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The Age of Mass Migration in Argentina: Social Mobility, Effects on Growth, and Selection Patterns

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ABSTRACT

Argentina was the second largest destination country during the Age of Mass Migration, receiving nearly six million migrants. In this article, we first summarize recent findings characterizing migrants' long-term economic assimilation and their contributions to local economic development. The reviewed evidence shows that Europeans experienced rapid upward mobility in Argentina and immigration contributed positively to the process of economic development. We then turn our focus to the selection patterns of Italian migrants to Argentina—the largest migratory group to this destination. Our analysis of this initial stage of the migrants' history shows that Italians who moved to Argentina were positively selected on the basis of literacy, complementing existing evidence of rapid upward mobility and contribution to growth at destination.

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1 Introduction

In the late 19th century and early 20th century, Argentina went through a rapid process of integration into the international economy as an exporter of primary goods. Between 1880 and 1913, exports grew at an average annual rate of 7.5% and income per capita at a rate of 3.4%. This economic take-off was based on a variety of factors, including new opportunities in the world economy and the national unification under a centralized government after a period of civil wars. Some estimates place Argentina among the top five richest countries in the world at the turn of the 20th century (Taylor, 2018).

A key feature of the period is that this economic take-off occurred in simultaneous with a large expansion of the country's population, propelled by the massive arrival of European migrants. This article provides an overview of this migration episode, focusing on three key questions: (1) how did migrants fare once arriving in the country? (2) what were the short- and long-run consequences of immigration for the economy of Argentina? (3) how did migrants to Argentina compare to stayers in their home countries in terms of human capital?

We start by reviewing a number of recent studies characterize the economic trajectories of European migrants while in the country (Arroyo Abad & Sánschez-Alonso, 2015; Abad *et al.*, 2021; Pérez, 2017, 2021). The evidence that we summarize puts forth a positive view of immigrant integration in Argentina: migrants from all major European sending countries exhibited high rates of upward social mobility in Argentina. Moreover, it also suggests that immigrants to Argentina were faster to climb the socioeconomic ladder than those who moved to the US, possibly because Argentina's less developed economy and migrants' high human capital relative to the local population offered migrants more opportunities for social advancement.

We then review existing studies about the broader impacts of migrants in the local economies in which they settled (Droller, 2018). The evidence indicates that areas of the country that received more immigration had higher levels of instruction, were faster to industrialize, and ultimately exhibited higher levels of prosperity in the longer term, in comparison to areas that received less immigration. This finding is not simply driven by areas being already more prosperous prior to the onset of mass migration. Rather, immigration had a positive *causal* effect on short- and long-run local economic development.

Our article then turns the focus to the initial stage of the migration process and provides a *new analysis* characterizing the selection of Italian migrants (the largest country-of-origin group) to Argentina on the basis of literacy. Our main finding is that Italians who moved to Argentina, both males and females, had higher literacy rates than those who stayed in Italy (that is, they were *positively selected* on the basis of literacy). A key feature of our analysis is that, unlike in previous studies, we can compare literacy rates of Italian migrants to Argentina to literacy rates of Italian stayers while accounting for differences between migrants and stayers in birth cohort, gender and regional origin mix. Doing so enables us to establish that these higher literacy rates were not simply driven by the higher proportion of males and younger individuals among immigrants, nor by the overrepresentation of individuals from high-literacy regions in the flow to Argentina. This new result contributes an additional element to the positive view of European migration to Argentina.

Our review of the evidence highlights the importance of Europeans' relatively high levels of human capital as a key factor underlying their positive individual outcomes and broader economic impacts. European migrants not only had higher levels of literacy than the local population, but also likely brought other skills (for instance, industrial know-how) that were locally in relatively shorter supply. The high skills of Europeans relative to the rest of the country's population may help explain both their high levels of upward mobility and the positive impacts of immigration on the process of growth and structural change.

We complement the many existing studies and reviews on the Age of Mass Migration. Abramitzky & Boustan (2017) provide an excellent overview of the economic history literature on migration to the United States. Other important references include Hatton & Williamson (1998) and Ferrie & Hatton (2015). Sánchez-Alonso (2019) provides an overview of the Age of Mass Migration that includes other Latin American countries beyond Argentina. Our article contributes a detailed characterization of the Argentine case based on previous studies as well as on new evidence on the selection of Italian migrants to Argentina.

The rest of this article is structured as follows. In Section 2, we provide some general background on mass migration to Argentina from the mid-19th century to the early 20th century. In Section 3, we summarize evidence from recent studies on the economic trajectories of European migrants in Argentina (Section 3.1) and on impacts of immigration across local economies (Section

3.2). In Section 4, we complement these summaries with a new analysis of selection patterns (particularly selection on the basis of literacy), focusing on the case of Italian migrants to Argentina. Section 5 concludes.

2 Background

During the Age of Mass Migration (1850-1913), Argentina received about 6 million immigrants from Europe. It was the most important destination of European migrants after the United States, which received about 30 million migrants, considering gross figures. In per capita terms, Argentina had higher levels of immigration than any other country in the world. The large inflow of migrants was a key driver of population growth and implied a major shift for the composition of the country's population. As highlighted by the classic work of Germani (1966), this mass migration had profound implications for Argentina's economy and society, particularly in the areas of country in which immigrants tended to concentrate- urban areas and the agricultural production core (the fertile plains of Buenos Aires, Santa Fe, Córdoba, Entre Ríos, and La Pampa).

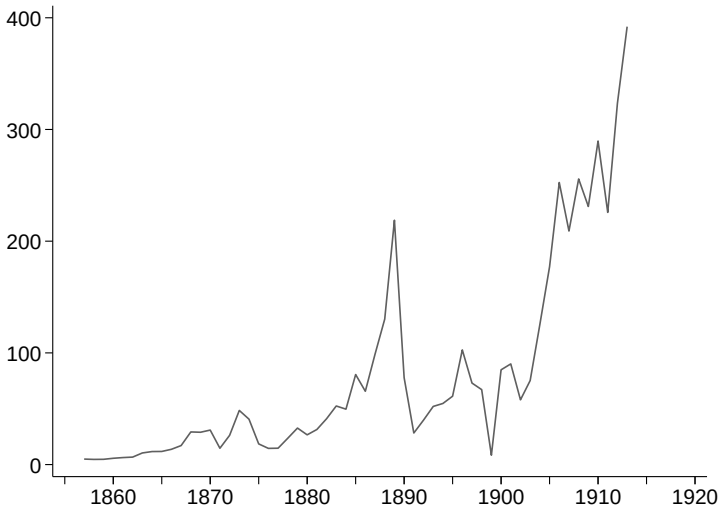
The elites that governed Argentina during this period maintained relatively positive views and open policies toward European immigration. They were particularly interested in attracting white Anglo-Saxon migrants from Northern Europe, who they considered a source of "civilization" (Bastia & Hau, 2014). This ideology was present in Alberdi's *Bases y puntos de partida para la organización política de la República Argentina* (Alberdi, 1852), a document that influenced the Argentine Constitution of 1853. Indeed, the Constitution stated that the government should encourage European immigration and limited its ability to restrict immigrant inflows.[1]

Although there was a trend towards a more restrictive migration policy over the course of the Age of Mass Migration, European migrants to Argentina faced relatively few policy barriers to enter the country throughout the period (Sánchez-Alonso, 2013). For instance, unlike the US, Argentina never imposed a literacy test or introduced country-of-origin quotas for migrants in the 1910s and 1920s.

Figure 1 displays the number of yearly arrivals of European immigrants to Argentina. Inflows

[1] Article 25 stated that "the Federal Government shall encourage European immigration, and it may not restrict, limit, or burden with any tax whatsoever the entry into Argentine territory of foreigners whose purpose is tilling the soil, improving industries, and introducing and teaching the sciences and the arts."

FIGURE 1: YEARLY NUMBER OF IMMIGRANT ARRIVALS TO ARGENTINA (IN THOUSANDS)



Notes: This figure shows the number of new immigrant arrivals to Argentina, based on data from Dirección General de Estadística (1908).

of migrants were relatively low (below 10,000 per year) until 1862 and started to increase rapidly thereafter. Net flows were substantially lower than the gross flows depicted in the figure, since outflows—including return migration—were large. In the 1857–1913 period, the gross cumulative inflows were 5.8 million and the net ones were 3.4 million. This net quantity was still massive—more than twice the estimated size of the country's total population at the beginning of that period (1.3 million) and over half of the absolute increase in the population over the period. By 1914, the country's population was over 7.8 million of which 30% were foreign born. The role of immigration in population expansion would be even more important taking into account migrants' children born in Argentina.

In addition to its contribution to overall population growth, European immigration was particularly important for the expansion of the labor force during the agro-export period and beyond. The disproportionate contribution of migrants to the labor force was a direct consequence of the fact that immigrants were predominantly working-age males: By 1914, migrants had an average age of 33 and a male to female ratio close to 1.7, while the Argentine-born had an average age of

18 years old and a male to female ratio close to 1.

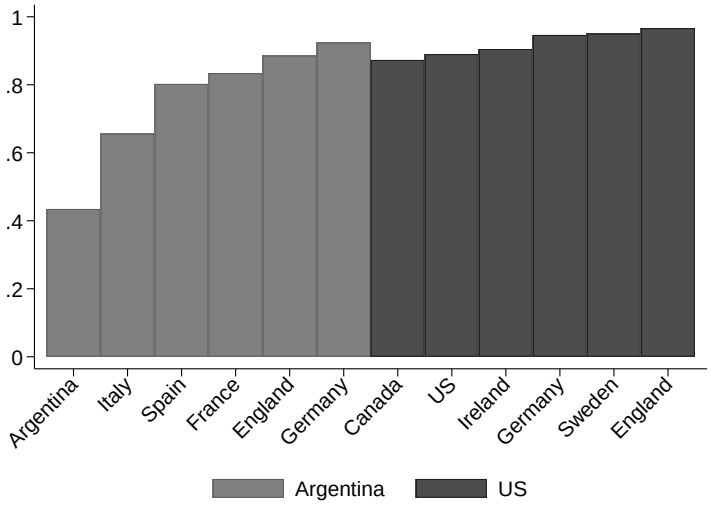
A key aspect that we highlight throughout this article is migrants' relatively high levels of instruction compared to the Argentine-born population. Although migrants to Argentina hailed predominantly from two countries (Italy and Spain) that had low levels of literacy by European standards of the time, they nevertheless were on average more literate than locals. Figure 2 offers a comparative view of the implications of international migration for human capital in the Americas. The figure shows the literacy rates of males aged 18 or more residing in 1895 Argentina or 1900 US, by country of birth. The figure shows that, in Argentina, immigrants from all major sending countries had higher levels of literacy than the Argentine-born. For instance, whereas the literacy rate was about 43% among the Argentine-born, it was 65% among Italian migrants residing in Argentina and 80% among Spaniards. By contrast, in the US, the literacy rate of the Argentine-born population was higher in absolute terms and also much closer to that among the major immigrants groups in the country.

Moreover, across all of the Argentine provinces, European migrants residing in a given province had higher literacy rates than the local Argentine-born population. Figure 3 shows the literacy rates of Argentine, Italian and Spanish males aged 18 to 60, by Argentine province of residence in 1895.[2] The figure illustrates the substantial literacy advantage of Europeans relative to the local populations.

Despite the high literacy levels relative to the local population, Figure 2 also shows that European migrants to Argentina—particularly those from Italy and Spain, the two major sending countries—had lower levels of literacy than European migrants to the United States. This stylized fact echoes the notion that migration patterns fell short of the expectations of Argentine elites, who had aspired to attract immigrants from Northern Europe (Alberdi, 1852).

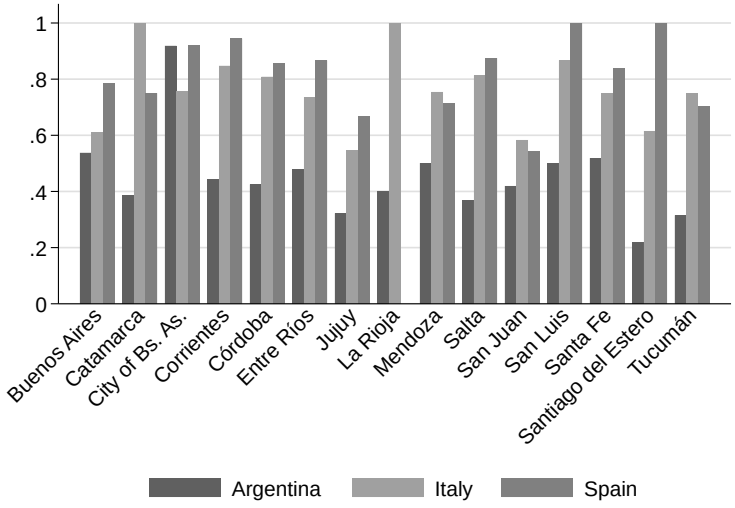
[2]The figure is restricted to the fourteen original Argentina provinces.

FIGURE 2: LITERACY RATES BY COUNTRY OF BIRTH AND COUNTRY OF RESIDENCE



Notes: This figure shows the literacy rates for different groups based on their country of residence (Argentina or the US) and their country of birth (indicated by the x-axis). The Argentine data are from Somoza (1967) and the US data are from Ruggles *et al.* (1997). The sample is restricted to males aged 18 or more.

FIGURE 3: LITERACY RATES BY COUNTRY OF BIRTH AND ARGENTINE PROVINCE OF RESIDENCE



Notes: This figure shows the literacy rates for different groups based on their province of residence in 1895 Argentina. The data are from Somoza (1967). The sample is restricted to males aged 18 or more.

3 Social Mobility and Effects on Growth: A Review of Recent Evidence

3.1 Economic Outcomes of European Migrants in Argentina

Contemporaneous accounts of the Age of Mass Migration in Argentina suggest that "hard working" immigrants had an easy path to upward economic mobility (Alsina, 1898). This view of Argentina as a "land of opportunity" is also common in more recent historical studies, like the classic works of Diaz-Alejandro (1970), Cortés Conde (1979), and Baily (1983).

Existing quantitative evidence also supports that view, although it has some limitations. Classic studies investigating migrants' occupational mobility, including the pioneering work of Germani (1966), were based on the published census tabulations. While these studies were key to establish stylized facts, using aggregate census data makes it hard to disentangle changes in the social standing of immigrants from compositional changes in the immigrant pool (for instance, as new immigrants arrive to the country or some of them return to their countries of origin). These difficulties were exacerbated by the fact that Argentine population censuses did not include information on migrants' year of arrival to the country.

A number of studies examined individual-level data with a focus on groups by specific country-of-origin living in specific places within Argentina. For instance, Da Orden (2005) studies the occupational mobility of Spanish immigrants in the city of Mar del Plata, Szuchman (1981) studies the mobility of immigrants in the city of Córdoba, and Sofer (1982) examines the occupational mobility of Eastern European Jewish immigrants in the city of Buenos Aires. While these contributions offer interesting, detailed characterizations of these migrants' experiences, their focus on individuals that did not move over time may underestimate the economic mobility experienced by the typical immigrant (insofar as economic and geographical mobility are likely positively associated).

The rest of this section summarizes the findings of the recent papers that support an optimistic view on immigrant progress in Argentina during the Age of Mass Migration on the basis of newly collected individual-level data for European immigrants and their children in late 19th century Argentina.

Using passenger lists records linked to the 1895 population census, Pérez (2017) shows that immigrants were able to make substantial progress relative to Europe: most immigrants who worked in unskilled jobs in Europe were able to upgrade their occupations within a relatively short time

span. Comparing the findings to those in Ferrie (1997) (based on similarly constructed data for immigrants in the US) suggests that immigrants in Argentina were not only more likely to exhibit upward mobility than those in the US, but also less likely to exhibit downward mobility (that is, to experience occupational downgrading).

Moreover, using data linking both immigrants and the Argentine-born from the 1869 to the 1895 census, the paper finds that immigrants experienced faster occupational upgrading than the Argentine-born. This faster occupational upgrading was not driven by immigrants from any particular country of origin. Rather, immigrants from all major sending countries experienced faster occupational upgrading than the Argentine-born. These findings contrast with those in Abramitzky *et al.* (2014), who find that immigrants in the US at the turn of the 20th century exhibited very limited occupational upgrading as they spent time in the US.

The paper concludes by arguing that the high levels of upward mobility in Argentina might explain why many Europeans chose this destination despite real wages being lower than in the US. In other words, migrants deciding between alternative destinations in the Americas might have faced a trade-off between higher wages in the short term and higher long-term prospects for upward mobility.[3] An alternative interpretation, however, is that the stronger economic mobility of immigrants in Argentina might have not reflected differences in the economic opportunities, but rather differences in the characteristics of immigrants moving to different destinations. For instance, Argentina might have attracted immigrants who held more skilled occupations prior to moving to the Americas than those who moved to the US.

Pérez (2021) focuses on the case of Italian migration to investigate whether the higher levels of mobility of immigrants in Argentina relative to the US were driven by differences in the selection of migrants moving to each country, or by differences in the opportunities available to migrants in each destination. Italian migration is a particularly relevant case in this context: Italians were the largest country-of-origin group in Argentina (with 2.5 million Italian migrants from 1857 to 1924), as well the largest immigrant group among 20th century arrivals in the US (which attracted a total of 4.5 million Italians) (Ferenczi, 1929).

The historical literature emphasizes the relative success of Italian migrants in Argentina relative

[3]For instance, when comparing Italian migration to Argentina and the US, Klein (1983) writes that "the sharp differences in the Italian immigrant experience within Argentina and the United States were fully perceived by both the immigrants themselves and virtually all contemporary observers."

to Italians in the US (Baily, 2004; Klein, 1983). To investigate the role of immigrants' pre-migration characteristics in explaining this relative success, Pérez (2021) assembles data following Italian immigrants from passenger lists to population censuses. These data include the year of entry, port of origin and pre-migration occupation of Italian migrants who resided in Argentina or the US by the late 19th century. The analysis shows that individual-level characteristics such as pre-migration occupation or literacy explain very little of the gap in outcomes (in particular, home ownership rates and the likelihood of holding an unskilled occupation) between Italians in Argentina and the US. Part of the advantage of Italians in Argentina, however, is driven by the fact that Italians who departed from northern ports (who were overrepresented in the flow to Argentina) had on average better outcomes in both destination countries.[4]

What explains the higher levels of mobility of immigrants in Argentina relative to the US? The evidence in Pérez (2021) suggests that (at least in the case of Italians) this relative success cannot be fully explained by migrants' characteristics (i.e. by selection). Indeed, the analysis suggests that Italians' destination choices were mostly driven by the strength of the networks connecting them to each destination rather than by characteristics related to their own human capital. One factor that may have entailed better opportunities for migrants in Argentina is the low level of economic development of the country relative to the US, which meant that some economic activities were not yet well-established and thus migrants faced little or no competition from locals. Relatedly, immigrants in Argentina (in contrast to the US) had higher levels of human capital relative to the local population: As shown in Figure 2, in Argentina, immigrants from all major sending countries had higher levels of literacy than the Argentine-born. For instance, whereas the literacy rate was about 43% among the Argentine-born, it was about 65% among Italian migrants residing in Argentina. In contrast, in the US, the literacy rate of the Argentine-born population was much closer to that among the major immigrants groups.

In another recent contribution, Abad *et al.* (2021) examine the success of Italians in Argentina relative to Spaniards (the other major group). This relative success poses a historical puzzle: while Spaniards had higher literacy than Italians and had the advantage of speaking the local language,

[4] In a related contribution, Pérez (2019) compares rates of intergenerational occupational mobility across four countries in the second half of the 19th century: Argentina, Norway, the US, and the United Kingdom. In this comparison, which includes both the Argentine-born population and immigrants, Argentina stands out as exhibiting similar levels of intergenerational mobility than the US (and considerably above those of Norway and the UK).

their wages in Buenos Aires were lower than those of Italians. The paper argues that the relative success of Italians was likely due to cultural aspects, in particular, their strong network ties, which helped migrants within that community to find job opportunities matching their individual skills. In contrast, the Spanish were more individualistic and less likely to help fellow countrymen to enter high-income occupations.

This novel contribution by Abad *et al.* (2021) points to the importance of community-wide characteristics, besides individual characteristics, in determining economic trajectories of migrants. This explanation is consistent with insights from network theory and with empirical research supporting the relevance of migrant networks in other destination countries, e.g. the study by Lafortune & Tessada (2016) for the United States. In the context of Argentina, the findings of Abad *et al.* (2021), considered in combination with the possibility of scale effects in networks, suggest that the massive scope of Italian migration to Argentina may have aided the favorable economic outcomes of individual Italian migrants.

3.2 The Impacts of Immigration on Economic Development

A large literature in economics studies the effects of migration on economic performance. Recent historical studies have leveraged rich subnational data to shed new light on this topic. For instance, Sequeira *et al.* (2020) exploits cross-county variation in immigration within the United States created by time variation in aggregate immigrant flows interacted with the expansion of railroads, finding positive effects on income and other measures of development today. In a related contribution, Arkolakis *et al.* (2020) use rich patents data and a spatial model of growth to show how European migrants pushed the technological frontier in the US through dissemination of knowledge and labor. Finally, in this volume, Mussachio *et al.* (2022) investigate the effects of migration on agricultural productivity in the state of Sao Paulo, Brazil.

For the case of Argentina, a number of studies discuss the effects of immigration during the Age of Mass Migration on economic performance (e.g., Cortés Conde, 1983; Taylor, 1997). In a recent paper, Droller (2018) provides a quantitative empirical study showing how the historical migration influenced long-run development across Argentine counties.

Droller (2018) uses an instrumental variables approach to estimate a causal relationship between immigration and development, and finds that the presence of Europeans in 1914 had posi-

tive effects on per-capita GDP in 1994. The instrumental variable exploits the interaction between yearly variation in the arrival of European immigrants to the Pampas' fertile plains and yearly variation in local land availability due to internal war. The instruments uses these sources of variation to calculate a "synthetic" distribution of immigrants and the non-immigrant population across Argentine counties. Estimates for two other measures of economic development show results along the same line: a positive and significant effect of the composition of the population on the share of the population with higher education and on the share of workers with high-skilled occupations in 2001.

What explains migrants' contribution to long-run development? The proposed explanation in Droller (2018) emphasizes immigrants' human capital and skills. As discussed above, Europeans arriving to Argentina were on average more literate than locals. In 1869 the census reports an illiteracy rate of 71% among the Argentine-born population. This gap narrowed in the late 19th century and early 20th century, as levels of literacy in the Argentine population sharply increased following a strong educational public policy started in 1884. By 1914, literacy was around 62% for the population aged 7 and older, that is, broadly comparable to that of European migrants. But for most of the Age of Mass Migration, European migrants had sharply higher average levels of literacy than Argentines.

Consistent with this interpretation, Droller (2018) documents that European migration had significant positive effects on historical levels of literacy, going beyond what can be simply explained as compositional changes. This finding suggests that, besides compositional effects though the human capital they brought with them, European migrants may have fostered the subsequent formation of human capital.

The Argentine economy in the late nineteenth century and early twentieth century was primarily agricultural, but industrial production was rapidly growing. Between 1880 and 1915, manufacturing valued added increased at an 8% annual rate (Cortés Conde (1994)). Historical narratives suggest that European migrants were key for such rapid industrial development. According to Germani (1966) (p.168), "it was the immigrant population which provided most of the labor and entrepreneurship in the beginnings of industrial development."[5] Indeed, historical census data

[5]Similarly, according to Rocchi (2006) (p. 20), "[w]ith immigration, Argentina could profit from the benefits of human capital provided by recent arrivals, an issue especially important for manufacturing—many factories, indeed, could not have opened had the skills of the immigrant population not been available."

show that immigrants had a salient participation in manufacturing activities. For instance, 59% of all industrial workers in 1895 were immigrants. In 1913, immigrants represented 49% of manufacturing labor and owned (or shared ownership) in 68% of all industrial establishments. For metallurgy and metal products, and chemical industries, some of the most technologically advanced at the time, the shares of European immigrants among owners were 77% in 1895 and 66% in 1914.[6]

Droller (2018) conducts two other exercises that support the relevance of various aspects of human capital as underlying the positive effect of immigration on growth. First, using county level data from the 1935 Industrial census, the paper shows that immigrants arriving from countries with higher levels of industrialization (e.g., Great Britain, Germany, Austria, Switzerland, and Italy) exhibit larger positive effects on industrial dynamism. Immigrants from Northern Italy in particular had strong positive effects on the onset of industrialization, setting up many of the industrial establishments and providing high skilled labor. Second, using census data on occupations, the paper shows that Europeans with high-skilled occupations had a significantly higher contribution to both short- and long-run development than Europeans with low-skilled occupations.

The interpretation in Droller (2012) and the findings supporting it are in line with Hornung (2014), who documents a positive effect of skilled immigration on manufacturing productivity across Prussian towns in the early 19th century, and with Rocha *et al.* (2017), who show that regions of Brazil with more immigration in the late nineteenth and early twentieth century have higher income per capita in the long-run due to the higher human capital of migrants. Moreover, the analysis of Droller (2018) provides results that distinguish the contributions of migrants by skill levels, which echoes the emphasis of Mokyr (2005), Squicciarini & Voigtländer (2015) and Maloney & Valencia Caicedo (2020) on upper-tail knowledge.

4 Who Moved to Argentina? An Analysis of Italian Migration

Our review of the evidence on economic outcomes of migrants in Argentina and their impacts on economic development highlights the role of human capital and skills. In this section, we present

[6] All of these figures come from the 1914 census. See pages 112, 246, and 248.

new evidence analyzing migrants' background in the context of their home country: how did migrants to Argentina (in particular, Italians) compare to those who stayed in Europe in terms of human capital?

To do so, our analysis compares the literacy rates of Italian migrants to Argentina to the literacy rates of Italian stayers. A key practical advantage of focusing on this variable is that it is possible to gather consistent information on literacy *both* for the population of Italian migrants to Argentina and for the population of stayers. Moreover, although the ability to read and write is a relatively coarse proxy for broader human capital, it does provide useful information in a context in which such ability was still very far from universal.

Aggregate comparisons of literacy rates for Spanish and Italian migrants to Argentina to those of stayers in their home countries suggest that there was positive selection in migration. In the case of Spanish migrants, the gaps were large: the literacy rate among Spaniards in 1914 Argentina was 74%, while it was only 50% for the total Spanish population in 1910 (Sánchez-Alonso, 1995). For Italians, the literacy rate among migrants to Argentina was also higher than the corresponding rate among Italian stayers (Klein, 1983).

While aggregate comparisons are quite suggestive, a challenge in interpreting this evidence is that the age structure and gender mix of migrants was different from that among stayers. In particular, migrants were more likely to be male and tended to be younger than stayers. Since males and younger individuals tended to have higher literacy rates in this time period, it is hard to disentangle selection on the basis of age and gender from selection on the basis of literacy.

Here, we characterize the selection of Italian migrants to Argentina using data that enables us to compute literacy rates by gender and birth cohort for Italian stayers and Italian migrants to Argentina. First, we digitized data from the 1901 Italian population census (Direzione generale della statistica, 1902). This census reports literacy rates by age, gender and region ("compartimenti") for Italian residents in 1901. Second, to compute literacy rates among Italian migrants, we use two sources of data (both of which include individual-level information on literacy): passenger lists of Italian arrivals to Argentina and the 1895 Argentine population census. The passenger lists span 1882 to 1920 and include 1,020,000 Italians who arrived to Argentina through the port of Buenos Aires.[7] The census data are based on a random sample of the 1895 population census compiled by

[7] These data were collected by Argentina's National Direction of Immigration and have been digitized by *Centro de*

Somoza (1967).[8] These sources enable us to compute literacy rates for the *flow* of Italian arrivals to Argentina during this period, as well as for the *stock* of Italian migrants in 1895 Argentina.

4.1 Differences in literacy, accounting for demographic structure

We start by showing that Italian migrants in 1895 Argentina had higher literacy rates than Italian stayers, comparing within birth cohort (in five-year bins) and gender. Figure 4 displays these differences using data on the literacy rates of Italian stayers (based on the 1901 Italian census) and Italian migrants living in 1895 Argentina (based on the 1895 Argentine census).[9] For males, the gap in literacy was of about 20 percentage points among the earliest birth cohorts, and of about 10 percentage points among the most recent ones. Among females, the gaps also oscillated between 10 and 20 percentage points.

We next compare the literacy rate of the *flow* of Italian migrants to Argentina to the literacy rate among Italian stayers. To do so, we use the passenger lists data and compute literacy rates by birth cohort, gender and decade of arrival to Argentina from the 1880s to the 1910s.[10] Looking at the flow provides us with additional information about the selectivity of migration for three reasons. First, to the extent that return migration is selective, the literacy rate of the migrant stock might differ from that of the migrant flow. Second, focusing on the immigrant flow enables us to investigate the extent to which selectivity changed across different arrival cohorts. Finally, it enables us to observe migrants' literacy rates *before* their arrival to Argentina. Doing so helps deal with the concern that the higher literacy rates that we observe in the Argentine census might be driven by immigrants becoming literate during their stay in Argentina rather than the result of immigrant selectivity.

Figure 5 shows that, regardless of their arrival decade, Italian migrants to Argentina were pos-

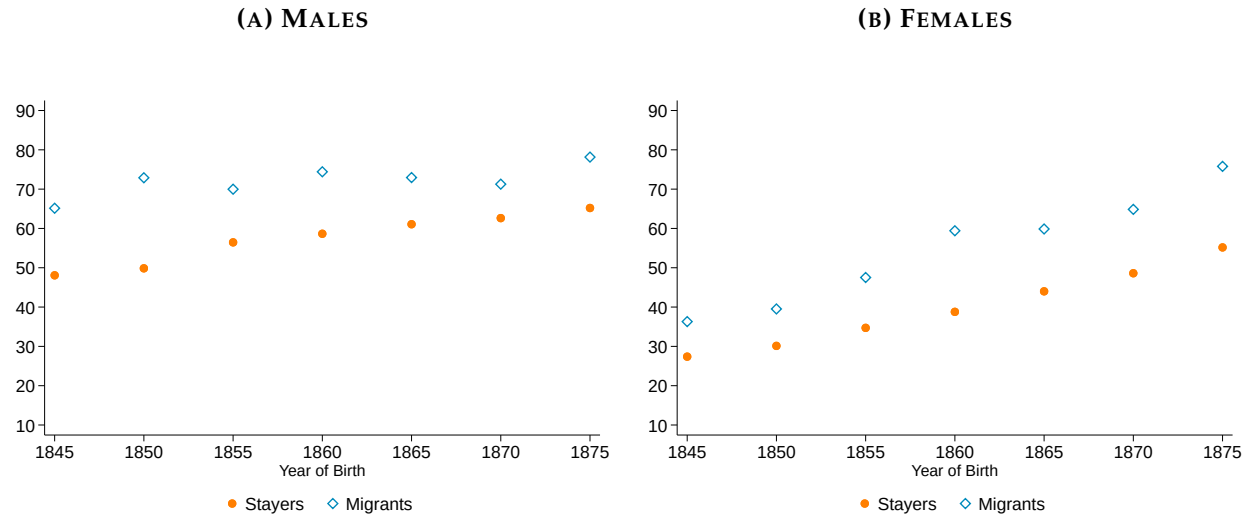
Estudios Migratorios Latinoamericanos and *Fondazione Rodolfo Agnelli*.

[8] The 1895 census is the last Argentine census of the period for which we can compute literacy rates by country of origin, birth cohort and gender. The published census tabulations of the 1914 census do not enable us to perform this calculation as they do not include information on literacy rates by age *and* country of birth.

[9] Since our sample of stayers is based on a census conducted later in time than our sample of migrants (1901 versus 1895), we focus on birth cohorts for which this discrepancy is less likely to generate biases. First, to avoid biases due to selective mortality, we limit the analysis to individuals who were at most 60 years old at the time of the census. Second, to avoid biases due to individuals becoming literate later in life, we limit the analysis to individuals who were at least 20 years old at the time of the census. Our assumption is that individuals who were illiterate by age 20 are very likely to remain so later in life.

[10] An analysis of migratory flows is not possible with the census data since the Argentine census does not include information on year of arrival to the country.

FIGURE 4: LITERACY RATES OF ITALIAN STAYERS AND ITALIAN MIGRANTS IN 1895 ARGENTINA, BY YEAR OF BIRTH



Notes: This figure shows literacy rates by gender and birth cohort (in five-year bins) of Italian stayers and Italian migrants. The data on Italian stayers are from the 1901 Italian population census (Direzione generale della statistica, 1902). The data on Italian migrants in Argentina are from the 1895 Argentine population census (Somoza, 1967). The data are restricted to individuals who were between the ages of 20 and 60 at the time we observe them in the census.

itively selected on the basis of literacy. However, the figure suggests some heterogeneity across decades on the degree of positive selection. In particular, migrants arriving in the 1880s and 1900s tended to be the most positively selected on the basis of literacy, whereas the most recent arrivals (those arriving in the 1910s) appeared to be less so.

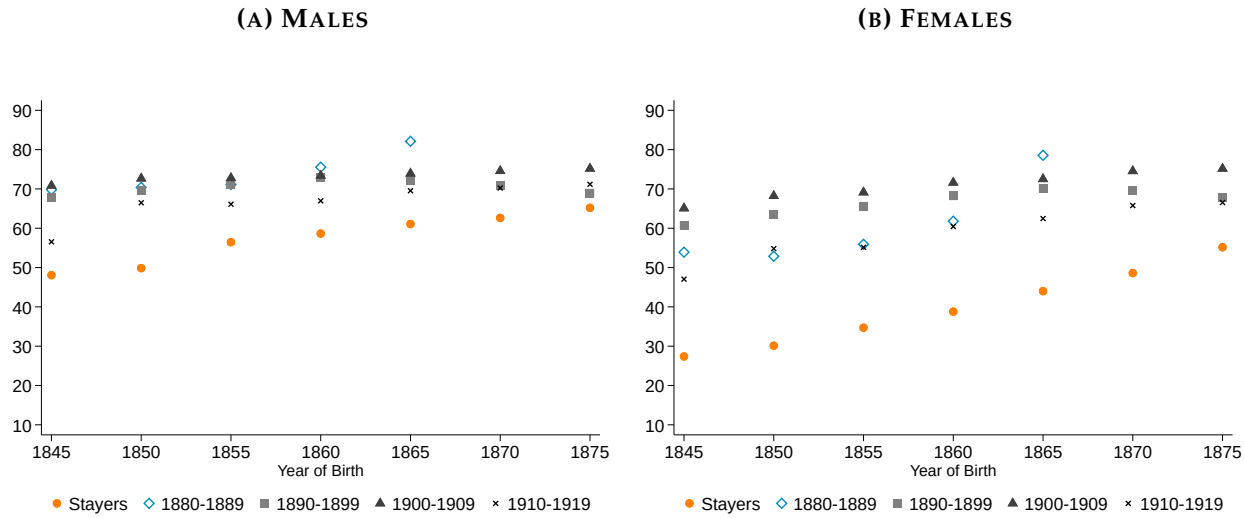
This pattern echoes a common finding in the migration literature—a trend toward negative selection over time (see, e.g., Borjas, 1987; Abramitzky *et al.*, 2014). The usual explanation for this pattern emphasizes the network component of migration, which reduces the costs of migration over time widening the pool of potential migrants that find the migration decision feasible and convenient (Massey *et al.*, 1993).

4.2 Adjusting for regional gaps

Italian migrants to Argentina were disproportionately likely to hail from the north of the country (Klein, 1983). Since during this time period literacy rates were higher in the north of Italy than in the south, the higher literacy rate among Italian migrants might have simply reflected the over

representation of northerners in the immigrant flow to Argentina.[11] Alternatively, Italian migrants might have been positively selected also *within* their regions of origin.

FIGURE 5: LITERACY RATES OF ITALIAN STAYERS AND ITALIAN MIGRANTS IN ARGENTINA, BY DECADE OF ARRIVAL



Notes: This figure shows literacy rates by gender and birth cohort (in five-year bins) of Italian stayers and Italian migrants, by decade of arrival to Argentina. The data on Italian stayers are from the 1901 Italian population census (Direzione generale della statistica, 1902). The data on Italian migrants to Argentina are from the passenger list data as described in the main text. The data are restricted to individuals who were between the ages of 20 and 60 at the time we observe them.

Recent work by Spitzer & Zimran (2018) on Italian migration to the United States underscores the importance of accounting for regional patterns when analyzing selection. Using stature data from Ellis Island arrival records, in combination with Italian subnational cohort-level height distributions, the analysis uncovers contrasting selection patterns for different levels of aggregation. At the national level, they find negative selection patterns, with average height for Italian migrants lower than for all Italians in a given birth cohort. However, this was due to overrepresentation of southern Italians among migrants: At the local level, that is, comparing migrants to the populations in their provinces of origin, the results indicate positive selection.

To test if the higher average literacy of Italian migrants to Argentina relative to Italian stayers can be accounted by the overrepresentation of regions with higher-than-average literacy rates, we reweight the data on Italian stayers based on the number of migrants to Argentina that hailed from each Italian region. To do so, we combine data on the number of migrants to Argentina in the

[11] More broadly, by the mid 19th-century the north of Italy was already richer (as proxied by real wages) than the south (Federico *et al.*, 2019).

1876-1894 period by Italian region (from Dell'Emigrazione (1927)), with data on literacy rates by region (*compartimenti*) from the 1901 Italian population census. Specifically, for each gender and birth cohort we compute:

$$l_{gc} = \sum_r \alpha_r l_{gcr} \tag{1}$$

where α_r is the share of Italian migrants to Argentina who hailed from region r in the 1876-1894 period, and l_{gcr} is the literacy rate among Italian stayers of gender g and birth cohort c in Italian region r. This formula enables us to compute literacy rates for a "synthetic" Italy in which the regional shares are based on the relative representation of different regions in the migrant flow to Argentina.

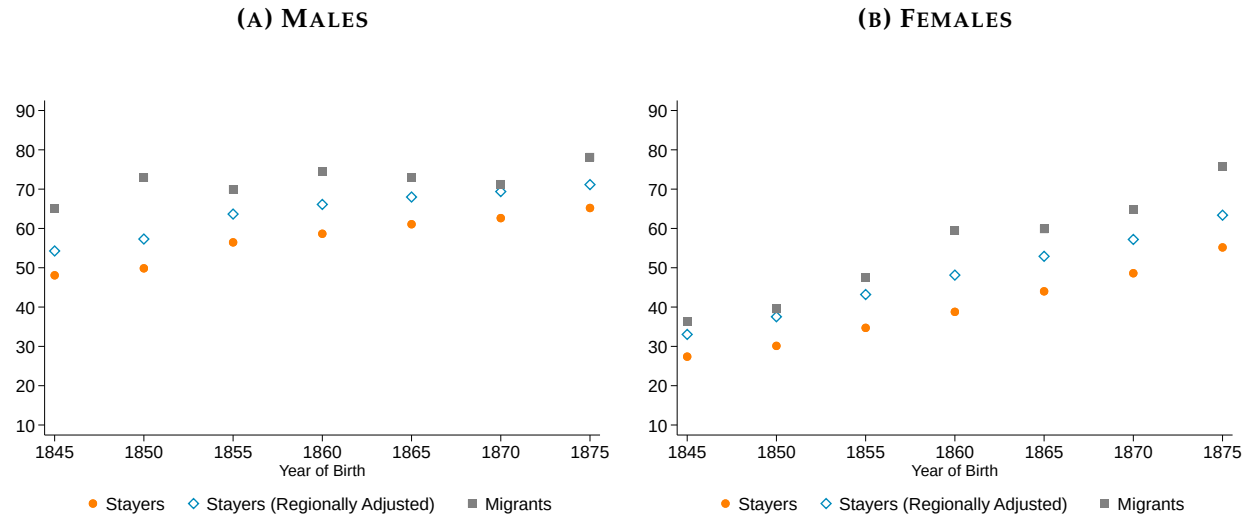
Figure 6 shows that the literacy rates of the synthetic Italy were higher than the actual rates, reflecting the over representation of high-literacy regions in the flow to Argentina. However, the literacy rates of the synthetic Italy are still lower than those among Italian migrants to Argentina. Hence, the positive overall selection of Italian migrants to Argentina on the basis of literacy does not appear to have been fully driven by the overrepresentation of regions with high literacy rates in the flow to Argentina.

Overall, the evidence suggests that both Spanish and Italian migrants to Argentina were positively selected on the basis of literacy: immigrants to Argentina from both these countries had higher literacy rates than stayers of the same age and gender, and this advantage is not fully accounted for migrants' regional mix. The trend toward diminished positive selection in migration discussed before also appears here, though somewhat less clearly for females than for males.

5 Conclusions

Argentina was the second largest destination country during the Age of Mass Migration, receiving nearly six million migrants. In this article, we first summarized recent findings characterizing migrants' long-term economic assimilation and their contributions to local economic development. We then introduced new empirical evidence on the selection of Italian migrants to Argentina. Overall, the evidence supports a positive view of immigration to Argentina: Europeans experi-

FIGURE 6: LITERACY RATES OF ITALIAN STAYERS AND ITALIAN MIGRANTS IN ARGENTINA, ADJUSTING FOR MIGRANTS' REGIONAL ORIGINS



Notes: This figure shows literacy rates by gender and birth cohort (in five-year bins) of Italian stayers and Italian migrants. The data on Italian stayers are from the 1901 Italian population census (Direzione generale della statistica, 1902). The "regionally adjusted" data on Italian stayers are weighted based on the share of migrants from each Italian compartimenti among Italian migrants to Argentina in the 1876 to 1894 period (using data from Dell'Emigrazione (1927)). The data on Italian migrants in Argentina are from the 1895 Argentine population census (Somoza, 1967). The data are restricted to individuals who were between the ages of 20 and 60 at the time we observe them in the census.

enced rapid upward mobility and immigration contributed positively to the process of economic development. Moreover, our new analysis of selection patterns shows that Italians who moved to Argentina were positively selected on the basis of literacy.

Our findings may suggest a possible explanation for why Argentina remained relative open to immigration throughout the Age of Mass Migration when compared to the United States (Sánchez-Alonso, 2013). In the 1910s and 1920s, the US imposed a literacy test and introduced country-of-origin quotas for migrants. According to some studies (see Goldin, 2008, for a discussion), these restrictions may have been induced by changes in migrants' characteristics—a shift toward origin countries perceived as more "culturally distant" and lower levels of education relative to Americans than in previous immigrant waves. In contrast, migrants to Argentina had all throughout the period higher levels of instruction than the local population and there were relatively little changes in regional origins, with Italy and Spain consistently accounting for nearly 80% of migrants.

Our review of the evidence and new analysis focused on the *economic* impacts of European migration to Argentina. However, as emphasized in classic studies of the period (for instance, Germani (1966)), this mass migration also likely had profound cultural and political implications

for the country. We think that studying these additional implications using recent methods and advances in quantitative historical analysis is a promising avenue for future research.

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