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Intergenerational mobility in 19th-century Italy: A case study approach

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Intergenerational mobility in 19th-century Italy:

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Abstract

This paper aims at exploring the dynamics of intergenerational mobility of occupations in 19th-century Italy, by investigating the relationship between social mobility and industrialization at its very early stages. In this endeavor, we draw upon individual-level occupational data from marriage certificates collected from four different State archives for two benchmark years, 1815 and 1866. We follow a case-study approach, focusing on two medium-size cities and surrounding municipalities that would have played a role in the country's industrial development and two rural areas (Brescia, Salerno, the province of Udine, and Pisticci). Unlike most studies on intergenerational mobility, this paper provides estimates both on male and female mobility. Both men and women exhibited an increase in mobility throughout the 19th century, but the increase was more pronounced for women. This work makes a first attempt to investigate the drivers of mobility of occupations in pre-industrial Italy. In particular, we draw the attention on the association between literacy and social mobility. We explain the limited role of literacy in increasing social mobility rates by pointing out that, at the time, limited educational provision, particularly for girls, meant that being educated was a result of high social status rather than an active channel through which individuals could improve their occupational status through higher education.

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1. Introduction

The persistence of social status across generations in Italy is remarkably high (Acciari, Polo, and Violante 2022). Low rates of social mobility imply that current inequality will be replicated in future generations. However, economic and economic history literature have mostly focused on the post-WWII period (Acciari, Polo, and Violante 2022, Barone and Guetto 2020, Güell et al. 2018, Schizzerotto and Marzadro 2008) and we still know very little about social mobility in Italy before the Unification.

Lifting the veil on social mobility patterns in 19th-century Italy can help broaden our knowledge on a pivotal – and yet mostly neglected – chapter of the Italian history, the *Risorgimento* (ca. 1815-1870). The *Risorgimento* is known for its political history, featuring the rise of nationalism and consequent nation-building efforts. It has long been considered as a period of clash between the social and economic modernization and the backwardness of the *Ancien Régimes* (Riall, 2008). A growing literature attributes a key role to the *Risorgimento* and to the previous Napoleonic era (ca. 1799 – 1815) in explaining the infamously regionally unequal development of unified Italy (e.g., Ciccarelli and Weisdorf 2019, Postigliola and Rota 2020, 2021; Bozzano, Cappelli, and Vasta 2023; Martinez 2023). Nonetheless, we know surprisingly little on the extent to which the political upheavals of the *Risorgimento* resulted into structural changes in society. The present paper aims at filling this gap by exploring the evolution of social mobility patterns during this period. In particular, this work surveys intergenerational mobility of occupations. Uncovering these dynamics would permit to investigate whether socio-economic change was unequally distributed and to what extent. Hence, studying social mobility during the Italian *Risorgimento* would be essential to grasp long-run patterns of inequality during the Italian industrialization, which would occur only later on: high social mobility before the industrialization would mean lower inequality rates at the onset of the industrialization process. Moreover, this work also provides a useful benchmark for studies on social mobility focusing on later period as it contributes to understand what the starting point and the social mobility trajectory was. Last, this paper aims at exploring the drivers of social mobility and, in particular, its association with human capital in 19th-century Italy. Using data on literacy allows to investigate the relationship between social mobility and early educational supply efforts during the *Risorgimento*.

In this endeavor, we adopt a case study approach, embracing both a comparative and diachronic perspective. We select four locations following rigorous selection criteria, respectively two in Northern and two in Southern Italy. The selected areas of Italy are emblematic of the 'many Italies' of the time, in

terms of geographic location, economic structure, institutional norms, and environmental factors: industrially prone locations, such as Brescia and its province (Lombardy); rural with the potential to industrialize, as the province of Udine (in today's Friuli Venezia Giulia); industrially prone areas destined to decline after the country's industrialization, as Salerno (Campania); traditionally rural and backward areas, as Pisticci (Basilicata). We use individual-level occupational data from marriage certificates collected in the Civil Register for two benchmark years, 1815 and 1866. Each certificate provides socioeconomic information (name, age, occupation, place of birth, and residence) about the spouses and their parents. We create occupational categories using standardized classification schemes (HISCLASS) to make our estimates comparable over time and across space.

2. Literature Review

The resurgence of interest in social mobility in the last decades described Italy as an immobile country. This has been confirmed by the growing economic literature, which suggests very high persistence of social status across generations in Italy. According to Acciari, Polo, and Violante (2022), the probability for a person whose parents come from the bottom one fifth of the income distribution to enter the top fifth is 11%, with strong differences according to socio-demographic characteristics and geographical imbalances. North-Eastern provinces have higher rates of mobility, comparable to those of Northern-European countries. Güell et al. (2018) obtain a very similar results by exploiting the informational content of surnames. The sociological literature focuses on mobility of occupations and goes a little bit back in time. Pisati and Schizzerotto (2004), Schizzerotto and Marzadro (2008) find no increase in mobility throughout the second half of the 20th century, but this is arguably due to the small sample size. By combining all existing surveys on social mobility, Barone and Guetto (2020) managed for the first time to show a sizeable increase in social mobility during and after the years of Europe's Golden Age (ca. 1950-70). This result is confirmed by Freschi (2023), using Bank of Italy Household Survey of Income and Wealth, which reports information on parents' occupation, place and year of birth, education.

Nevertheless, most quantitative studies based on rigorous statistical methods investigating intergenerational mobility in Italy focus on the post-WWII. The exceptions in the economic history literature are the works by Barone and Mocetti (2020), who find long-term persistence in status among the 1427 and the 2011 Florentine élites, and by Gabbuti (2021), who finds a long-term decreasing trend in mobility among taxpayers and a reversal during the first decade of the Fascist regime. However, our knowledge of social mobility of the pre-industrial world is rather scant. The works by the SMITE (Social

Mobility and Inequality across Italy and Europe, 1300-1800) Project, which estimate social mobility using fiscal sources (*estimi*), represent the most comprehensive attempt to study mobility in this period.

Besides the few exceptions mentioned above, what we know about social mobility in pre-industrial Italy come from historical literature. For instance, in their comprehensive books, Collavini and Petralia (2014) and Tanzini and Tognetti (2016) made a significant effort to explore social mobility during the Middle Ages. Historians have often relied on local studies to analyse social mobility in the Italian past. Collavini (2020) studies social mobility in rural Tuscany in the 12th century. Gozzini (1984) uses a set of 2,285 marriage certificates to explore social mobility in Florence from 1808 to 1812. Moving to Southern Italy, existing studies mostly rely genealogical trees and voters' lists, thus focusing on the wealthiest households, as provincial agricultural elites (Massafra 1988), commercial urban elites (Macry 2002), bourgeois families, and administrative elites (Massafra 1988). An exception is the paper by Laurita (1984), who uses marriage certificates to study social mobility in Naples. Like these studies, our work does not represent Italy as a whole. Unlike them, it has the advantage of representing the entire population in selected areas, rather than focusing only on the wealthiest.

To the best of our knowledge, our contribution provides the first estimates of both male and female intergenerational mobility rates over 19th-century Italy. In this respect, adopting a case-study approach is pivotal because it considers location-specific patterns of female labor (Espin-Sanchez, Gil-Guirado, and Vickers, 2022). For the case of Italy, this permits to investigate how different economic structures might have influenced the type of job women carried out within and outside the household.[1] Our results suggest that pre-industrial Italy was not entirely a socially immobile country. The transmission of occupations and the persistence of socio-economic status across generations might have been much more heterogeneous across the country than previously thought. In fact, mobility rates in the four locations exhibit an increase throughout the 19th century, but the rise in social mobility is mostly concentrated in industrially prone areas. When compared to the status of parents, access to education mattered only slightly in raising the social status of a son or daughter. The early signs of social mobility

[1] A new strand of works has recognized the importance of exploring gendered patterns in historical social mobility. In their model of multi-generational mobility, Olivetti and Paserman (2015) investigate the impact of both paternal and maternal grandfathers in the United States and account for gendered traits that might drive heritability dynamics. Dribe, Eriksson, and Scalone (2019) survey the interrelationship of migration and marriage mobility in determining female intergenerational mobility in 19th-century Sweden. These works rely on census data, whereas a recent bulk of studies uses marriage certificates to study female intergenerational mobility. For Mediterranean countries, the pioneering work by Espin-Sanchez, Gil-Guirado and Vickers (2022) uses marriage certificates of 18th-century Murcia, Spain, to compare the same- and opposite-sex transmission of high socio-economic status across two generations. Sarasua (2019) documented that women's market activity in 18th-century Spain was higher than previously estimated.

we document are associated with the ability to read and write for women and spouses with middle– to high– status parents. Social mobility is most sensitive to human capital in relatively backward areas, suggesting that literacy is more a proxy for family status than for opportunities to access skilled labor. Our findings lift the veil on the complex dynamics of mobility in the period of transition from traditional social hierarchies to the mobility rates of a soon to industrialize state.

3. Sources and Methods

'The social mobility rate [indeed] measures the degree to which history matters to current social outcomes' (Clark et al. 2015). Defining social mobility with a single label is not an easy task. Here, we quote Clark et al. (2015) to underline the pivotal role of history in disentangling today's patterns. Definitions of mobility vary depending on the kind of measurement we choose. Traditionally, economists have focused on the mobility of earnings, wealth, and income. Sociologists are instead more interested in the transition between occupational categories, ranked according to social prestige (Treiman 1970) or social status (Erikson and Goldthorpe 1992).[2] As economic historians, we are interested in the evolution of the occupational structure over time as it helps us understand the timing and dynamics of major economic processes such as industrialization or urbanization. Hence, in this work we consider mobility of occupations. We do not look at mobility within the life-cycle (intragenerational mobility), but across generations by comparing spouses' occupations with those of their parents (intergenerational mobility).

3.1 The Antenati marriage certificates

We use individual-level occupational data from marriage certificates collected in the Civil Register (*Registro dello Stato Civile*). We focus on two benchmark years (1815 and 1866) in selected locations. The Civil Register was first introduced in Italy by Napoleon and, by 1806, it had been adopted by most pre-unitary States. Although the format of the certificates varied across pre-unitary States, the source is homogeneous in terms of the information collected. Eventually, the Civil Register was adopted by the newly unified country in 1866. Nonetheless, historical civil records are scattered across different State archives. Thanks to the Government-financed genealogical project *Antenati*, since 2011 State archives have been uploading the scanned pictures of birth, marriage, and death certificates into the online

[2] Sociologists have been arguing for a long time over the advantages of using occupations rather than income. First, occupations may be a better indicator of long-term economic status than single-year income. The latter might be biased by income fluctuations and measurement error (Zimmerman 1992). Second, when working with historical data, finding data on occupation is by far easier and more reliable than collecting measures of income.

platform. Among these three types of documents, we decided to use marriage certificates as they provide information on the occupations of spouses, their parents, and witnesses, thus representing a suitable source to study intergenerational mobility of occupations. Additional information includes names, spouses' ages, place of residence and of birth, marital status (widow/er), whether spouses and witnesses could sign, the name of the public official celebrating the wedding, its date and time.

Unlike most Italian historical censuses, marriage certificates provide micro-data. Marriage certificates are also a homogeneous source in terms of the information provided. This enables us to compare various pre-unitary states. Furthermore, unlike censuses, marriage certificates allow adult children to be linked to their parents, making it an ideal candidate for studying intergenerational mobility. Last, it offers information both on men and women. The source features some limitations too. First, sometimes female occupations are not reported. Second, parents' occupations are missing when parents are deceased. Third, unlike censuses (or fiscal sources), marriage certificates are not intended to carry out head-counts (or for tax purposes), hence it is likely that some self-declared occupations are reported with less precision. This might be due to social desirability pressures (Corti and Pisati 2021). The other side of the coin is that they also supply information on more informal occupations, thus providing us with a more comprehensive scenario of labor dynamics in the past. This is particularly true when it comes to women, who are often left 'off the record' of the official statistics (Humphries and Sarasúa 2012). Moreover, the source does not allow to capture intragenerational mobility. Also, although the source is homogeneous in its content, the readability of marriage certificate varies across locations. Some certificates are on pre-printed forms, while others are completely hand-written. This makes any attempt to automate the data entry process very difficult. Figure 1 shows two examples of marriage certificates compiled in the same year but in two different locations. Last, marriage certificates exclude the population that does not or cannot marry. In 1851, according to the *Annuario Statistico Italiano* (1853, 68-71), there were 151,227 religious workers, 130,003 mariners, and 260,209 beggars (*mendicanti*) over a total a population of 10,729,539 (5.04%). Religious workers and mariners are likely to have higher than average social mobility rates and beggars are likely to have lower than average social mobility rates. As the two groups are similar in size, we should not expect large differences in social mobility between included and excluded individuals, but we should consider this limitation when interpreting the results.

3.2 The selection criteria of case studies

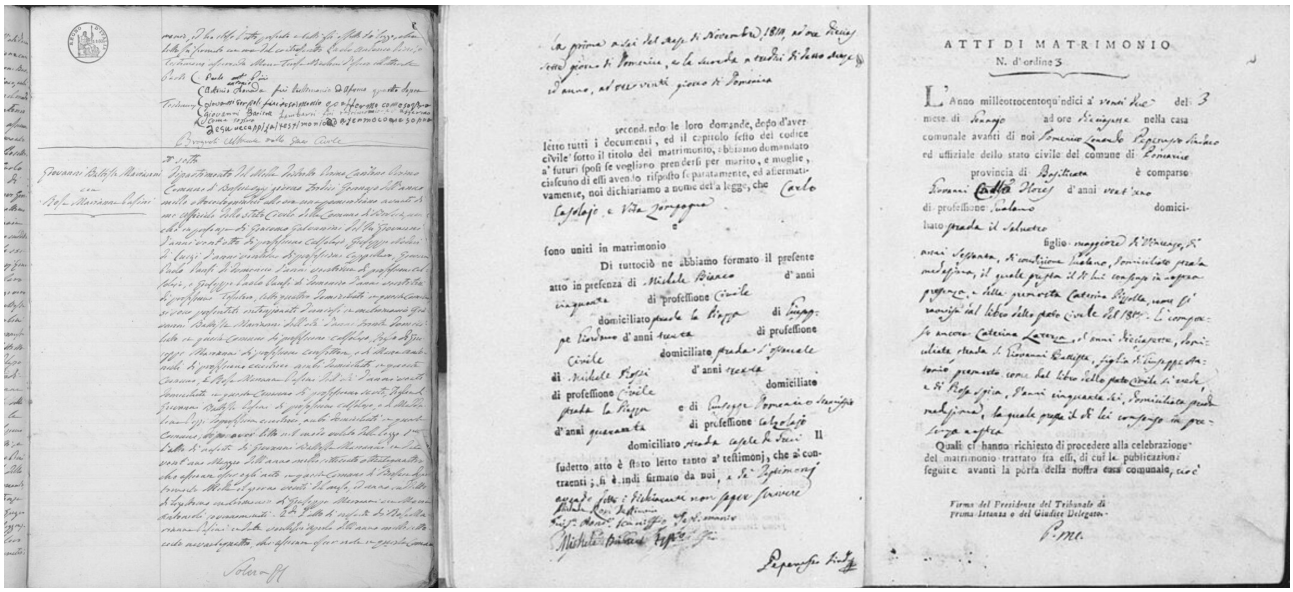
In this work, we follow a case-study approach and estimate intergenerational mobility from the *Antenati* marriage certificates in four locations: two medium-sized cities that would have become important for

the country's industrial development and two rural areas, respectively, one in the North and one in the South, in the period 1815–1866, We choose locations based on strict criteria with two goals in mind:

To cover Italian municipalities both in the North and in the South;

To maximize the differences relative to occupational mobility among more industrial and rural areas within each macro-area.

Figure 1. Examples of two marriage certificates



Source: Antenati. The left-hand side shows an example of a marriage certificate of Brescia, 1815, the right-hand side of Pomarico (Pisticci).

Selecting four case studies allows us to analyse thoroughly the socio-economic context of each location, which is likely to have influenced the dynamics of occupational mobility. We do so by drawing from secondary sources, such as local history studies and official statistics. This approach resonates to a micro-history tradition. In fact, it attempts to embrace Tolstoy's conviction, as reported in Ginzburg et al. (1993), that 'historical phenomenon can become comprehensible only by reconstructing the activities of *all* the persons that participated in it'. While case studies represent a minority in today's economic history tradition, there is no shortage of them. Examples are the work by Breschi et al. (2014), which analyse the role of social and economic factors in explaining the fertility decline in the 19th century in six Italian communities, and by Bigoni et al. (2016) who investigate whether the origins of the North-South gap can be found in persistent differences in social norms in four Italian cities. Relative to existing case studies on social mobility, which focus on a single location, this work takes a step forward by adopting

a diachronic and comparative perspective. In doing so, we took a cue from studies on social mobility in 19th-century England based on marriage certificates (Miles 1999; Vincent 1993).

The selection criteria used are data availability, comparable urban population size (Malanima, 2005), index of relative industrialization (Ciccarelli and Fenoaltea 2013), and type of cultivation for rural areas. As a reference for the urban population of Italy in 1800, we use Malanima (1998)'s estimates. As a lower bound to select medium-sized cities in 19th-century Italy, we identify a threshold of 10,000 inhabitants following Malanima's criteria for Italian urban population (Malanima 1998). As an upper bound, we pick the threshold of 40,000 inhabitants. At the time, Italy featured several cities exceeding this threshold. Examples are almost all regional capitals (except for a few regions, like Umbria and Marche), Milan, Turin, Naples, Rome, Palermo, and some cities in the Center-North, like Padua, Verona, and Livorno (Malanima, 2005). To select cities that would have become pivotal to the country's industrial development, we rely on Ciccarelli and Fenoaltea (2013) for a province-level index of relative industrialization in post-Unification Italy. The province's relative industrialization is measured by an Ersatz index of specialization, obtained as the ratio of the geographic unit's share of national industrial value added to its share of male population over age 15 (that is, a proxy for the male labor force). The denominator is seen as a proxy of the total unit's share of national GDP.

Following thoroughly these criteria, we are left with the cities of Brescia (Lombardy, Northern Italy) and Salerno (Campania, Southern Italy) as urban areas, and with the area below Udine (in today's Friuli-Venezia Giulia, North-Eastern Italy) and Pisticci (in Basilicata, Southern Italy) as rural areas. As we are interested in studying the role of social mobility alongside the country's industrial development, for the urban areas we also consider the municipalities where industrial production was concentrated. Figure 2 shows where these municipalities are located. It is important to stress that the certificates we collected for the case-studies are not a sample, but include all marriage certificates that were registered in the selected municipalities. By no means, we claim that the final sample is representative of the entire country. However, we hypothesize that the four locations followed different development trajectories over the *Risorgimento*, thus representing interesting case studies for a study on social mobility.[3]

[3] In appendix table A2, we display the proportion of sons and daughters who report having the same occupation as their fathers or mothers in the case study municipalities of Salerno and Udine as well as from a larger group of municipalities in these cities, which were initially chosen based on geographical rather than historically relevant criteria. This can assist readers understand how the chosen case studies differ from other areas of Italy. The rates of social immobility decrease from 1815 to 1866 more for the selected, more dynamic, municipalities of the provinces of Salerno and Udine than for the rest of municipalities.

Figure 2. The four case-studies

Source: Authors' elaboration of Antenati. The map shows the municipalities considered in each case study. The province of Udine features more dots as each of them corresponds to a parish rather than a municipality.

3.3 Occupational categories

We aggregate occupations into categories using a standardized classification scheme, the Historical International Social Class Scheme, henceforth HISCLASS (Van Leeuwen and Maas 2011). HISCLASS is a 12-category class scheme, but we use a 5-category scheme. Reduced versions of HISCLASS-12 are commonly used in the literature.[4] We make some adjustments to consider some peculiarities of the Italian socio-economic structure. For instance, in the most common versions of HISCLASS shop-owners and small businessmen (as *bottegaio* and *rivenditore di vino*, or *ortolano* and *fruttivendolo*) are included in the same category as clerical workers (such as *impiegato*), whom we expect to have had a higher economic and social status in 19th-century Italy. The difference is due to the historically high proportion of self-employed people in the Italian economy, as well as the large number of micro- and small entrepreneurs who were frequently living below the poverty line. Table 1 shows our final scheme and provides some examples of occupations in each category.

[4] For instance, Corti and Pisati (2021) also use a 5-class HISCLASS to study social homogamy in Milan between the 19th and the 20th century, while De Pleijt, Nuvolari, and Weisdorf (2020), De Pleijt and Weisdorf (2017) use a 4-class version of HISCLASS.

Table 1. Reduced version of HISCLASS-12 with ad hoc adjustments for the male workforce and examples of occupational titles.

HISCLASS-5	Examples of occupational titles
1 - Landowners, managers, and professionals	*possidente dottore* *avvocato fattore*
2 - White-collar workers	*impiegato maestro* *segretario scrivano*
3 - Artisans, shop-keepers, and small business owners	*oste* *bottegaio fabbro* *calzolaio*
4 - Lower-skilled and workers	*ortolano* *arrotino* *venditore di tabacco* *domestico*
5 - Lower-skilled and unskilled farmworkers	*agricoltore* *villico* *contadino bracciante*

The other peculiarity of our scheme is that we consider farmers (*contadino, agricoltore, agricoltore possidente*) and lower-skilled and unskilled farmworkers (*braccianti, giornalieri*) together. We argue that farmers in Great Britain and Northern Europe — the countries on which the HISCO and HISCLASS classifications are mostly based — have different socioeconomic status than in Italy, where, in many areas of Italy, still lived at subsistence levels (Giorgetti 1974). The discriminating factor we consider dividing people in the primary sector is the ownership of the means of production: thus, landowners are included in the top category.[5]

[5] Our data does not allow us to distinguish between small and big landowners. We code *proprietario* and *possidente* as the top category. Observing the distribution of the two occupations over the four locations and the two years, it seems that the two labels were used with the same meaning in different locations (for instance, in Brescia there were *possidenti* and no *proprietari*, whereas in Pisticci the other way around). Moreover, they represent only a very small percentage of the grooms and a larger share of the witnesses, who are typically self-selected in terms of socio-economic status.

It is very likely that the social status of farmers, farmworkers, and also of landowners differed across case-studies. For this reason, we placed extra care in coding the agricultural workers and coded them separately for each case study area. The sensitivity to more accurate coding schemes is presented in appendix figure B2, which is based on the HISCLASS 12 classification, thus including farmers in a separate category from unskilled farmworkers (compare figure A2 with 3). The results are unchanged.[6] With respect to textile figures, in our data, we encounter a massive overcounting of women who reported to be spinners in Pisticci (over 70% of working women). Without any correction, this would lead to an overestimation of the relative weight of the textile sector in Basilicata and a significant overestimation of its industrial development. Nevertheless, we do not want to dismiss spinners in Pisticci as being outside the labor force. Although they were not part of a 'modern' textile sector and their activity was probably more domestic than intended for the market, they still participated in the labor force. As a result, because the rate of homogamy was high in the agrotowns surrounding Pisticci and their spouses were mostly unskilled laborers, we include spinners in the fifth category.[7]

We also document an increase over time in the under-reporting of female occupations. Although under-reporting of female occupations is mitigated in our source compared to official statistics, we also observe an increase in non-reporting over the century, more diffused in Northern locations, especially in Brescia. In a spin-off paper, Freschi (forthcoming) investigates the patterns of non-reporting to disentangle who were the women who did not report their occupation, what was their social class, and the influence of cultural norms. In our main specification, we include the women who are not employed

[6] Additionally, Figure A3 shows that if a father is from the lowest social class, the son is far more likely to be a skilled farmworker (HISCLASS 8) than an unskilled farmworker (HISCLASS 12). If the mother is from the lowest social class, the daughter is more likely to be an unskilled farmworker (HISCLASS 12), but she is also quite likely to be an unskilled non-farm worker (HISCLASS 11).

[7] The same issue has been encountered in the first post-unitary censuses in Southern regions, igniting a very polarized historiographical debate on whether adjusting the figures of female employment in textile and its implications was a consequence of a gendered conception of labor which went hand in hand with the diffusion of a more domestic view of women. 19th-century Italian women represented a reserve of labor and official statistics failed to consider differences in female and male work experiences. A first literature strand has proposed adjustments to the figures of female employment in textile, claiming that the share of women in textile at face value leads to a misunderstanding about what 'modern' industry really means (Fenoaltea 2003). The other side of the debate argues that these adjustments devalue the productive activities carried on by women and embrace a narrower view of labor which eventually leads to a masculinization of the labor force. Pescarolo (2020) argues that the decrease in female labor force in the first censuses was a consequence of the always more rigid distinction between 'employed' and 'non-employed', which devalued the model of the family economy. Ortaggi Cammarosano (1991) recognizes that, starting from the 1881 census, the decrease in the number of women registered as working was a consequence of the attempt of the Italian statisticians to define a 'modern' industrial sector which differed from the putting-out system. Patriarca (2008) argues that the decline in female labor force observed in the first unitary censuses has been overestimated.

in the top category, but in appendix table B3 we also look at how results change using an alternative coding of women's occupation (HERCLASS) with a separate category for women outside of the labor market.

4. Historical overview of selected case-studies

The indicators reported in Table 2 assist us in defining the various development trajectories that each location followed. In the aftermath of the Italian Unification, the province of Brescia featured a share of the population working in the primary sector below the average and a secondary sector share above the average. Moreover, already in 1821, the province had a relatively high literacy rate, which by 1861 had increased by more than 10 percentage points. The province of Salerno featured an even higher share of the population working in the secondary sector. However, it had very low literacy rates and real wages. The province of Udine was instead more rural, but the literacy rate in 1861 was almost 20% higher than that of Salerno, as were the real wages computed as welfare ratios. Last, the province of Matera, where Pisticci is, featured a sky-high share of the working population in the primary sector, and very low literacy rates.

Table 2. Socio-economic indicators in the four selected case-studies

Location	N (certificates)		Population		Literacy (%)		Real Wages		Industrialization	
	1815	1866	1821	1861	1821	1861	1815	1862	1871	1911
Brescia	311	205	352,307	410,351	47	58	–	0.98	1.30	1.27
Salerno	358	411	438,195	528,256	15.4	19.5	–	0.53	0.95	0.95
Udine	500	352	307,115	440,542	29	37	–	0.70	0.80	1.07
Matera	332	366	198,758	492,959	14.5	14.5	–	0.88	0.67	0.75

[*] The indicators refer to the entire province (Pisticci is in the province of Matera). Provinces are at 1861 borders.
[**] Population data are taken from Mariella et al. (2020); literacy rates from Ciccarelli and Weisdorf (2019); real wages from Federico et al. (2019), computed as welfare ratios (the annual earning of an unskilled worker divided by the cost of a barebones basket for a family); the index of relative industrialization is from Ciccarelli and Fenoaltea (2013) and it is measured by an index of specialization obtained as the ratio of the geographic unit's share of national industrial value added to its share of male population over age 15 (that is, a proxy for the male labor force). Values below 0.90 are below the national average, from 0.90 to 1.10 are at the national average, and from there they point at a high industrialization.

According to Ciccarelli and Fenoaltea (2013), Brescia is one of the gainers of Italian industrialization. It is also an interesting case study because it is one of the North-West's subalpine provinces, rich in waterpower, and has attracted factory production. Factory production was still very limited in post-Unification Italy, but it was present and significant locally. In fact, Brescia and its valleys

had an important tradition of steel and gun-making, dating back at least to the thirteenth century (Frumento 1952; Rossi 1971). In the 19th century, its specialization was mostly engineering, iron, steel, and weapons. It was, as Ciccarelli and Proietti (2013) put it, a modern sector. To select the relevant municipalities, we rely on the work of historians who specialize in studying our selected areas of Italy.[8]

In the 19th century, several industries were flourishing in the province of Salerno, in particular, in the food and textile sectors. We focus our analysis, along with the city of Salerno, on municipalities that were central to the textile industry. We decided to concentrate on the textile industry for three reasons. First, the textile sector provides an example to investigate the changes in standards of living connected to early industrialization efforts, as it was a much more mechanized sector than the food industry. In fact, mechanized cotton textile production spread in Italy during the first half of the 19th century. Although the industrial triangle dominated cotton textile production in terms of spindles, power looms, and employment, production grew rapidly in Campania (particularly in the province of Salerno) in the second half of the century. Second, the quality of the cotton was very high. For instance, the cotton from Scafati won prizes at the 1862 London World's Fair. Third, the textile industry (and especially the cotton industry) in the province has been widely analysed in economic history and historical literature. For this reason, we argue that by focusing on this area, we can contribute to the historical debate.

Silk production was declining, whereas wool production had a long tradition and kept thriving. By 1888, there were twenty factories, equipped with handlooms, in the valley of the river Irno (MAIC 1888). Nevertheless, it is the cotton industry that holds one of the first positions in the industrial production of the province. Cotton spinning and weaving were both widespread, especially around the rivers Irno and Sarno and in the city of Salerno, with large factories employing thousands of male and female workers (MAIC 1888).[9] For this reason, we select marriage certificates from Salerno and from the municipalities in the Irno valley where the industrial production was concentrated (MAIC 1888; Ruocco 1964). As for the demographic criteria, the population of Salerno grew from 9,000 to 27,000 between 1800 and 1861 (Malanima 1998), and this went hand in hand with the rise of new clerical and administrative jobs. Brescia and Salerno differed from a cultural and institutional point of view. However, they were both relatively 'industrial'. The share of secondary and tertiary workers in the two provinces was higher than the Italian average in 1871, as was the index of relative industrialization (Table

[8] We base our selection on Gregorini and Taccolini (2013), Marchesi (2003), Onger (2006), Porteri and Simoni (1997), Simoni and Montanari (1995), Tedeschi (2001). See appendix A for further details on the economic structure of selected case studies.
[9] The case of Salerno has been widely studied for the presence of foreign entrepreneurs, especially Swiss families, who founded cotton manufacturing industries in the Northern Valleys (Caglioti 2000).

2). Overall living standards varied: literacy rates and real wages were much higher in Brescia than in Salerno (Table 2).

We select rural areas that specialize in cereal production. In the North, we consider the Eastern side of the Po Valley, between the rivers Livenza and Isonzo, and around the city of Udine. In this area, agriculture was traditional, and meadows were widespread. In the second half of the century, maize-wheat rotation became more common than meadow (Robertson 1938). The irrigation system was poor because of torrential rivers. By the end of the century, the province's silk production increased thanks to the mulberry abundance, the skilled and cheap workforce, and silk quality (MAIC 1890). In the South, we consider the extensive cereal production area around Pisticci, in Basilicata, where the main crops were staple foods such as grains, pulses, and olives (Davis 1973). Domestic craftsmanship, especially spinning, was widespread. In 1881, only 9.7% of workers in Basilicata worked outside their homes (Barberis 1999; MAIC 1880) Pisticci was studied by Davis (1973) as a model of 'agrotown'. Agrotowns were a very common type of agglomeration of rural workers and lacked the infrastructure and job specialization which usually characterize towns.[10]

5. Mobility and immobility

To get an initial glance at mobility dynamics, we provide immobility shares of occupations, that is the percentage of adult children that remained in the same occupation as their parents. Table 3 shows the share of immobility by year, gender, and geographical area. It reveals that immobility decreased during the period analysed and that the differences between female and male transmission of occupations were striking, with men being less immobile than women, especially in the South and in industrial areas. The table also provides an overview of the urban-rural gap in immobility. The share of immobility is substantially lower (30% less) for grooms living in industrially-oriented locations. The table also points to a North-South difference, with lower mobility rates in the South for women and similar mobility rates in the North and in the South for men.[11]

To analyze mobility dynamics more in depth we use transition matrices, the basic statistical tool to study occupational mobility. A transition matrix is a matrix whose cells are the frequencies in each combination of current category (in our case, spouses' occupational categories, also defined as

[10] The resurgence of the interest in agrotowns is testified by the recent work by Chilosi and Ciccarelli (2022).

[11] Appendix Table A3 displays immobility rates computed as the fraction of spouses who report having the same HISCLASS-5 as their parents, rather than the same occupation as in Table 3. Because the HISCLASS-5 occupational categories are broader than the stated occupations, the rates of immobility appear slightly greater in Table A3, although they remain consistent.

destination categories) and past category (in our case, their parents' occupational categories, usually called origin categories). In the literature, column percentages are interpreted as mobility rates. Tables 4 and 5 report male mobility rates in 1815 and 1866. The elements off the main diagonal (upper left to lower right) represent total mobility, that is, all individuals who had a different occupation than their parents'. Since the occupational class scheme follows a hierarchical order, cells above the main diagonal represent upward mobile individuals. The surge in social mobility between 1815 and 1866 was mostly driven by a decrease in the representation in the first, second, and fourth occupational categories.

Table 3. Immobility rates (%)

Panel A: Immobility of men with respect to fathers

	All	North	South	Industrial	Rural
1815	61.9	66.2	50.3	53.0	66.3
1866	55.4	50.5	64.6	45.8	57.5
1815-1866	58.7	59.0	58.2	50.6	61.5

Panel B: Immobility of women with respect to mothers

	All	North	South	Industrial	Rural
1815	69.1	63.7	77.7	71.3	67.4
1866	51.8	45.7	62.4	44.1	53.4
1815-1866	61.8	55.9	71.4	71.4	55.9

* Immobility rates are calculated as the percentages of spouses and parents belonging to the same occupation.

Table 4. 1815 Intergenerational mobility: column percentages (mobility rates)

Son's class	Father's class					Total
	1	2	3	4	5	
1	72.64	0.00	1.70	1.58	0.38	5.34
2	6.51	66.25	3.41	6.84	1.63	4.74
3	1.95	15.00	65.91	14.21	4.94	10.47
4	9.45	8.12	10.23	65.00	4.50	10.34
5	9.45	10.62	18.75	12.37	88.55	69.10
Total	100	100	100	100	100	100

Table 5. 1866 Intergenerational mobility: column percentages (mobility rates)

Son's class	Father's class					Total
	1	2	3	4	5	
1	59.00	9.74	0.00	2.83	3.17	10.13
2	15.90	44.32	4.96	6.75	1.23	8.75
3	16.32	20.42	68.85	20.70	5.67	18.25
4	5.44	16.24	11.90	52.07	7.51	13.89
5	3.35	9.28	14.29	17.65	82.42	48.97
Total	100	100	100	100	100	100

We then adopt a regression approach to investigate more thoroughly what factors might explain the status of sons and daughters, also controlling for characteristics other than their parents' occupations that may influence their status.[12] A regression approach allows to obtain confidence intervals for each estimate, and this addresses possible concerns about the precision of the raw numbers provided in the transition matrices. The model is estimated with an ordered probit regression.

The model reads as follows:

$$OCC_{i,t} = \alpha + \beta\ PARENTS\ OCC_i + \delta\ SIGNATURE_i + \gamma\ \boldsymbol{X}_i + \varepsilon_{i,t}, \quad (2)$$

where $OCC_{i,t}$ is the HISCLASS-5 of daughters and sons, $PARENTS\ OCC_i$ is the HISCLASS-5 of mothers and of fathers separately (thus including two coefficients), $SIGNATURE_i$ indicates whether the spouse can sign the marriage certificate, and $\boldsymbol{X}_i$ includes covariates (a dummy for Southern Italy, a dummy for industrial areas, second marriage, and interaction of parents' occupation with the year).[13]

Table 6 describes the coefficients of the ordered probit regression. The status of sons appears to be only determined by the status of fathers, while the status of daughters is influenced by both fathers and mothers. The role of fathers in influencing the status of daughters is stronger when including

[12] In Appendix B, we adopt an alternative specification to investigate the differences in mobility across locations and by gender.

[13] We also considered other family structure and demographic variables, but we omitted them from the model because they were too associated with the included covariates: the predominant family type in the case study from Bertocchi and Bozzano (2015), family nuclearity from Todd (1990), illegitimacy rate from Bertocchi and Bozzano (2016). As the French empire is associated with higher literacy rates, we also considered adding a dummy for the French empire legacy from Postigliola and Rota (2020).

covariates. For sons, the probability to belong to a higher class than the bottom one is higher the higher the father's social status, in line with the strong persistence in status derived from the analysis of transition matrices. The likelihood of belonging to a class higher than the lowest is higher if the spouses could sign.

Table 6. Mobility rates predicted by an ordered probit regression

	Dependent Variable: Occupation of Daughter/ Son			
Variables	Son (HISCLASS-5)		Daughter (HISCLASS-5)	
Father (=1)	-2.476***	-2.257***	-0.665***	-0.504***
	(0.308)	(0.312)	(0.313)	(0.277)
Father (=2)	-1.982***	-1.785***	-0.134	-0.067
	(0.228)	(0.223)	(0.253)	(0.201)
Father (=3)	-1.715***	-1.570***	-0.271**	-0.280***
	(0.158)	(0.164)	(0.145)	(0.195)
Father (=4)	-1.374***	-1.269***	-0.279	-0.307***
	(0.145)	(0.158)	(0.164)	(0.161)
Mother (=1)	-1.417***	-1.343***	-3.348***	-3.447***
	(0.267)	(0.282)	(0.320)	(0.332)
Mother (=2)	-0.107	-0.241	-2.65***	-2.572***
	(0.269)	(0.259)	(0.530)	(0.558)
Mother (=3)	-0.178	-0.244	-2.376***	-2.250***
	(0.174)	(0.177)	(0.325)	(0.300)
Mother (=4)	-0.0832	0.0280	-2.055***	-1.654***
	(0.138)	(0.138)	(0.192)	(0.200)
Literacy (=1)		-0.588***		-0.994***
		(0.0914)		(0.195)
Year (=1866)		-0.005		-0.002
		(0.001)		(0.002)
South		-0.135		-0.749***
		(0.103)		(0.269)
Industrial		-0.179***		-0.116
		(0.100)		(0.229)
Second Marriage		-0.142		-0.400
		(0.446)		(0.322)
Pseudo R^2	0.3083	0.3284	0.4418	0.4845
Observations	1,224	1,224	1,204	1,204

***p<0.01, **p<0.05, *p<0.1

* The reference level for the social status of parenthesis is the unskilled level (HISCLASS =5).
**Standard errors are clustered at the village level.

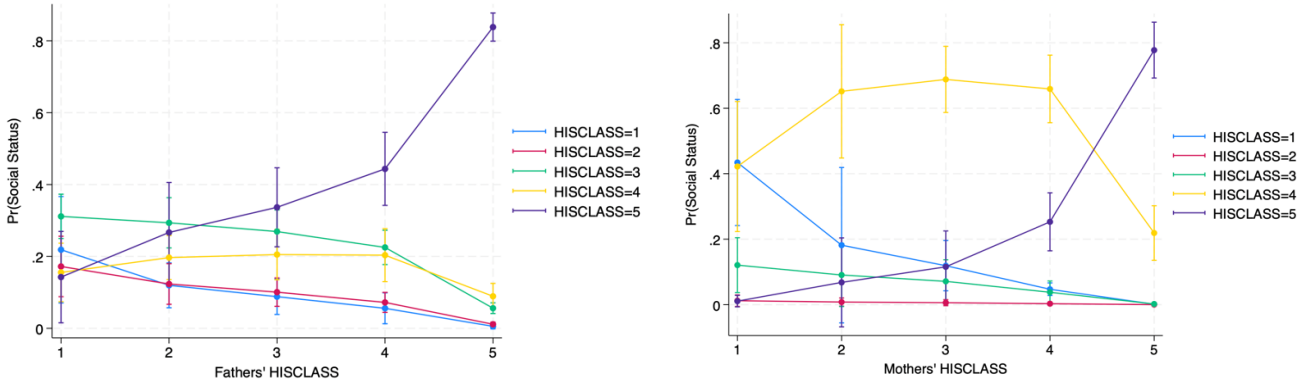
Being able to sign is positively correlated with higher social mobility. The regression evidence also suggests that the North-South gradient in mobility rates in Table 4 is only significant for women, for whom the likelihood of social mobility is significantly higher (lower HISCLASS) in the South. However, industrialization appears to be an opportunity for social mobility for men, but not for women: social mobility rates are significantly higher in Brescia and Salerno only for men. To examine more in detail how much the key factors presented above mattered in shaping the occupational outcome of sons, figure 3 summarizes the marginal effects of fathers' and mothers' occupational status on the probability of sons and daughters to be mobile.

Figure 3a shows again that for sons, the social status of fathers mattered: the likelihood of being unskilled if the father was unskilled is more than 80%. Social mobility is higher, but oriented downward, when fathers were not completely unskilled but at least partially skilled: if the father had a HISCLASS of 4, the probability of downward mobility to HISCLASS 5 is 40%, still higher than a probability of immobility in HISCLASS 5 of 80%. Summing the probabilities of transitioning to the other classes, the probability of upward mobility is larger than the probability of downward mobility. For sons of fathers of higher social status, the probability of social mobility is high, but the probability of upward mobility (about 20%) is lower than the probability of downward mobility.

Unskilled daughters have a probability of immobility of about 70% and a probability of upward mobility of 30%, thus a likelihood of about 10% to be more mobile than unskilled sons. However, the chances to raise their social status to much more than status 4 out of 5 is limited: having a mother of HISCLASS 4, 3, or 2 did not affect almost at all the chance to raise the social status of daughters, unlike fathers for sons. Some social mobility can again be observed only for daughters whose father is of very high social status (HISCLASS 1).

Figure 3. Probability of daughters of belonging to a social status, given their parents' social status

(a) Son given fathers' social status (b) Daughter given mothers' social status



Source: Authors' elaboration.

6. The role of education for upward mobility: a case-study approach

What explains the observed mobility rates and their changes over time? Although there can be many determinants, in this section we focus on the role of education, measured by the ability to sign. At this stage, we cannot identify a causal relationship, but we can at least test whether a relationship existed between literacy rates and social mobility at the time. So, if we find higher social mobility for educated individuals, it could be that education raises social mobility, or, vice-versa, that a higher social status also leads to higher levels of primary education.[14]

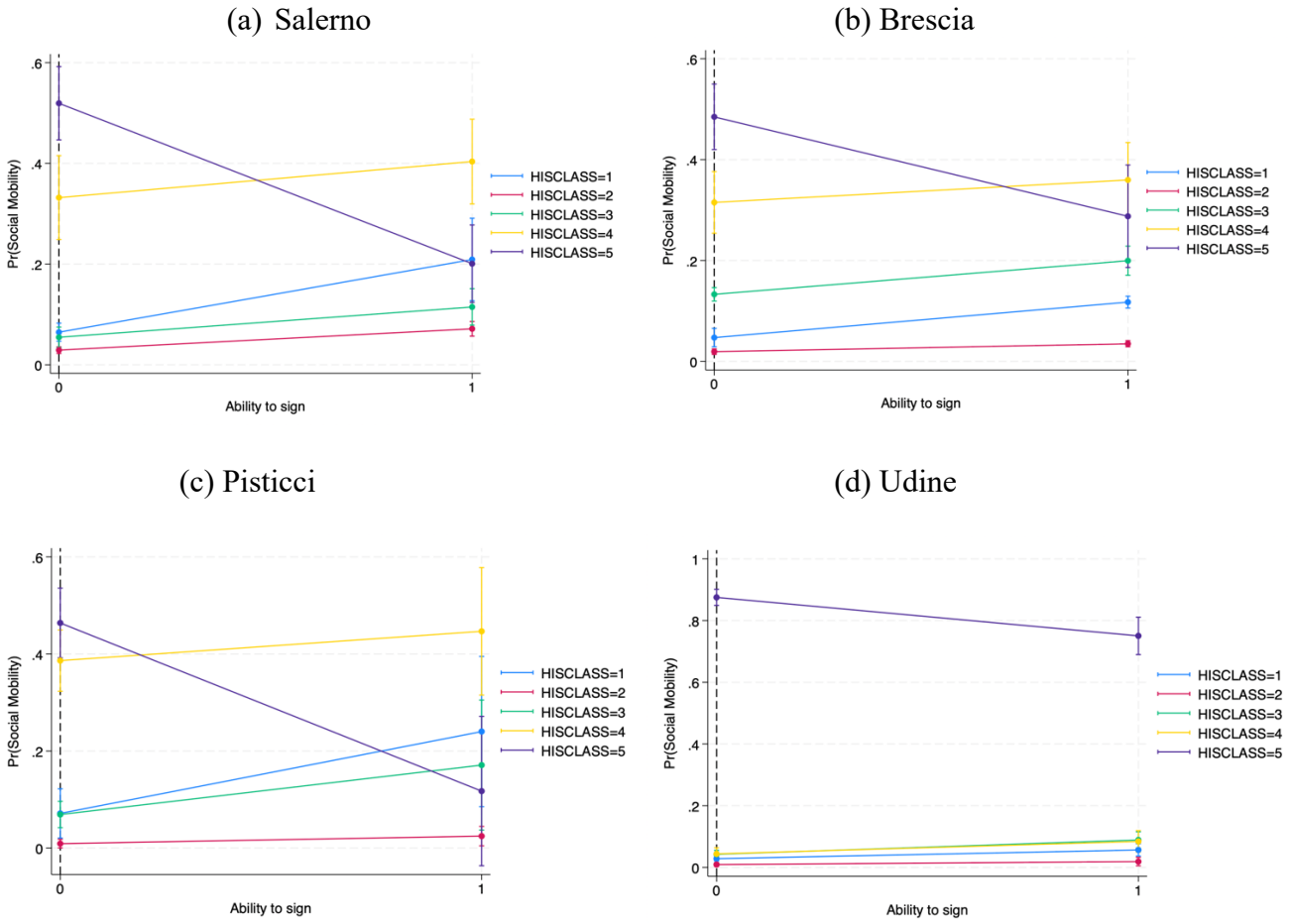
We look at the differences in social mobility depending on the ability of the spouses to sign in marriage certificates. The marginal effects indicate the likelihood of the son or daughter to belong to a specific HISCLASS category, depending on whether they can or cannot sign in marriage certificates, given the father's and mother's skill level. The role of literacy in social mobility becomes stronger for women than for men as time goes by. This is mostly limited to the upward mobility of a small entity, between class 5 and class 4 (see appendix figure A3).15 Also, women of top social class are much more

[14] Measuring educational attainment with data on school enrollment or attendance would be the best option as it would be more related to parental and individual decisions to become literate in order to respond to the demand for skilled jobs. But such data are available for coherent periods of time across the selected case studies only after the Unification. Signatures still provide a reasonable proxy for the average level of educational attainment, adjusted to the standards of the time.

[15] Appendix figure A4 additionally shows that in 1815, both for men and women occupational classes were elastic to literacy (appendix figures A4a and A5a), but in 1866 the picture changed completely. With literacy, men's social mobility becomes

likely to be literate than men of top social class (see appendix figure A4). Does this really imply that women could escalate the social ladder of occupations, at least partially, by becoming literate (say, by belonging to HISCLASS 4 rather than to HISCLASS 5)? If so, we should expect higher social mobility rates among literate individuals especially in industrially prone areas where the availability of higher skilled jobs is higher and possibly also the demand for literacy. Thus, as a last exercise, we now look at the composition effects of literacy rates by case study.

Figure 4. Probability of spouses to have a given HISCLASS if they can (1) and cannot (0) sign, by area of residence



Source: Authors' elaboration.

The hypothesis is only partially supported. In the North, the rural area of Udine is very socially immobile, even when the spouses are literate, corroborating the hypothesis. But, the same is not true for the backward rural area of Pisticci (see Figure 4c). In Pisticci, learning to write is substantially associated

almost inelastic, whereas for women, knowing how to write lowers the likelihood of belonging to the unskilled class by 30 percentage points and raises the likelihood of belonging to the top class by 20 percentage points.

with the likelihood of having a higher social status. Indeed, the picture we get for Pisticci is similar to that of the industrially oriented areas in the province of Salerno: literate individuals are more diversified in terms of occupational classes, while illiterate individuals almost entirely belong to classes 4 and 5. This suggests that literacy is not a sufficient condition to improve social mobility due to better job opportunities. Literacy seems to correlate with family status, and thus goes hand in hand with the persistent and high social status of parents and their children. Furthermore, only literate people belonged to a HISCLASS category higher than the bottom two in Salerno and Pisticci. Brescia confirms this pattern: there are more than 10% of semi-skilled individuals who cannot write. If education demand was driving mobility rates, we should see more semi-skilled individuals transitioning from lower status if they could write. But the share of semi-skilled individuals who can write is still very close to 10%, as the share of illiterate semi-skilled spouses.

Taken together, this new preliminary evidence suggests that literacy is not associated with the demand for skilled labor, possibly because the supply of education was limited, especially for women and in Southern Italy, where the education system was more elitist than in the North over the *Risorgimento* period (Bozzano, Cappelli, and Vasta, 2023). Thus, literacy seems to mark not only higher chances of mobility but also higher family status and, consequently, a persistently higher social status. This new evidence is in line with the de-skilling hypothesis of the First Industrial Revolution.[16]

An alternative, 'mechanization', explanation for the relevance of literacy for social mobility may be considered. Literacy might have been positively correlated with social mobility more in areas where we would expect literacy to play a less important role, such as Pisticci and Udine, rather than in Brescia or Salerno. Also in preunitary Italy, the earliest spurts of industrialization may have occurred through more mechanized forms in the North, thus more de-skilling, and more through labor-intensive, and thus less de-skilling, in the South. This would explain why literacy rates are found to be more important to explain mobility rates in the South than in the North. In 1871, Brescia had one of the highest indexes of concentration of manufacturing activity of Italy, and Salerno had one of the highest of the South (Basile and Ciccarelli 2017, 632).[17] Such high manufacturing activity was driven by the highly capital-intensive of metalmaking in Brescia and of cotton in Salerno (Basile and Ciccarelli 2017, 654-655). Salerno and Basilicata did not feature much manufacturing activity even in 1871, if any, it was focused on sectors with low capital intensity, such as silk (Basile and Ciccarelli 2017, 655).

[16] See De Plejt and Weisdorf (2017); Ojala, Pehkonen, and Jeloranta, 2016; Diebolt, Le Chapelain, and Menard, 2017; Montalbo, 2020; De Pleijt, Nuvolari, and Weisdorf, 2020.

[17] The manufacturing index is based on Ciccarelli and Fenoaltea's (2013, 2014) data.

Despite the data suggest that industrialization was more capital intensive in Salerno and Brescia than in Udine and Pisticci, the mechanization explanation is unlikely to hold. In fact, Pisticci, where the correlation between literacy and social mobility, only showed very feeble signs of industrialization as late as 1881, as well as very low literacy rates, as outlined in section 4. This makes it challenging to argue that different areas of Italy witnessed different forms of industrialization, with different effects on the relationship social mobility-literacy.[18] The evidence we have collected suggests that some parts of Italy experienced some tentative forms of industrialization, while others did not yet. The status explanation instead considers that some parts of Italy had already experienced some embryonic form of industrialization, while others had not yet.

7. Conclusion

This paper employs a novel individual-level data set derived from marriage certificates to estimate intergenerational mobility of occupations among the general population in four Italian cities from 1815 to 1866. To do so, we use a standardized classification scheme for occupations (HISCLASS) adjusted to fit some peculiarities of the Italian labor market. Unlike most studies on intergenerational mobility, this paper provides estimates both on male and female mobility.

The key finding of this paper is that both men and women exhibited an increase in mobility from 1815 to 1866, and the increase was more pronounced for women. Preindustrial Italy was not so immobile as previously thought, or at least not so homogeneous. We find heterogeneity in social mobility rates and patterns by geographical area and gender. Considering that the Italian economy was still pre-industrial in 1866, this paper suggests that the *Risorgimento* was not just a period of political efflorescence, but that the political shifts went hand in hand with mild changes in the social structure of both industrially-oriented and backward parts Italy. This evidence partially contradicts narratives which depict the *Risorgimento* as an economically stagnant period of Italian history.

Women transitioned from being unskilled, mostly employed in agriculture, to being lower-skilled workers. For men, the opportunities for upward mobility were fewer but were also more spread across different occupational categories. Importantly, social mobility for men was neither higher nor lower

[18] The support for the latter status explanation against the former mechanization hypothesis is also in line with Horrell and Humpries (1995): 'Not only are the education levels of women in our sample unknown, but we doubt the applicability of the human capital model to historical wage determination. Most early nineteenth-century skills were readily learned; formal education was rare and irrelevant to female jobs'.

depending on whether they could sign, especially in 1866. Literacy rates were instead positively associated with the upward mobility of women, especially in the South and in 1866.

An optimistic interpretation of such results would be that while men could move socially upwards regardless of their levels of education due to the opportunities that industrialization offers to all, women instead could use education as a social ladder. But we do not take these results at face value. Zooming in on geographical differences suggests a more pessimistic interpretation of the results that better fits the historical setting of social mobility in each case study. In the very backward area of Pisticci in Southern Italy, women's upward mobility was significantly higher when they could write, whereas this was not the case for the more dynamic area of Brescia in Northern Italy. If the relationship was going from higher education to higher social mobility, we would expect this to hold in more industrially prone areas rather than in relatively backward areas such as Pisticci. This suggests that education is correlated with family status, and higher family status leads to higher social mobility. If individuals coming from higher socio-economic backgrounds are more socially mobile, this exacerbates, rather than reduces, inequality. This is especially true in the case of Southern Italy, while in Northern Italy, literacy seems to be almost uncorrelated with social mobility.

By adopting a case study approach, this work sheds light on the importance of context-specific analysis to understand social mobility dynamics. Despite much work left to be done in understanding the role of other factors, such as dowries and endogamy, in determining the persistence of social status, we believe that our results can be a starting point for further understanding the patterns of social mobility in early 19th-century Italy, and can highlight the potential of exploiting Italian marriage certificates to estimate gendered patterns of intergenerational mobility of occupations in preindustrial societies.

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Appendix A

Table A1. Descriptive statistics by occupational category (HISCLASS-5)

	HISCLASS-5						
	1	2_0	2_1	3	4	5	Total
Age							
14-19	26	4	2	15	225	101	373
20-24	118	19	26	119	989	278	1,549
25-29	102	23	41	111	700	200	1,177
30-34	48	11	21	43	332	94	549
35-39	41	9	5	28	190	67	340
40-44	31	11	12	24	166	101	345
45+	512	105	184	343	3,850	834	5,828
Total	878	182	291	683	6,452	1,675	10,161
Location							
Brescia	229	66	134	279	1,082	133	1,923
Matera	166	0	5	69	477	788	1,505
Salerno	337	76	96	201	1,463	709	2,882
Udine	87	22	29	79	1,492	60	1,769
Total	819	164	264	628	4,514	1,690	8,079
Role in marriage certificate							
Bride	189	21	10	67	1,597	393	2,277
Groom	212	64	106	313	1,288	474	2,457
Bride's father	136	34	81	141	874	237	1,503
Groom's father	128	43	69	142	861	199	1,442
Bride's mother	119	9	15	17	1,015	216	1,391
Groom's mother	104	12	11	27	1,011	206	1,371
Total	888	183	292	707	6,646	1,725	10,441
Second marriage							
No	852	173	278	663	6,393	1,634	9,993
Yes	36	10	14	44	253	91	448
Total	888	183	292	707	6,646	1,725	10,441

*Occupational categories are: Landowners, higher mangers and professionals (1); Lower managers and white-collar workers (2_0); Lower clerical workers and sales personnel (2_1); Skilled workers (3); semi-skilled (4); Unskilled (5).

Table A2. Comparison of Immobility rates in included villages and in wider geographical areas

Panel A: Immobility of men with respect to fathers

	Selected case studies		Province	
	Salerno	Udine	Salerno	Udine
1815	47.2	65.4	45.3	61.2
1866	57.8	46.4	47.7	49.1

Panel B: Immobility of women with respect to mothers

	Selected case studies		Province	
	Salerno	Udine	Salerno	Udine
1815	75.8	66.3	61.2	73.9
1866	46.9	53.4	47.4	45.4

* The immobility rates of 'selected case studies' include the full set of marriage certificates collected in villages selected to historically relevant criteria (see main text)

** The immobility rates of 'Province' include the full set of marriage certificates collected in villages selected according to geographical criteria; for Salerno, it includes the marriage certificates of all villages North of Eboli (included); for Udine, it includes all villages south of Udine, including Udine town.

Table A3. Immobility rates according to HISCLASS-5

Panel A: Immobility of men with respect to fathers

	All	North	South	Industrial	Rural
1815	72.3	75.7	66.6	61.8	78.7
1866	61.0	59.9	61.8	47.9	71.3
1815-1866	66.4	68.9	63.6	54.0	75.1

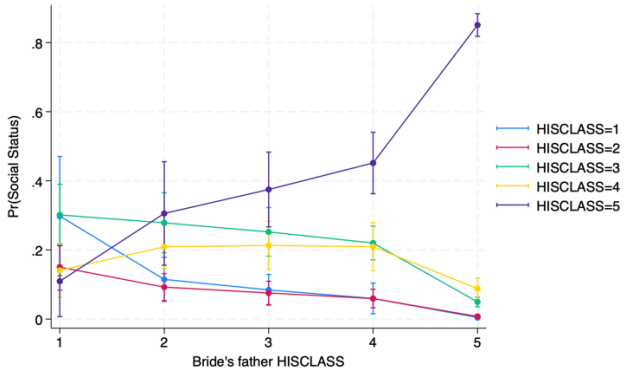
Panel B: Immobility of women with respect to mothers

	All	North	South	Industrial	Rural
1815	87.0	83.2	93.8	79.8	91.6
1866	77.1	81.3	74.5	68.3	80.6
1815-1866	82.6	82.6	82.5	75.6	86.2

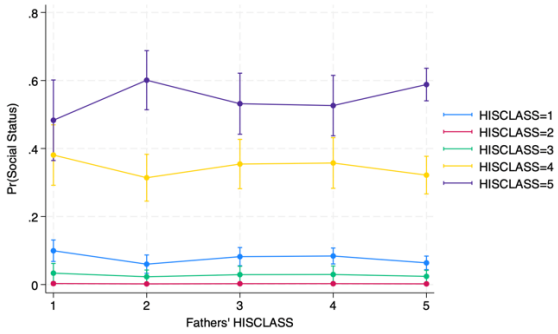
* An individual is classified as immobile if the HISCLASS-5 of the son/daughter is equal to the HISCLASS-5 of the father/daughter.

Figure A1. Probability of daughter of belonging to a social status given the status of their father and of the father of the spouse

(a) Daughter given the bride's father HISCLASS



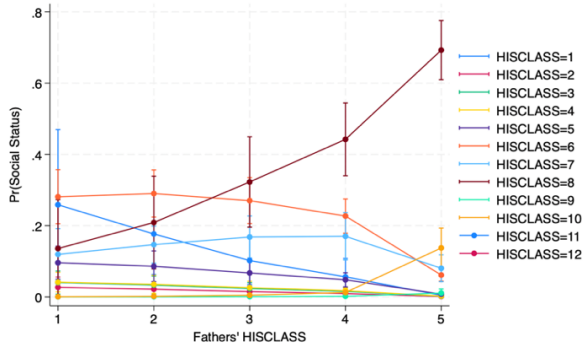
(b) Daughter given the father's HISCLASS



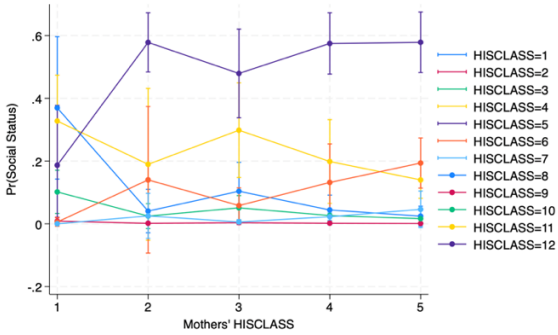
Source: Authors' elaboration.

Figure A2. Probability of social mobility of spouses, according to a HISCLASS-12 classification

(a) Son given father's HISCLASS



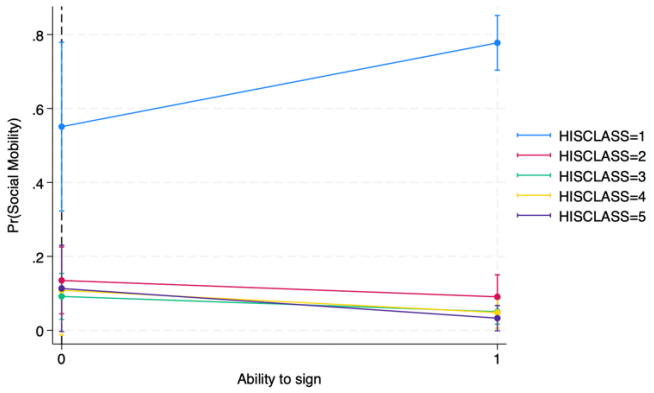
(b) Daughter given mother' HISCLASS



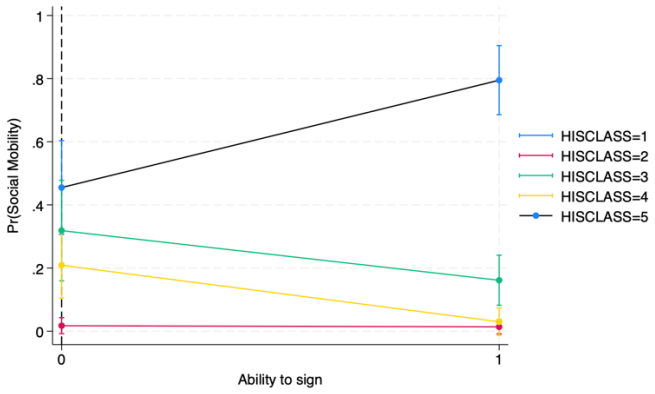
Source: Authors' elaboration.

Figure A3. Probability of sons and daughters have a given HISCLASS if they can (1) or cannot sign (0)

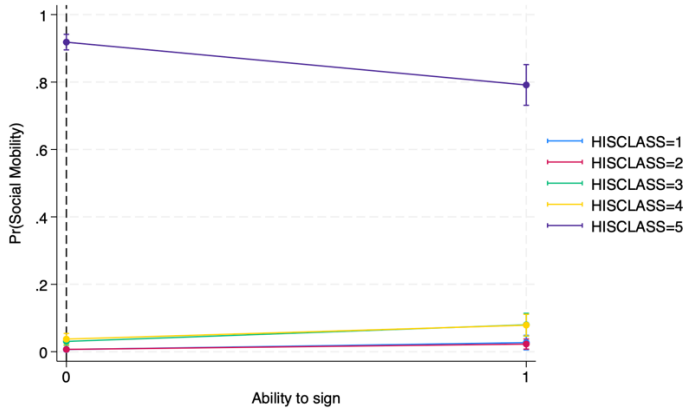
(a) Men with skilled father (HISCLASS = 1)



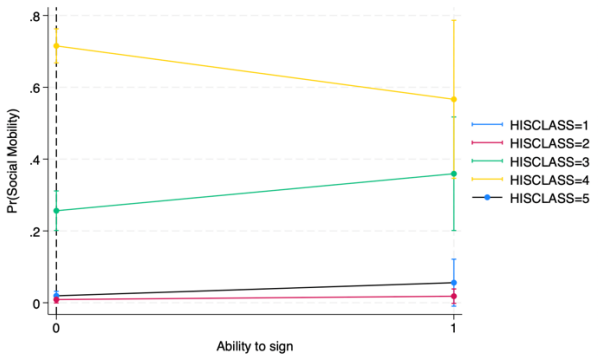
(b) Women with skilled father (HISCLASS=1)



(c) Men with unskilled father (HISCLASS = 5)



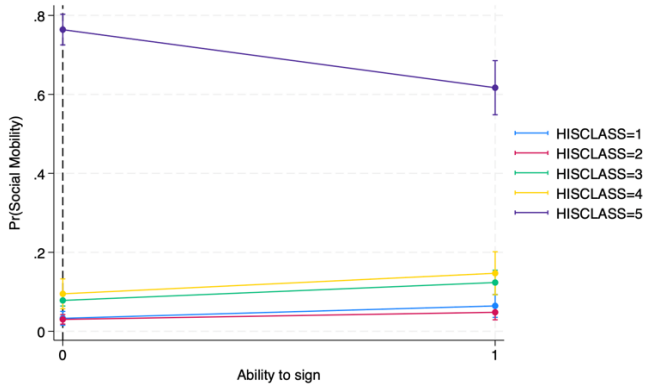
(d) Women with unskilled father (HISCLASS=5)



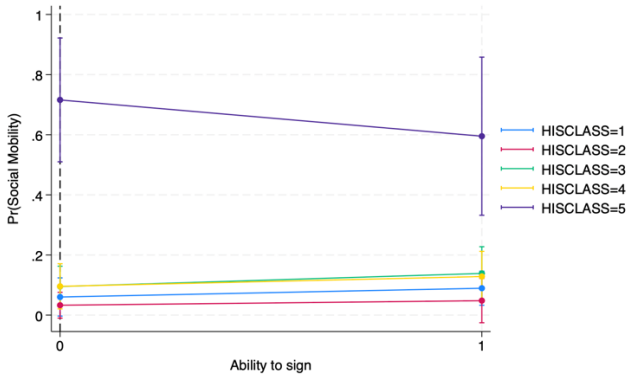
Source: Authors' elaboration.

Figure A4. Probability of sons in 1815 and 1866 to have a given HISCLASS if they can (1) or cannot sign (0)

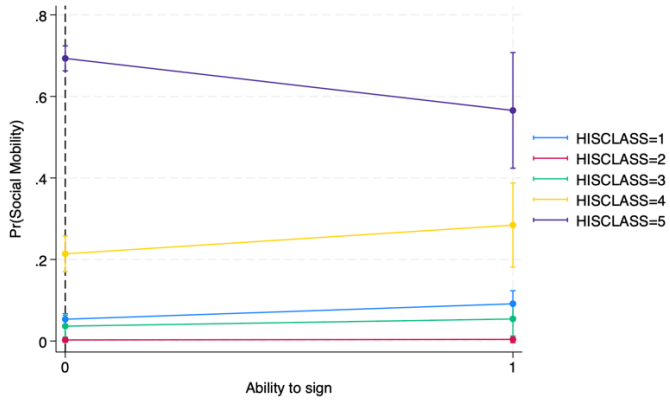
(a) 1815, men



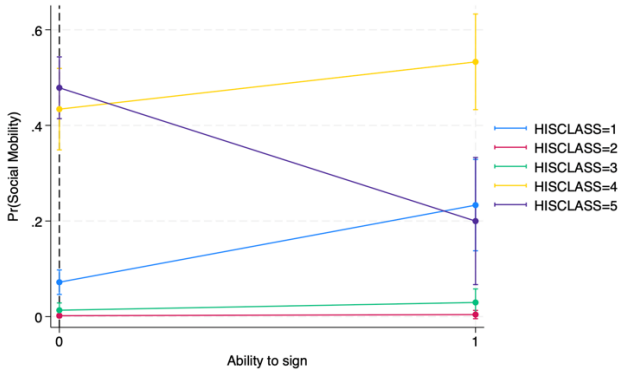
(b) 1866, men



(a) 1815, women



(b) 1866, women



Source: Authors' elaboration.

Appendix B. Robustness checks

Alternative definitions of occupations

In this section we present alternative approaches to the coding of occupation and to the resulting definition of occupational mobility. The alternative definition of occupational groups we consider aims to account for the fact that more women than men were outside of the labor force. We thus introduce a sixth group, including all women that did not belong to the workforce. This is a very heterogeneous group as it includes both women of higher status that did not need to work, as well as women who worked but whose work was not valued on the labor market, such as housewives.

Table B1. Occupational categories for women (HERCLASS) compared to HISCLASS-5

HERCLASS	HISCLASS-5
1 - Landowners, managers, and professionals	1
2 - White-collar workers	2
3 - Artisans, shop-keepers, and small business owners	3
4 - Lower-skilled and unskilled workers	4
5 - Lower-skilled and unskilled farmworkers	5 + spinners in Pisticci
6 - Outside the labor force	-

Alternative approaches to measure social mobility

Social mobility of men: Altham Statistic

Transition matrices give a picture of the mobility rates at time or place. What if we want to compare rates of mobility over time or space? To do so, we use the Altham Statistic (Altham, 1970; Altham and Ferrie, 2007), which has become the standard compare occupational mobility across transition matrices (Boberg-Fazlić and Sharp, 2018; Feigenbaum, 2018; Ferrie, 2005; Long, 2013; Long and Ferrie, 2007, 2013). Compared to a regression-based method to study the occupational mobility over time, the Altham statistic provides a summary of the key measures and is thus more immediately understandable.[1] It measures the strength of association between two cells of any two different transition matrices and it allows to compare two tables by adjusting them so that they have the same marginal frequencies and are independent from structural change. It gives an overall measure of the distance among the two matrices over time, $d(P,Q)$ and it measures the distance of each matrix from the perfectly mobile or independent matrix full, $d(P,I)$ and $d(Q,I)$. The higher the distance, the lower the overall mobility rate. In the example of father-son changes in mobility rates over time, the higher the distance from independence in 1815 $d(P,Q)$, the lower

[1] In appendix tables C4 and C5 we also provide an alternative method to observe the changes of mobility rates over time based on an ordered probit regression model. This method is based on HISCLASS 5, rather than HERCLASS, also for women because it also studies father-daughter mobility.

the mobility in year 1815. The higher the distance between the matrices of mobility between 1815 and 1861, the higher the mobility change is over time.

Table B2 shows the comparison among the overall transition matrices of 1815 and 1866, and of the North-South, Industrial-Rural, Brescia-Salerno, and Udine-Pisticci transition matrices in both 1815 and 1866. The results generally confirm the patterns observed in the main text. Over time, the distance from the independence matrix diminished in the full sample from 53.13 to 48.87. This can be attributed to a set of factors. First, in 1815, the North was more mobile than the South, but in 1866 this pattern was reversed, although not dramatically. Second, there was also an urban-rural convergence over time, as rural areas in 1866 reached the levels of distance from immobility of industrial areas (46.43 vs 45.29). Looking at the differences within industrial areas the patterns remained stable over time, with Brescia being much more mobile than Salerno. The patterns in rural areas instead changed quite considerably over time, with Pisticci becoming less mobile and the province of Udine becoming as mobile as Salerno.

Social mobility of women: Altham Statistic

The Altham statistic for women is based on an alternative coding of occupation for women, HERCLASS, whose main difference to that of men is that it considers as a separate class the women that do not belong to the workforce (e.g., housewives and 'well-off', or *benestanti*).

Depicts a very different society compared to the case of men (compare tables 7 and 8). As for men, mobility in 1815 was lower than in 1866. However, the distance between the two matrices is more pronounced for women. As for men, we observe a reversal of North-South mobility rates over time, but with opposite sign: while in 1815 Northern women were less mobile than their Southern counterparts, in 1866 the former not only had closed the gap but had overtaken the mobility rates of the women of the South. Also, the initial industrial-rural gap, which revealed a lower mobility among industrial women in 1815, was closed by 1866. This might be explained by the rising mobility in both rural and industrial locations of the North (Udine and Brescia), combined with stagnant mobility rates in the South.

Table B2. Altham statistic: Comparison of father-son transition matrices

Year	Comparison	*d*(*p,I*)	*G*2	*p-value*	*d*(*q,I*)	*G*2	*p-value*	*d*(*p,q*)	*G*2	*p-value*
1815-1866	1815(*p*)-1866(*q*)	53.13	3527.51	0.0001	48.87	4584.59	0.0001	17.46	105.25	0.0001
1815	North(*p*)-South(q)	46.26	1980.58	0.0001	53.19	1585.04	0.0001	24.70	118.45	0.0001
1866	North(*p*)-South(*q*)	50.95	2221.16	0.0001	46.14	2422.86	0.0001	27.21	158.66	0.0001

1815	Industrial(p)-Rural(q)	41.67	1657.00	0.0001	51.37	1753.94	0.0001	30.00	100.63	0.0001
1866	Industrial(p)-Rural(q)	46.43	2150.94	0.0001	45.29	1688.62	0.0001	19.40	85.29	0.0001
1815	Brescia(p)-Salerno(q)	29.20	751.97	0.0001	46.60	1036.11	0.0001	23.88	108.25	0.0001
1866	Brescia(p)-Salerno(q)	33.06	500.67	0.0001	43.79	1208.07	0.0001	23.80	133.42	0.0001
1815	Udine(p)-Pisticci(q)	58.91	183.65	0.0001	16.70	638.35	0.0001	4.05	31.16	0.02
1866	Udine(p)-Pisticci(q)	47.09	1183.65	0.0001	51.89	1077.55	0.0001	19.76	57.20	0.0001

Table B3. Altham statistic: Comparison of mother-daughter transition matrices

Year	Comparison	*d*(*p*,*I*)	*G*2	*p-value*	*d*(*q*,*I*)	*G*2	*p-value*	*d*(*p*,*q*)	*G*2	*p-value*
1815-1866	1815(*p*)-1866(*q*)	92.03	3768.95	0.0001	81.90	3736.49	0.0001	40.49	707.51	0.0001
1815	North(*p*)-South(*q*)	91.03	1802.71	0.0001	71.54	1670.635	0.0001	22.60	259.60	0.0001
1866	North(*p*)-South(*q*)	73.56	1457.82	0.0001	83.29	2407.90	0.0001	22.71	451.75	0.0001
1815	Industrial(*p*)-Rural(*q*)	84.94	1539.23	0.0001	77.25	1579.02	0.0001	46.61	340.45	0.0001
1866	Industrial(*p*)-Rural(*q*)	76.73	1304.17	0.0001	78.79	1236.25	0.0001	46.68	492.20	0.0001
1815	Brescia(*p*)-Salerno(*q*)	78.75	737.90	0.0001	65.76	748.34	0.0001	28.04	86.52	0.0001
1866	Brescia(*p*)-Salerno(*q*)	56.41	286.23	0.0001	63.44	988.39	0.0001	23.754	294.75	0.0001
1815	Udine(*p*)-Pisticci(*q*)	75.34	831.32	0.0001	59.02	662.37	0.0001	22.65	284.88	0.0001
1866	Udine(*p*)-Pisticci(*q*)	55.74	626.12	0.0001	58.77	614.26	0.0001	12.27	148.21	0.0001

* The classification is based on the HERCLASS six-class classification (see main text).