinguishes twelve classes: (1) Higher managers; (2) Higher professionals; (3) Lower managers; (4) Lower professionals, and clerical and sales personnel; (5) Lower clerical and sales personnel; (6) Foremen; (7) Medium skilled workers; (8) Farmers and fishermen; (9) Lower

skilled workers; (10) Lower skilled farmworkers; (11) Unskilled workers and (12) Unskilled farmworkers. Although distinguishing twelve classes is theoretically interesting, some classes contain too few men in our datasets. We therefore collapse classes 1 to 5 into a class of Non-manual workers, classes 6 and 7 into a class of Skilled workers, classes 9 and 11 into a class of Low and unskilled workers and classes 10 and 12 into a class of Farmworkers.

Figure 3 show the evolution of class distributions in France (1803–1986), as well as in the city of Vendôme (1720–1870) and the department of Pas-de-Calais (1740–1892). The data for France in the nineteenth and twentieth centuries show the decline of farmers' and farmworkers' classes as the economy shifted from agriculture to production, and later the shift into services as witnessed by the rise

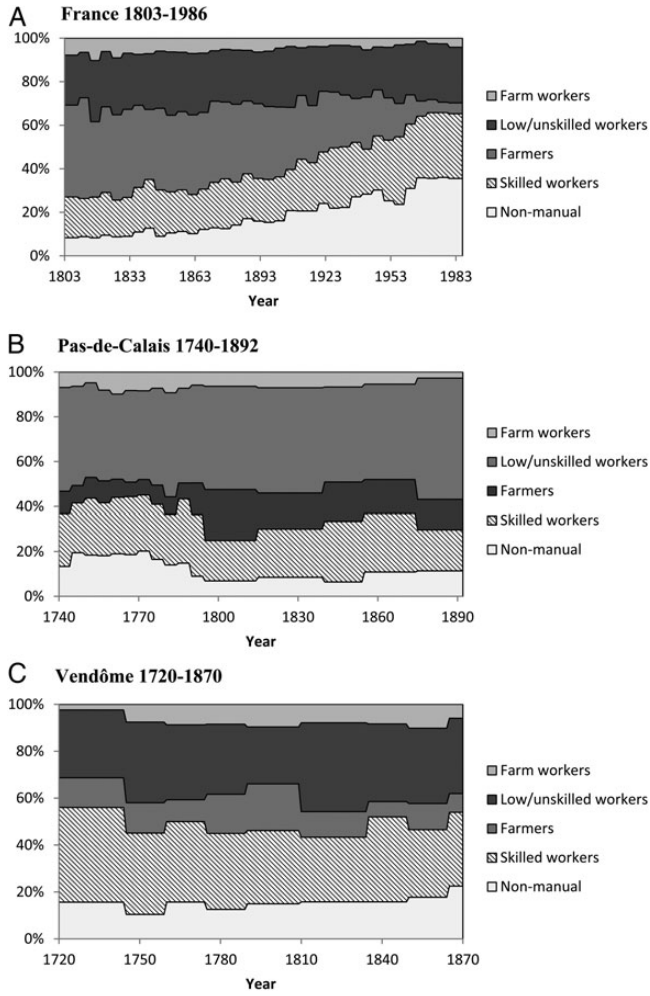


Figure 3. Class distributions of grooms in France, 1720–1986.

of the non-manual class. The class distribution of Vendôme does not, of course, contain many farmers, although in the small and even in the larger cities of the *Ancien Régime* there would have been some, perhaps even having orchards or keeping pigs or poultry in town. The class distribution of a department could resemble that of the country as a whole, but not in this case. The department of Pas-de-Calais in the very north of France did contain some farms, but it is most renowned for its coalmines, and to a large extent this explains the high share of low and unskilled workers marrying in the department throughout the eighteenth and nineteenth centuries; other important groups of unskilled laborers in this department were weavers, of several types.

Having coded the French occupational information for bridegrooms and their fathers into a social class scheme, we proceed to make cross-tabulations for the class of origin (the class into which the bridegroom was born, i.e. the class of his father) and the class of destination (the class of the bridegroom at the time of his marriage). We construct one mobility table by cross-classifying the class of the father and the class of the son for each dataset per period of five years. If the number of cases in a certain period is below 300, we combine adjacent periods to produce a minimum of 300 cases. In this way we created sixty-one mobility tables: thirty-six for France between 1803 and 1986 (from the TRA data), sixteen for Pas-de-Calais between 1740 and 1892, and nine for Vendôme between 1720 and 1870.[74] From these tables we can easily calculate the percentage of immobile grooms, i.e. those in the same class as their fathers, by summing all bridegrooms in the diagonal of the table, dividing the total by the total number of persons in the table and then multiplying it by 100. This also gives us the percentage of mobile grooms of course.

Figure 4 shows the *longue durée* of social mobility. The line ending in 1986 is that for the whole of France; the other two lines are for the city of Vendôme and the industrial department of Pas-de-Calais. As France as a whole has more farmers and farmworkers than a city or an industrial department, it comes as no surprise that in the nineteenth century, when the three lines overlap, France as a whole showed least mobility (although even there more than a third of sons were in a social class different from that of their fathers).

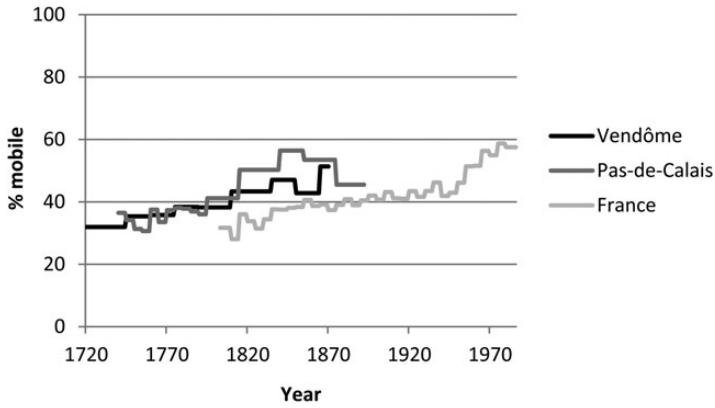


Figure 4. Total intergenerational mobility in France, 1720–1986.

Figure 4 demonstrates a general increase in total mobility in France in the period 1720–1986, clearly refuting the no-change hypothesis (hypothesis 1). For the eighteenth century the increase is visible for Vendôme and Pas-de-Calais. The increase continued during the first half of the nineteenth century in all three datasets, including the TRA data for the whole of France. As a linear regression model for the percentages of mobile bridegrooms in all tables shows, on average this percentage increased by 0.13 per year (Table 3).

According to Sorokin's second hypothesis, the growth in total mobility would stagnate before the French Revolution and accelerate 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. However, this increase leveled off after the mid-nineteenth century, which is not in line with hypothesis 2. The model for hypothesis 2 in Table 3 estimates an average growth in total mobility of 0.14 per cent per annum before 1789 and 0.13 per cent per annum after 1789.

Hypothesis 3 expects greater mobility during the French Revolution, but also in the periods of upheaval during the two world wars. Such short-term effects are difficult to discern in Figure 4. However, the third model (for hypothesis 3) in Table 3 shows that total mobility might even have declined during the French Revolution and the Napoleonic Wars and during the two world wars, though the effects are not significantly different from zero and so, statistically speaking, we cannot conclude that total mobility changed during either of these three periods of upheaval.

Table 3. A test of hypotheses on total mobility (OLS regression, dependent variable % mobile grooms, N = 61 mobility tables)

	Hypothesis 1		Hypothesis 2		Hypothesis 3		Hypothesis 4		Best description	
	b		b		b		b		b	
Constant	20.78	***	20.29	***	20.05	***	20.52	***	20.91	***
Pas-de-Calais	11.29	***	11.34	***	11.30	***	11.37	***	11.59	***
Vendôme	10.57	***	10.62	***	10.53	***	10.62	***	10.28	***
Year	0.13	***								
Year < 1789			0.14	**	0.16	***				
Year ≥ 1789			0.13	***	0.13	***				
French Revolution					−2.22					
WW1					−4.09					
WW2					−6.35					
Year < 1870[a]							0.13	***		
Year ≥ 1870							0.13	***		
Year < 1789[b]									0.11	**
Year 1789–1849									0.19	***
Year 1850–1939									0.05	**
Year > 1939									0.39	***
Adjusted R^2	0.79		0.79		0.80		0.79		0.88	

*** = p < 0.001, ** = p < 0 .01.

[a] An alternative model using the starting point of occupational specialization (1820) to define periods gives similar results.

[b] A model that additionally includes dummies for the French Revolution and the two world wars does not fit the data better.

Nor did total mobility increase faster during the second half of the nineteenth century, when strong industrialization occurred, as the results for the fourth model in Table 4 indicate. On the contrary, the growth in social mobility in the nineteenth century was most pronounced in the first half of the century, after which there was a halt, during the very same period that was characterized most by an acceleration in industrialization. If we take 1870 as the starting point for industrialization on a large scale, the growth in total mobility was, on average, just as great in the years prior to industrialization as in the years after the onset of strong industrialization. Industrialization can thus not have been the sole determinant of this trend in France, since it commenced well before the widespread adoption of steam engines. This is not the strongest test possible of the industrialization hypothesis—as we cannot isolate the effects of industrialization from other possible effects during the same period on social mobility—but it certainly does not point in the direction of an affirmation for this hypothesis.

In Table 3 we illustrate a final model that 'best' describes the changes in mobility that occurred in France between 1720 and 1986. It shows that total mobility had already grown in the seventy years prior to the French Revolution. The growth of 0.11 per cent per annum was equivalent to 7.7 per cent between 1720 and 1789. After the French Revolution, mobility started to increase at a faster pace, by 0.19 per cent per annum. This relatively fast growth continued until the mid-nineteenth century. This is longer than one would expect had it been purely an effect of the French Revolution and the Napoleonic era. Unexpectedly, the early phase of strong industrialization coincided with a stagnation in the growth of total mobility (declining to only 0.05 per cent per annum). The fastest growth in total mobility occurred after World War II. Between 1940 and 1986 the percentage of socially mobile bridegrooms grew on average by 0.39 per cent per annum, amounting to a total increase of 18 per cent.

Table 4. A test of hypotheses on relative mobility (OLS regression, dependent variable uniform difference in association, N = 61 mobility tables)

	Hypothesis 5 b		Hypothesis 6 b		Best description b	
Constant	2.443	***	2.339	***	2.527	***
Pas-de-Calais	−0.096		−0.061		−0.082	
Vendôme	0.006		0.026		0.029	
Year			−0.004	***		
Year < 1870[a]	−0.005	***				
Year ≥ 1870	−0.003	***				
Year < 1789[b]					−0.008	***
Year 1789–1849					−0.006	***
Year 1850–1939					0.000	
Year > 1939					−0.015	***
Adjusted R^2	0.79		0.77		0.87	

*** = p < 0.001, ** = p < 0.01.

[a] An alternative model using the starting point of occupational specialization (1820) to define periods gives similar results.

[b] A model that additionally includes dummies for the French Revolution and the two world wars does not fit the data better.

Relative Mobility

Having constructed comparable sets of mobility tables and having calculated absolute mobility and immobility rates, we proceed to estimate relative mobility. Total mobility is influenced by all those factors determining the marginal distributions in a mobility table. These include changes in the economic structure of a country as reflected in the much-changing sectorial distribution of the labor force in France, as seen in Figure 3, and socially differential demographic behavior, in particular differences in the average number of children per social class. The latter, in turn, influences the chances a son has to follow in his father's footsteps. Relative mobility filters out these influences.

This can be done in various ways. We chose to apply a simple method. We estimated a uniform difference model, which does not compel the relative mobility association in the table to meet a certain predefined pattern but only models the fact that this association differs in a uniform way between the mobility tables, which here means over the years and between the three datasets.[75] To put it differently, the relative mobility in a certain table is a multiple of that in the last table of the TRA data relating to the years 1980–1986. A multiplication parameter of two would mean, for example, that the table has twice as much association (indicating a distinctly less open period); a multiplication parameter of one-half indicates that the association between the social class of the father and that of the son has been halved (indicating a distinctly more open period).

Figure 5 shows to what extent the general association (a measure of relative mobility) in each table differs from the last table in the series for the whole of France (relating to TRA grooms in the years 1980–1986).

Figure 5 shows that the degree of association between class of father and that of son in the first period we have observed (Vendôme in the 1720s) was 2.5 times greater than the association in the most recent period being studied (France 1980–1986). The degree of association was more or less stable in Vendôme between 1720 and 1770; it then started to decline until around 1870. This means that after *c*. 1770 it became easier to change classes from father to son, irrespective of changes in occupational distribution in society. Or, to put it differently, the odds of changing classes increased more or less continuously after *c*. 1770. For the department of Pas-de-Calais the degree of association also decreased, with a little more volatility, from about 1770 to the table covering the years 1795–1814; they were then more or less stable (except for the very last years of this series). The broader periods for the latter two datasets reflect our decision to require a minimum of 300 cases per period, which leads to less detailed temporal analyses when the data are sparser. The data relating to the whole of France display a decline in association (that is greater openness) until *c*. 1880. This was followed by a plateau of stability that extended until World War II, when a new and rapid decline set in, leading at the end of the twentieth century to what would appear to be the most open society France has witnessed.

We observe that the uniform association measures of relative mobility differ somewhat between the series: generally the degree of association (or closeness) seemed higher in the city of Vendôme, and lower in the department of Pas-de-Calais, with the TRA series for the whole of France occupying a middle ground. As Table 4 shows, however, these differences are not significant. It is the fact that the series are so close together that impresses rather than the

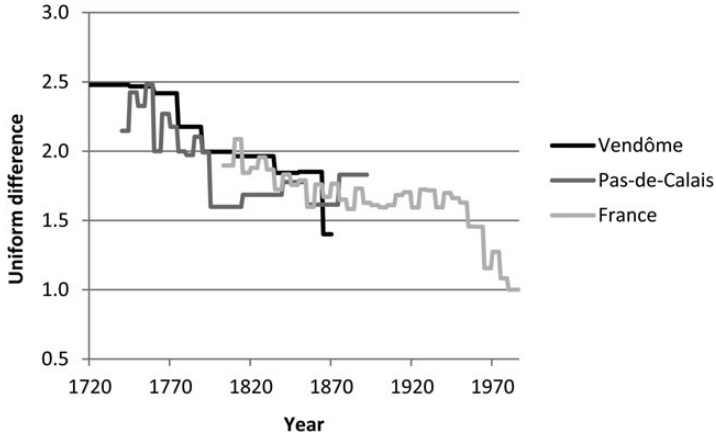


Figure 5. Relative mobility in France, 1720–1986: General association according to a uniform difference model.

NB: "Uniform difference" parameters are multiplicative parameters indicating how much greater or smaller the association in a certain mobility table is compared with that for France (TRA) in 1980–1986.

occasional "bleeps," which may or may not be random perturbations. Again, we proceed by testing our hypotheses using linear regression models. According to hypothesis 6, relative mobility did not change significantly over time (because individuals from higher classes would always find a way to secure a good class position for their children). As Figure 5 has already suggested, this hypothesis is not supported. On average the uniform difference parameter declined by 0.004 per annum, which is highly significant: in 1720 the association between class of father and son was 2.5 times as strong as in 1986. Thus in the long run French society did indeed become more open.

Hypothesis 5 stated that relative mobility would increase with industrialization. Again this hypothesis is not supported. Irrespective of whether we suppose industrialization started in 1820 (results calculated but not shown in the table) or in 1870 (results shown in the table), the association between the class of the father and that of the son decreased faster in the pre-industrial period than after the onset of industrialization (−0.005 is more negative than −0.003). It is reassuring that this conclusion does not thus depend on pinpointing precisely when industrialization took off in earnest (a date we notionally set at 1870) or an earlier date (say 1820, when there was already some early industrialization).

When we estimate the same "best" model for relative mobility as we did for total mobility, we find that the results for relative mobility are similar to those for total mobility, but not completely the same. Again we find an overall increase in mobility (decline in degree of association), and thus an increase in social openness, in France from the beginning of the eighteenth century to the end of the twentieth century. This decline in association was not continuous, however; it characterized the period 1720–1849 (both the period 1720–1788 and the period 1789–1849 show a decrease in association, and an increase in openness) and especially the period 1940–1986, but it is not discernable in the period 1850–1939. A

model that, additionally, included dummies for the French Revolution/Napoleonic era and for the two worlds wars did not, for that matter, fit the data better, and thus these temporal distinctions have not been included in the best-fitting model in Table 4.

Whereas total mobility increased faster after the French Revolution than before, the opposite was true for relative mobility. Relative mobility declined more before 1789 than afterwards (−0.008 versus −0.006). Whatever the mechanism that caused the Revolution to increase mobility, it had to do more with changes in the occupational distribution (as reflected in total mobility) than with the relative chances of sons from higher and lower classes reaching a high-class position themselves (as expressed in our measure for relative mobility). A second difference between the patterns of change in total and relative mobility concerns mobility during the first phase of industrialization. Whereas total mobility increased at a slower rate than before but still increased, the growth in relative mobility came to a complete halt. Both the figures and the tables show, however, that (1) the trend towards greater mobility is not a recent phenomenon—it was already a feature of the early eighteenth century—and that (2) mobility increased much more rapidly after 1939.

Conclusion

A seemingly perennial debate of prime importance in history and sociology—on the trend in intergenerational transmission of social inequality over the long haul—has been resolved, at least for one country: France over the past three centuries. The recent digitization of historical vital registers has provided us with the data to resolve this conundrum. We have tested the hypotheses, drawn from the work of Sorokin and other scholars, against the data.

These data consisted of three, partly overlapping, datasets, of bridegrooms and their fathers marrying in the period 1720–1986. We coded the occupations given in these data uniformly (in HISCO) and then recoded them using a historical international social class scheme (HISCLASS). We then proceeded to construct mobility tables by cross-classifying the class of the father and the class of the son for each dataset per period of five years.

As regards total mobility—the percentage of individuals who end up in a class different from that into which they were born—the literature gave rise to several hypotheses:

1. There was no trend in absolute mobility over the past three centuries.
2. Before the nineteenth century there was no trend in absolute mobility, but there was a persistent increase after the start of the nineteenth century.
3. Owing to the French Revolution and the wars that followed in its wake, absolute mobility increased tremendously in the years 1789–1814, as it did during both 1914–1918 and 1940–1945, followed by a corrective movement afterwards.
4. Total mobility increased in France during industrialization.

The historical record shows that there was an *overall increase in total mobility in France* between the earliest year for which we have data, 1720, and the last year for which we have data, 1986. This increase was apparent in the eighteenth

century (where we have data for the city of Vendôme and the department of Pas-de-Calais). It continued during the first half of the nineteenth century, where we have data for the whole of France. However, during the second half of the nineteenth century, when industrialization got underway, the rate of increase did not actually rise, it fell. This finding falsifies, for France, hypothesis 1 and at the very least significantly modifies hypothesis 2: there was an upward trend even under the *Ancien Régime*. *Industrialization cannot have been the sole or even major determinant of this trend in France*, as hypothesis 4 presumed, since it actually commenced well before the widespread adoption of steam engines, and, furthermore, did not increase with industrialization. There is *little evidence that total mobility increased due to the French Revolution or to either World War I or World War II*. The Vendôme and the Pas-de-Calais data did show an increase in absolute mobility in the first few decades of the nineteenth century compared with the second half of the eighteenth century, but the increase leveled off only after the mid-nineteenth century, long after Napoleon had been exiled to Elba.

Regarding relative mobility, or social openness, there were several hypotheses arising from the literature:

1. The onset of industrialization coincided with a trend towards greater relative mobility.
2. There was no trend in relative mobility over time due to compensatory strategies being pursued by the social elites.

We put these hypotheses to the test by analyzing the sixty-one comparable tables we constructed. We used, for this purpose, a uniform difference model, a simple model that captures to what extent a certain table (referring to a specified period) was more or less open than the last table in our dataset (of TRA grooms in the period 1980–1986). Our data show that *overall, relative mobility increased in France between 1770 and 1986*. This growing social openness—indicative of how "easy" it was for Frenchmen to escape their social class of birth—was clearly visible in the data for the eighteenth century for Vendôme and Pas-de-Calais. The TRA data for the whole of France reveal *an initial surge in openness until* c. *1880 and a second major surge after 1939*. This temporal pattern does not coincide with the process of industrialization, making it *unlikely that industrialization was the sole or even major determinant of increasing openness in France*.

Whereas total mobility increased more rapidly after the French Revolution than before, the opposite was true for relative mobility; there is *no indication that the French Revolution (or, for that matter, other periods of war) provided a clear window of opportunity in the sense of increased social openness*. While we set out to test a "Sorokin" effect, the data appear closer to the observations of de Tocqueville, who wrote, in 1836:

> If we now close the page of history, and, after having allowed half a century to elapse, come to consider what the intervening time has produced—we observe immense changes; but, in the midst of new and unheard-of things, we easily recognise the same characteristic features which struck us half a century earlier. The effects, therefore, said to be produced by the French Revolution are usually exaggerated. Without doubt, there never was a revolution more powerful, more rapid, more destructive, and more creative than the French Revolution. It would,

> however, be deceiving ourselves strangely to believe that there arose out of it a French people entirely new [. . .][76]

We compared both total and relative mobility over time with observable indicators of industrialization (steam power and other engine power, as well as the proportion of people in industrial occupations) and found a lack of co-movement. Our third indicator, economic specialization, is broader and also covers changes in the pre-steam economy and later changes in the service sector, but it still did not move synchronously with total or relative mobility. We cannot definitively dissociate the effects of industrialization from those of other potential causes of social mobility, for example schooling, the degree to which people can easily travel to obtain a new job in another region or, for that matter, the degree to which they were aware of job opportunities outside their locality. Nor can we rule out the possibility that economic growth in general—as captured by a measure such as per capita gross departmental product—was a driver, as we lack such data. It might also have been the case that, at times, several drivers operated, but in different directions. Untying that conundrum would require other sources on such presumed causes of mobility.

When the aim is to capture long-term trends and possible punctuations in these trends by wars and revolutions, the homogeneous data we have used here have, we feel, a clear advantage over the datasets previously available. This certainly holds true for the scattered miscellaneous data available to Sorokin, of course, but also to most earlier studies on social mobility relating to very small parts of France, much restricted periods or specific social groups only, making it near impossible to obtain a bird's-eye view. There are some exceptions however. Bourdieu, Ferrie and Kesztenbaum use marriage data for the nineteenth century and compared these with survey data from 1977.[77] They found (as we do) that total mobility increased, but that relative mobility decreased during the twentieth century, which is at odds with our conclusion. While we can only speculate as to why this is so, we presume it may be due to the fact that we use a single source (marriage records) while they have been forced to compare marriage records with survey data. Whatever the reason, the decline in relative mobility we observe for the twentieth century with our homogeneous series of marriage cohorts has also been found by several authors for the period 1953–1993 using homogeneous series of surveys, which is reassuring.[78]

The data used here are, however, not perfect, for several reasons. To begin with, while the data for the nineteenth and the twentieth centuries relate to a national representative sample, those for the eighteenth century relate to only one city and one department. Given the rapid developments being made in the digital humanities, it is certainly conceivable that other regions in France will in due course be covered. As the regional coverage offered by our pre-TRA survey is so limited, we have been cautious in formulating conclusions for the eighteenth century. We observe a decline in social openness after 1770, but we cannot rule out the possibility that this decline actually set in earlier but was simply not visible in this one city and this one department, or that it is obscured by the rather broad marriage cohorts we sometimes had to construct in order to obtain enough cases. This may be so, we feel, even though the degree of relative mobility in the various datasets did not differ significantly (which would have been a pointer in this direction). For the department of Pas-de-Calais, however, there

might also be an alternative or supplementary explanation. The decrease in social mobility in Pas-de-Calais after the mid-nineteenth century could have been partly connected to a process specific to this region, namely the influx of foreign industrial workers (from Poland, Italy and from neighboring Belgium) to this department, doing work in factories that native-born Frenchmen declined to do.[79]

We also feel it is premature to claim that the trends observable in our French data can be generalized to the experience of Europe *tout court*. This holds true for total and relative mobility rates and for the lack of connection with the historical process of industrialization; all of this may or may not have been unique to France. This also holds true for the lack of an effect by wars and revolutions on social mobility. Admittedly, one might argue that if such an effect exists, one would expect to find it for the momentous upheavals caused by the French Revolution and the Napoleonic Wars. However, the best dataset we have does not start until after 1800, and even then we might simply not have enough cases to detect such an effect. The same might hold true for the lack of any window of opportunity caused by the two world wars. Perhaps one needs more data (possibly for more countries) to capture such an effect.

When digitized, cleaned and comparably coded, historical records afford an opportunity to test interesting notions on long-term developments in social mobility and on the short-term effects of wars and revolutions. While France has seen a great deal of fluctuation in intergenerational social mobility among men over the past three centuries, it appears neither true that there was a continuous upward movement driven by industrialization, nor that these fluctuations were constant overall, which would presume the existence of periods in which total mobility decreased. Such periods have not been observed in France for the years 1720 to 1986. Whatever the precise causes of the mobility patterns observed, the very fact that we are now able to consistently measure both total and relative mobility is a major advance, and a tribute to the scholars and genealogists who have created these enormous datasets.

Appendix 1. Overview of mobility tables and total and relative mobility parameters

Region	Period	N	Total mobility	Uniform difference parameter
France	1803–1809	887	31.68	1.0000
France	1810–1814	770	28.05	1.1013
France	1815–1819	771	36.01	0.9723
France	1820–1824	738	33.74	0.9915
France	1825–1829	952	31.41	1.0322
France	1830–1834	972	34.36	0.9852
France	1835–1839	1158	37.56	0.9097
France	1840–1844	1123	37.49	0.9666
France	1845–1849	1182	38.07	0.9267
France	1850–1854	1198	38.31	0.9440
France	1855–1859	1238	40.63	0.8434
France	1860–1864	1277	38.68	0.9285
France	1865–1869	1409	39.11	0.8813
France	1870–1874	1270	37.32	0.9317

Continued

Appendix 1. *Continued*

Region	Period	N	Total mobility	Uniform difference parameter
France	1875–1879	1240	39.03	0.8709
France	1880–1884	1337	40.84	0.8347
France	1885–1889	1326	38.91	0.9127
France	1890–1894	1429	40.45	0.8586
France	1895–1899	1455	41.99	0.8498
France	1900–1904	1268	40.69	0.8413
France	1905–1909	809	43.14	0.8497
France	1910–1914	703	41.11	0.8881
France	1915–1919	500	41.00	0.8990
France	1920–1924	1048	43.42	0.8406
France	1925–1929	909	41.58	0.9089
France	1930–1934	904	43.47	0.9057
France	1935–1939	660	46.21	0.8411
France	1940–1944	561	41.89	0.8961
France	1945–1949	1095	42.92	0.8761
France	1950–1954	878	46.13	0.8588
France	1955–1959	936	51.39	0.7682
France	1960–1964	933	51.55	0.7672
France	1965–1969	996	56.33	0.6094
France	1970–1974	1087	54.92	0.6717
France	1975–1979	877	58.72	0.5712
France	1980–1986	746	57.51	0.5268
Pas-de-Calais	1740–1744	494	36.44	1.1326
Pas-de-Calais	1745–1749	580	34.41	1.2789
Pas-de-Calais	1750–1754	646	31.27	1.2273
Pas-de-Calais	1755–1759	656	30.64	1.3082
Pas-de-Calais	1760–1764	568	37.50	1.0555
Pas-de-Calais	1765–1769	618	33.50	1.1971
Pas-de-Calais	1770–1774	608	37.34	1.1478
Pas-de-Calais	1775–1779	691	38.06	1.0545
Pas-de-Calais	1780–1784	863	37.78	1.0406
Pas-de-Calais	1785–1789	1051	36.92	1.1101
Pas-de-Calais	1790–1794	547	36.01	1.0507
Pas-de-Calais	1795–1814	362	41.16	0.8432
Pas-de-Calais	1815–1839	400	50.25	0.8893
Pas-de-Calais	1840–1854	344	56.40	0.9372
Pas-de-Calais	1855–1874	406	53.45	0.8518
Pas-de-Calais	1875–1892	334	45.51	0.9656
Vendôme	1720–1744	332	31.93	1.3076
Vendôme	1745–1759	317	35.33	1.3016
Vendôme	1760–1774	344	35.76	1.2754
Vendôme	1775–1789	318	38.36	1.1478
Vendôme	1790–1809	301	38.21	1.0528
Vendôme	1810–1834	330	43.33	1.0363
Vendôme	1835–1849	323	47.06	0.9724
Vendôme	1850–1864	423	42.79	0.9766
Vendôme	1865–1870	302	51.32	0.7389

Endnotes

This article was supported by the European Research Council, Advanced Investigator Grant, no. 230279: Towards Open Societies? Trends, Variations and Driving Forces of Intergenerational Social Mobility in Europe Over the Past Three Centuries. See also www.towardsopensocieties.org. We would like to thank both the audience at the seminar organized by Antoinette Fauve-Chamoux at the École des Hautes Études en Sciences Sociales, Paris, on 26 January 2012, and the anonymous referees of this Journal for their comments, as well as Chris Gordon for language editing. We are grateful, too, to the following individuals and institutions for providing us with the data used in this article: l'Association Généalogie Vendômoise, its president Renée Brizions and the volunteers who collected the data, as well as the maire of the Vendôme l'Association Généalogique du Pas-de-Calais, its president Françoise Dedourge, and Anny Damsin, who acted as intermediary, as well as the volunteers who collected the data. Address correspondence to Marco H.D. van Leeuwen, Department of Sociology, Utrecht University, Utrecht, The Netherlands. Email: m.h.d.vanleeuwen@uu.nl; Ineke Maas, Department of Sociology, Utrecht University, Utrecht, The Netherlands; Danièle Rébaudo, Centre National de la Recherche Scientifique, Centre de Recherches Historiques, Paris, France; and Jean-Pierre Pélissier, Institut National de la Recherche Agronomique, MONA, Ivry-sur-Seine, France.

1. P. Sorokin, *Social and Cultural Mobility* (Glencoe, IL, 1959 [1929]).

2. *Ibid.*; Clark Kerr, John T. Dunlop, Frederick H. Harbison & Charles A. Myers, *Industrialism and Industrial Man* (Cambridge, MA, 1960); D. Landes, *The Unbound Prometheus: Technological Change and Industrial Development in Western Europe from 1750 to the Present* (Cambridge, 1969); D.L. Featherman, F.L. Jones & R.M. Hauser, "Assumptions of Social Mobility Research in the U.S.: The Case of Occupational Status," *Social Science Review* 4:4 (1975): 329-360; D.B. Grusky, "American Social Mobility in the 19th and 20th Centuries," CDE Working Paper No. 86-28 (1986), University of Wisconsin, Madison; D.B. Grusky, "Industrialization and the Status Attainment Process: The Thesis of Industrialism Reconsidered," *American Sociological Review* 48 (1983): 494-506; H.B.G. Ganzeboom, R. Luijkx & D.J. Treiman, "Intergenerational Class Mobility in Comparative Perspective," *Research in Social Stratification and Mobility* 8 (1989): 3–84; P. Bourdieu & J-C. Passeron, *Reproduction in Education, Society and Culture* (London, 1972); R. Erikson & R. Goldthorpe, *The Constant Flux: A Study of Class Mobility in Industrial Societies* (Oxford, 1992); A. Miles, "How Open was Nineteenth Century British Society? Social Mobility and Equality of Opportunity, 1839-1914," *Building European Society: Occupational Change and Social Mobility in Europe 1840-1940*, eds. Andrew Miles & David Vincent (Manchester, 1993), 18-39; A. Miles, *Social Mobility in Nineteenth- and Early Twentieth-Century England* (London, 1999); R. Breen (ed.), *Social Mobility in Europe* (Oxford, 2004).

3. See, for instance, I.K. Fukumoto & D.B. Grusky, "Social Mobility and Class Structure in Early-Industrial France," *Building European Society*, eds. Miles & Vincent, 40-67; M.H.D. van Leeuwen & I. Maas, "Long-Term Social Mobility: Research Agenda and a Case Study (Berlin, 1825–1957)," *Continuity and Change* 11:3 (1996): 399–433; S. Thernstrom, *Poverty and Progress: Social Mobility in a Nineteenth Century City* (Cambridge, MA, 1964); *idem*, *The Other Bostonians: Poverty and Progress in the American Metropolis, 1880-1970* (Cambridge, 1973).

4. Marco H.D. van Leeuwen & Ineke Maas, "Historical Studies of Social Mobility and Stratification," *Annual Review of Sociology*, 36 (2010): 429-451; *idem*, *HISCLASS: A Historical International Social Class Scheme* (Leuven, 2011).

5. J. Bourdieu, J.P. Ferrie & L. Kesztenbaum, "Vive la Différence? Intergenerational Mobility in France and the United States during the Nineteenth and Twentieth Centuries," *Journal of Interdisciplinary History* 39:4 (2009): 523-557; Grusky, "American

Social Mobility in the 19th and 20th Centuries". This problem has also been noted by H. Kaelble, *Historical Research on Social Mobility: Western Europe and the USA in the Nineteenth and Twentieth Centuries* (London, 1981).

6. Miles, "How Open was Nineteenth Century British Society?"; D. Mitch, "'Inequalities which Every One May Remove': Occupational Recruitment, Endogamy, and the Homogeneity of Social Origins in Victorian England," *Building European Society*, eds. Miles & Vincent, 140–164.

7. See, for example, Ineke Maas & Marco H.D. van Leeuwen, "Industrialization and Intergenerational Mobility in Sweden," *Acta Sociologica* 45 (2002): 179-194; Richard L. Zijdeman, "Like My Father Before Me: Intergenerational Occupational Status Transfer During Industrialization (Zeeland, 1811–1915)," *Continuity and Change* 24:3 (2009): 455–486; *idem*, "Status Attainment in the Netherlands, 1811-1941: Spatial and Temporal Variation Before and During Industrialization" (Ph.D. thesis, University of Utrecht, 2010).

8. It appears that the 1942 book was written before the 1959 one, but this is not so. The much-cited 1959 publication is a largely unrevised reprint of a work that first appeared in 1929. The 1942 book is thus a refinement of Sorokin's ideas as appearing in the often-quoted 1959 book, especially on the effect of wars and revolutions on social mobility.

9. Sorokin, *Social and Cultural Mobility*, 152-154.

10. *Ibid.*, 152-153.

11. *Ibid.*, 143, 416-417.

12. *Ibid.*, 155.

13. *Ibid.*, 458.

14. *Ibid.*, 418.

15. *Ibid.*, 416-417.

16. *Ibid.*, 150-151.

17. *Ibid.*, 466.

18. P. Sorokin, *Man and Society in Calamity: The Effects of War, Revolution, Famine, Pestilence upon Human Mind, Behavior, Social Organization and Cultural Life* (New York, 1942), 111.

19. *Ibid.*, 113.

20. *Ibid.*, 117.

21. *Ibid.*, 121.

22. *Ibid.*, 113-114.

23. *Ibid.*, 114-116. A similar statement is to be found in Sorokin, *Social and Cultural Mobility*, 484-485: "Many 'newcomers' already have fallen from power, many previous aristocrats have climbed back again. The process is still going on. Its final outcome will probably be that a part of the previously degenerated aristocracy will remain in the lower strata; the talented part will climb up again, and with the talented part of 'the newcomers' will compose the upper political strata of the future. [. . .] Before our eyes is repeated what has been repeated many times in the tragic comedy of human history."

24. J.M. Winter, "Britain's 'Lost Generation' of the First World War," *Population Studies* 31:3 (1977): 449-466.

25. R.D. Penn, *Skilled Workers in the Class Structure* (Cambridge, 1984). For a similar observation see C. Pooley & J. Turnbull, *Migration and Mobility in Britain since the 18th Century* (London, 1998).

26. C. Lee, "Military Positions and Post-Service Occupational Mobility of Union Army Veterans, 1861–1880," *Explorations in Economic History* 44:4 (2007): 680-698.

27. *Idem*, "Military Service and Economic Mobility: Evidence from the American Civil War," *Explorations in Economic History* 49:3 (2012): 367-379.

28. See, for example, J. Cohen, D. Segal & L. Temme, "The Impact of Education on Vietnam-Era Veterans' Occupational Attainment," *Social Science Quarterly* 73:2 (1992): 397–409; Yu Xie, "The Socioeconomic Status of Young Male Veterans, 1964-1984," *Social Science Quarterly* 73:2 (1992): 379-396.

29. S.M. Lipset & H.L. Zetterberg, "A Theory of Social Mobility," *Social Mobility in Industrial Society*, eds. S.M. Lipset & R. Bendix (Berkeley, 1959): 11-75.

30. Kerr, Dunlop, Harbison & Myers, *Industrialism and Industrial Man*.

31. Landes, *The Unbound Prometheus*, 546.

32. Fukumoto & Grusky, "Social Mobility and Class Structure in Early-Industrial France"; H.B.G. Ganzeboom, D.J. Treiman & W.C. Ultee, "Comparative Intergenerational Stratification Research: Three Generations and Beyond," *Annual Review of Sociology* 17 (1991): 277–302; Kaelble, *Historical Research on Social Mobility*; *idem*, *Social Mobility in the 19th and 20th Centuries: Europe and America in Comparative Perspective* (Leamington Spa, 1985); R. Schüren, *Soziale Mobilität: Muster, Veränderungen und Bedingungen im 19. und 20. Jahrhundert* (St. Katharinen, 1989).

33. Donald J. Treiman, "Industrialization and Social Stratification," *Social Stratification: Research and Theory for the 1970s*, ed. E.O. Laumann (New York, 1970), 207-234.

34. See also Fukumoto & Grusky, "Social Mobility and Class Structure in Early-Industrial France," and Ganzeboom, Luijkx & Treiman, "Intergenerational Class Mobility in Comparative Perspective," although the latter refer to a post-1955 trend.

35. Featherman, Jones & Hauser, "Assumptions of Social Mobility Research".

36. Erikson & Goldthorpe, *The Constant Flux*.

37. Bourdieu & Passeron, *Reproduction in Education, Society and Culture*; Randall Collins, *The Credential Society: An Historical Sociology of Education and Stratification* (New York, 1979); Grusky, "Industrialization and the Status Attainment Process".

38. Erikson & Goldthorpe, *The Constant Flux*.

39. Ganzeboom, Luijkx & Treiman, "Intergenerational Class Mobility in Comparative Perspective".

40. Van Leeuwen & Maas, "Long-Term Social Mobility".

41. Miles, "How Open was Nineteenth Century British Society?"; P. Lambert, K. Prandy & W. Bottero, "By Slow Degrees: Two Centuries of Social Reproduction and Mobility in Britain," *Sociological Research Online* 12:1 (2007); Kaelble, *Social Mobility*, concluded that relative mobility in Germany increased.

42. Ineke Maas & Marco H.D. van Leeuwen, "Occupational Careers of the Total Male Labour Force during Industrialization: The Example of Nineteenth-Century Sweden," *Origins of the Modern Career*, eds. D. Mitch, J. Brown & M.H.D. van Leeuwen (Aldershot, 2004), 227-258.

43. Zijdeman, "Status Attainment in the Netherlands".

44. G. Clark, *The Son Also Rises: Surnames and the History of Social Mobility* (Princeton, 2014).

45. An overview of historical studies on the position of European and American elites during industrialization has also been given by Kaelble, *Historical Research on Social Mobility*.

46. A. Daumard, *Structures et relations sociales à Paris au milieu du XVIIIe siècle* (Paris, 1961); A. Daumard & F. Furet, "Méthodes de l'histoire sociale: Les archives notariales et la méchanographie," *Annales. Économies, Sociétés, Civilisations* 14 (1959): 676-693.

47. Claire Chatelain, *Chronique d'une ascension sociale. Exercice de la parenté chez de grands officiers (XVI^{e}- XVII^{e} siècles)* (Paris, 2008); Harvey Chisick, "Bourses d'études et mobilité sociale en France à la veille de la Révolution. Bourses et boursiers du collège Louis-le-Grand (1762-1789)," *Annales. Économies, Sociétés, Civilisations* 30:2 (1975): 1562-1584; Fanny Cosandey, *Dire et vivre l'ordre social en France sous l'Ancien régime* (Paris, 2005); Antoinette Fauve-Chamoux, "Stratégies individuelles et politiques de reproduction familiale. Le perpétuel ajustement intergénérationnel des destins migratoires à Esparros (XVIIe-XXe siècles)," *Marchés, migrations et logiques familiales dans les espaces français, canadien et suisse, 18e-20e siècles*, eds. Luigi Lorenzetti, Anne-Lise Head-König & Joseph Goy (Bern, 2005), 149-166; Pierre Goubert, *Beauvais et le Beauvaisis de 1600 à 1730* (Paris, 1960); M. Papy, "Professions et mobilité à Oloron sous la monarchie censitaire d'après les listes de recrutement militaire," *Revue d'Histoire Economique et Sociale* 49 (1971): 225-264; François-Joseph Ruggiu, "Tel père, quel fils ? La reproduction professionnelle dans la marchandise et l'artisanat parisiens au cours des années 1650 et 1660," *Histoire, économie et société* 17:4 (1998): 561-582.

48. Collins, *The Credential Society*.

49. J. Pélissier, D. Rébaudo, M.H.D. van Leeuwen & I. Maas, "Migration and Endogamy According to Social Class: France 1803-1986," *International Review of Social History* 50 (Supplement) 2005: 219-246.

50. Fukumoto & Grusky, "Social Mobility and Class Structure in Early-Industrial France".

51. R. Aminzade & R. Hodson, "Social Mobility in a Mid-Nineteenth Century French City," *American Sociological Review* 47:4 (1982): 441-457.

52. Fukumoto & Grusky, "Social Mobility and Class Structure in Early-Industrial France", reanalyze data from William H. Sewell, *Structure and Mobility: The Men and Women of Marseille, 1820–1870* (New York, 1985).

53. J-P. Pinol, "Occupational and Social Mobility in Lyon from the Late Nineteenth to the Early Twentieth Century," *Building European Society*, eds. Miles & Vincent, 116–139.

54. Noël Bonneuil & Paul-André Rosental, "Changing Social Mobility in Nineteenth-Century France," *Historical Methods* 32:2 (1999): 53-73.

55. Bourdieu, Ferrie & Kesztenbaum, "Vive la Différence?". Their main interest, however, was in comparing France with the United States, and they concluded that the difference in mobility regimes between the two countries narrowed during the nineteenth century but widened during the twentieth century.

56. Erikson & Goldthorpe, *The Constant Flux*.

57. J.H. Goldthorpe & L. Portocarero, "La mobilité sociale en France, 1953-1970: nouvel examen," *Revue française de sociologie* 22:2 (1981): 151-166.

58. C. Thêlot, *Tel père, tel fils? Position sociale et origine familiale* (Paris, 1982); Ganzeboom, Luijkx & Treiman, "Intergenerational Class Mobility in Comparative Perspective"; R. Breen & R. Luijkx, "Social Mobility in Europe between 1970 and 2000," *Social Mobility in Europe*, ed. Breen, 37-76, for the period 1970-1993. L-A. Vallet, "Quarante années de mobilité sociale en France. L'évolution de la fluidité sociale à la lumière de modèles récents," *Revue française de sociologie* 40:1 (1999): 5-64; *idem*, "Change in Intergenerational Class Mobility in France from the 1970s to the 1990s and its Explanation: An Analysis following the CASMIN Approach," *Social Mobility in Europe*, ed. Breen, 115-147.

59. See http://en.wikipedia.org/wiki/Napoleonic_Wars_casualties, last accessed August 12, 2014; http://en.wikipedia.org/wiki/World_War_I_casualties #Casualties_by_1914_borders, last accessed August 12, 2014; http://en.wikipedia.org/wiki/World_War_II_casualties #Total_deaths, last accessed August 12, 2014.

60. K. Davis, "Social and Demographic Aspects of Economic Development in India," *Economic Growth: Brazil, India, Japan*, eds. S. Kuznets, E.W. Moore & J.J. Spengler (Durham, NC, 1955), 263–315, 265.

61. Patrick Verley, *Nouvelle histoire économique de la France contemporaine. 2. L'industrialisation 1830-1914* (Paris, 1995); *idem*, *La première révolution industrielle* (Paris, 2006, 2nd edn).

62. Aprile Sylvie, *La Révolution Inachevée 1815-1870* (Paris, 2010); F. Braudel & E. Labrousse, *Histoire économique et sociale de la France, III-1789-1880* (Paris, 1993).

63. *Annuaire Statistique de la France*, various years.

64. B.R. Mitchell, *International Historical Statistics: Europe, 1750-2005* (London, 2007).

65. Denis Woronoff, *Histoire de l'industrie en France du XVIe siècle à nos jours* (Paris, 1994).

66. Daniel Diatkine & Jean-Marc Gayman, *Histoire des faits économiques, tome 2: croissance et crises en France de 1895 à 1974* (Paris, 1995), 25.

67. Woronoff, *Histoire de l'industrie en France du XVIe siècle à nos jours*; Diatkine & Gayman, *Histoire des faits économiques*.

68. Bonneuil & Rosental, "Changing Social Mobility in Nineteenth-Century France"; J. Dupâquier, "L'enquête des 3 000 Familles", *Annales de Démographie Historique* 1:107 (2004): 7-18; J. Dupâquier & D. Kessler, "L'enquête des 3000 familles," *La société française au XIXe siècle. Tradition, transition, transformations*, eds. J Dupâquier & D. Kessler (Paris, 1992), 23-61; Pélissier, Rébaudo, van Leeuwen & Maas, "Migration and Endogamy According to Social Class: France, 1803-1986"; Paul-André Rosental, *Les sentiers invisibles. Espace, familles et migrations dans la France du 19e siècle* (Paris, 1999); *idem*, "La migration des femmes (et des hommes) en France au XIXe siècle," *Annales de Démographie Historique* 1 (2004): 107-136; Jérôme Bourdieu, Lionel Kesztenbaum and Gilles Postel-Vinay, *L'enquête TRA: Histoire d'un outil, outil d'histoire. Tome 1: 1793-1902* (Paris, 2013).

69. Note that the N in the columns "Father's class missing" in Table 2 is less than the total number of cases with missing information on father's class in Table 1. This is because Table 2 includes only cases in which information on son's class is not missing.

70. Wiebke Schulz, Ineke Maas & Marco H.D. van Leeuwen, "Occupational Career Attainment During Modernization: A Study of Dutch Men in 841 Municipalities between 1865 and 1928," *Acta Sociologica* 58:1 (2015): 5-24.

71. A. Desrosières & L. Thévenot, *Les catégories socio-professionnelles* (Paris, 1992).

72. Marco H.D. van Leeuwen, Ineke Maas & Andrew Miles, *HISCO: Historical International Standard Classification of Occupations* (Leuven, 2002); *idem*, "Creating a

Historical International Standard Classification of Occupations: An Exercise in Multinational Interdisciplinary Cooperation," *Historical Methods* 37:4 (2004): 186–197.

73. Van Leeuwen & Maas, *HISCLASS*; G. Bouchard, *Tous les métiers du monde. Le traitement des données professionnelles en histoire sociale* (Sainte-Foy, 1996).

74. See Appendix 1 for details of the mobility tables.

75. Erikson & Goldthorpe, *The Constant Flux*; Yu Xie, "The Log-Multiplicative Layer Effect Model for Comparing Mobility Tables", *American Sociological Review* 57:3 (1992): 380-395. This model is estimated using LEM. See Jeroen K. Vermunt, *LEM: A General Program for the Analysis of Categorical Data* (Tilburg, 1997).

76. A. de Tocqueville, "France before the Revolution," *Journal of Classical Sociology* 9:1 (2009): 17-66.

77. Bourdieu, Ferrie & Kesztenbaum, "Vive la Différence?".

78. Ganzeboom, Luijkx & Treiman, "Intergenerational Class Mobility in Comparative Perspective"; Vallet, "Quarante années de mobilité sociale en France"; *idem*, "Change in Intergenerational Class Mobility in France from the 1970s to the 1990s".

79. G. Noiriel, *Le Creuset français. Histoire de l'immigration (XIX^e – XX^e siècle)* (Paris, 1988).