Immigrants' selectivity and their socioeconomic outcomes in the destination country: the Italian case

Abstract

We use a multiple-origins single destination design to understand how the pre-migration socioeconomic status (SES) and immigrants' selectivity affect their labour market outcomes and the educational success of their offspring in Italy. Pre-migration SES is measured using socio-economic status in the country of origin. The degree of immigrants' selectivity on unobserved characteristics (e.g. ability, motivations) is proxied by an indicator of relative education, measured as the individual's relative position in the age/gender-specific distribution of educational qualifications in the country of origin. The analysis is conducted using logistic and OLS linear regression models applied to high quality data from the 2011-2012 Istat Survey on "Social condition and integration of foreign citizens". Results indicate that relative education increases the risk of being unemployed, especially for migrants recently arrived in Italy, and it does affect SES attained in the destination country, but only among tertiary-educated individuals. Furthermore, it affects the educational integration of immigrants' offspring by reducing the risk of early school leaving.

Keywords: immigrants' selectivity, socioeconomic integration, occupational attainment, early school leaving

Introduction

Immigrants' socioeconomic integration has been a central topic in social sciences for decades. Several studies have investigated how structural characteristics and policies of the destination countries affect immigrants' outcomes (e.g. Goodman and Wright 2015; Koopmans 2010), and how the socioeconomic assimilation of immigrants progresses with their length of stay in the destination country (e.g. Ballarino

and Panichella, 2015; Kogan, 2011). Fewer studies have focused on how pre-migration socioeconomic conditions affect immigrants' socioeconomic outcomes in the destination countries, primarily because of data limitations. Pre-migration socioeconomic conditions can be measured in absolute terms, such as educational attainment and occupational status (e.g. Chiswick, Lee, and Miller, 2005; Simón, Ramos, and Sanromá 2014; Fellini and Guetto, 2019), or as relative position in the distribution of such characteristics in the origin country, i.e. selectivity (Borjas, 1987; Feliciano, 2005; Ichou, 2014).

There are several ways in which pre-migration socioeconomic conditions might affect immigrants' socioeconomic outcomes in the destination country. First, previous job experience and educational qualifications constitute key forms of individual human capital which directly affect labour market attainment (Becker, 1964), and, in turn, can affect children's educational performance. Notwithstanding, due to their imperfect international transferability, qualifications and experience acquired before migration have a weak influence on labour market outcomes of recent immigrants, but this influence might strengthen as immigrants develop new country-specific skills (Ballarino and Panichella, 2015; Chiswick, 1978; Chiswick and Miller, 2009). Thus, the labour market trajectories of immigrants from the origin to the destination countries are expected to be U-shaped, with an initial socioeconomic downgrade followed by gradual (partial) recovery of the pre-migration socioeconomic position (Chiswick, Lee, and Miller, 2005). The degree of post-migration socioeconomic status improvement varies significantly across countries, and it is particularly slow in countries with segmented labour markets, such as Italy and Spain (Simón, Ramos, and Sanromá 2014; Fellini and Guetto, 2019).

Second, immigrants' selectivity – especially when measured in terms of individual relative education (see below) might be related to individuals' unobserved cognitive and non-cognitive skills, such as ability and motivation, which are relevant for labour market outcomes (Borjas, 1987) and, if transmitted to one's offspring, for the children's educational performance (Feliciano, 2005; Ichou, 2014).

Third, the pre-migration social position might affect immigrants' self-perception and their aspirations in the destination country (Engzell and Ichou, 2019; Ichou, 2014; van de Werfhorst and Heath 2019). Immigrants might thus act strategically in the labour market and in their children's educational choices with the aim of recovering their pre-migration social standing, measured not only in absolute (pre-migration job position), but also in relative terms (selectivity).

The aim of this article is to investigate how the pre-migration socioeconomic status and immigrants' selectivity affect their labour market outcomes and the educational success of their offspring in Italy. We aim to contribute to the literature in several ways. First, previous studies on the association between immigrants' selectivity and labour market outcomes have measured selectivity as a group characteristic and often through proxies (e.g. Cohen and Kogan, 2006; Van Tubergen, Maas, and Flap, 2004). Studies measuring immigrants' selectivity as an individual characteristic investigated its effects on their children's educational outcomes (Ichou, 2014; Engzell, 2019), on their destination country language acquisition (Spörlein and Kristen, 2019), on their self-perception in terms of social position (Engzell and Ichou, 2019), and on their health conditions (Ichou and Wallace, 2019). This article is, to our knowledge, the first to investigate the association between immigrant selectivity as a direct, individual level measure, and labour market outcomes of first-generation immigrants. Second, previous studies on the relation between pre- and post- migration socioeconomic characteristics have focused either on pre-migration job position (e.g. Chiswick, Lee, and Miller, 2005; Simón, Ramos, and Sanromá 2014; Fellini and Guetto, 2019) or on selectivity in education (e.g. Ichou, 2014; Engzell, 2019; Spörlein and Kristen, 2019). This is the first study that uses both absolute and relative measures of pre-migration social standing as factors of immigrants' socioeconomic integration. Third, most of the literature on immigrants' socioeconomic integration in Europe (Health, Rothon, and Kilpi, 2008) and all the existing literature on the association between immigrants' selectivity and socioeconomic outcomes (Ichou, 2014; Engzell, 2019) is limited to old immigration countries, such as the United Kingdom, Germany, France, or Sweden. Expanding this

literature to new immigration countries is important because of these countries differ from the old ones in the composition of immigrant groups (new immigration countries attracting less educated immigrants than the old ones) (OECD, 2012) and in structural factors that are relevant for immigrants' socioeconomic assimilation, such as labour market segmentation (Simón, Ramos, and Sanromá 2014; Fellini and Guetto, 2019). With this article, we expand the geographical scope of research on the socioeconomic outcomes of immigrants with different levels of selectivity to a new immigration country: Italy.

In the empirical part, we rely on data from the 2011-2012 Istat Survey on "Social condition and integration of foreign citizens" (SCIFC, hereafter) (ISTAT, 2016). This survey provides information about the social conditions of immigrants before and after migration, the reasons to migrate and their children's scholastic experience. Unfortunately, the survey does not include information on school grades or secondary school track choice. We thus use early school dropout as an indicator of failed educational integration of immigrants' children. As the aim of this article is to investigate whether premigration social standing explains differences in socioeconomic outcomes between immigrants in Italy, comparing the outcomes of immigrants with those of natives is beyond the scope of this research.

The structure of this article is the following. In the next section, we will review the literature on the consequences of immigrant selectivity on the labour market integration of immigrants in the destination country and on immigrants' children's educational success. In the following section, we will introduce the data, methods and variables. In the third part we will present the results of the analyses. Finally, we will discuss our findings in relation to the previous literature on the topic and present our conclusions.

Theoretical framework

Immigrants' selectivity

Rather than being a random sample of their origin society, immigrants are expected to be self-selected on the basis of certain characteristics (Borjas, 1987). These can be individuals' socioeconomic status

4

(education, working experience, income), their ability and ambition, or their values (Borjas 1994). The degree of selectivity of individuals will therefore be given by their relative position in the distribution of such characteristics in their country of origin. This means, for instance, that immigrants having low levels of education in absolute terms, can be relatively highly educated compared to the population in their country of origin (Engzell, 2019; Feliciano and Lanuza, 2017; Ichou, 2014; Feliciano, 2005). Immigrants are labelled as positively (negatively) selected when they have over-the-average (below-the-average) levels of education, job experience, ability or motivation compared to the population in their country of origin.

The concept of immigrant selectivity is useful to distinguish an immigrant's level of human capital into absolute, and relative to the individual's country of origin. Considering the absolute level of human capital would mean to only consider its observable dimensions, disregarding the differential meanings that these may have in different contexts (Feliciano, 2005; Feliciano and Lanuza, 2017; Ichou, 2014; Engzell and Ichou, 2019). Indeed, similar levels of education are likely to be associated with different social statuses across countries with heterogeneous levels of economic development. Positively selected individuals are likely to be more ambitious and skilled compared to negatively selected individuals with similar absolute levels of education and pre-migration job positions. In addition, the difference in the interpretation of similar levels of skills will engender a mismatch between one's subjective social status and the current one, as immigrants' subjective social status will be defined by their social status before migration.

Mismatch between subjective and current social status can also result from the social downgrading caused by the migration. Human capital, as well as other occupationally relevant resources, is largely country-specific (Borjas, 1994; Chiswick, 1978). Right after their arrival, immigrants lack the knowledge of the Italian labour market and the linguistic skills needed to attain certain positions. They are

consequently likely to end up in low skilled, poorly paid and unstable jobs. Even when these barriers are reduced, full recognition of educational qualifications that have been acquired abroad is often difficult, in particular for immigrants coming from countries with very different educational systems (Lancee and Bol, 2017). This mismatch between subjective social status and current social status is expected to affect immigrants' aspirations in terms of social mobility, both for themselves and for their offspring. Immigrants will act strategically according to their subjective social status to restore their previous social position (Ichou, 2014). This will be discussed in the following sections.

Measuring immigrants' selectivity

Several approaches have been used to estimate the effect of immigrants' selectivity on their integration. Most studies framed selectivity as a group characteristic. In some cases, they used characteristics of the countries of origin, sometimes in relation to those of the countries of destination, as proxies for selectivity (e.g. Kanas, Van Tubergen, and Van der Lippe, 2009; Levels, Kraaykamp, and Dronkers, 2008; Van Tubergen and Kalmijn, 2005; Van Tubergen, Maas, and Flap, 2004). Other studies used a more direct measure of selectivity, comparing the average educational attainment of migrant groups with that of their non-migrating co-nationals (Feliciano, 2005; van de Werfhorst and Heath 2019). Finally, some studies measure immigrants' selectivity at the individual level, in terms of relative position in the distribution of educational attainment in the country of origin (Ichou, 2014; Feliciano and Lanuza, 2017; Ichou and Wallace, 2019; Engzell and Ichou, 2019), or in the region within the country of origin (Spörlein and Kristen, 2019), comparing immigrants with individuals of the same gender and age group.

In our analysis, we will operationalize immigrant selectivity as relative education, following the model of Ichou (2014). Relative education is a measure of selectivity on an observed individual characteristic, namely education. Given the process behind the acquisition of educational credentials and the role of education in contemporary society, it is likely that relative education could be a proxy for unobserved

characteristics such as individual cognitive skills and non-cognitive traits (e.g. perseverance, ambition) (Sørensen, 1979).

The last occupational status in the country of origin will be used as a second indicator of pre-migration socioeconomic status. The latter is not a measure of immigrants' selectivity, as it does not take into account the distribution of occupational statuses in the country of origin, but it is still useful since it may set the bar of immigrants' expectations in the host society. Indeed, those who were in more advantaged occupational positions could be more likely to have higher expectations in the destination country.

The socioeconomic outcomes of the first generation in Italy: Research hypotheses
In this work, immigrants' labour market integration is measured in terms of risk of being unemployed rather than being employed and socioeconomic status associated with the (main) current job position (ISEI-08). Unemployed individuals or immigrants with a low socioeconomic status can be considered as low performing in the labour market. However, the relationship between unemployment and labour market integration is less clear than the one with occupational status. Indeed, being unemployed may mean being unable to find a job, but it might also mean being able to afford the choice of refusing jobs below one's aspirations and keep looking for better ones (Fullin and Reyneri, 2011). This is particularly true in the Italian context, where immigrants have similar risks of unemployment to natives, but are strongly segregated in low skilled jobs, independently of their skill level (Ballarino and Panichella, 2015). In this, Italy is an example of the Mediterranean low unemployment-high segregation model of immigrants' labour market incorporation, as opposed to Continental European countries, in which immigrants have higher levels of unemployment compared to natives, but have access to jobs matching their skill level (Reyneri and Fullin, 2008; Fullin and Reyneri, 2011).

The low unemployment and high segregation of immigrants in the Italian labour market are mainly due to three factors. First, the Italian labour market is characterized by a large availability of un- or semi-

skilled jobs and by a lack of qualified labour demand. Natives tend to avoid the unskilled and semiskilled jobs, thus creating a mismatch between the labour demand and supply. This makes low skilled jobs easily available for immigrants, while their access to more qualified jobs is very limited. Second, Italy has a strict regulation for naturalisation and for long-term residence: extra-EU immigrants must have lived in Italy for ten years in order to be eligible for naturalisation, and they need to have a job in order to get and to renew their long-term residence permit. Immigrants are therefore pushed to accept any job they are offered, to avoid falling (back) into irregularity. Empirical support for this mechanism is provided by Fellini and Guetto (2020), as they find that improved legal status is associated with unchanged unemployment risk and better labour market positions in the Mediterranean countries, while in Continental countries it leads to lower unemployment risk, without having a significant impact on the job quality. Third, due to the scarcity of the unemployment benefits, most of the support to the unemployed must come from their families. As immigrants lack family resources, they will be motivated to accept any job to avoid unemployment. Immigrants in Italy have thus a strong push toward employment, in particular if they lack pre-migration or family resources to get through long periods of unemployment.

According to the human capital theory, individuals with higher levels of human capital have higher chances of success in the labour market (Becker, 1964). Employers generally assess the human capital of job-seekers based on their observable skills, which include their educational qualifications and their previous labour market experience (Borjas, 1987; Chiswick and Miller, 2008; Van Tubergen, Maas, and Flap, 2004). We therefore would expect that:

H1: Immigrants with higher absolute levels of education and higher pre-migration socioeconomic status will have better outcomes in the Italian labour market (lower risk of unemployment and higher current ISEI) than those with lower educational level and lower socioeconomic status in the origin country.

The observable human capital characteristics are only part of the picture, since individuals' ambitions and ability are also relevant in the labour market. Although we cannot directly measure individuals' ambition and motivation with standard survey data, we can expect the relative position in the origin country's distribution of educational titles to be a proxy for such unobserved traits. The logic is that similar absolute levels of education can have different 'meanings' depending on the diffusion of literacy in a society (Feliciano, 2005). Individuals that are relatively highly educated compared to their peers in their origin country can be expected to have high levels of ability and ambition, and to maintain a high subjective social status (Ichou, 2014). Therefore, they might put more effort into trying to attain better labour market positions in the destination country, in order to minimize their social downgrading (Breen and Goldthorpe 1997).

Previous studies have found that, in Italy, the risk of unemployment among immigrants does not seem to differ by their educational qualifications (Fullin and Reyneri, 2011). Several possible explanations have been suggested for this finding. In a human capital perspective, higher educated individuals would be expected to be unemployed less often than lower educated ones. However, employers may have difficulties in assessing the level of human capital of immigrants, or they could be afraid of employing individuals who would turn to be overeducated for a job. On the other side, higher educated immigrants may be less likely to accept jobs too far below their aspirations. If the latter explanation were true, given that the relative level of education captures the subjective social status and occupational aspirations of immigrants better than the absolute level of education does, we would expect a higher relative level of education to be associated with a higher probability of being unemployed, net of the absolute level of education.

At the same time, immigrants with higher relative levels of education will attain higher status jobs in Italy, because of their higher unobservable skills (ability and motivation), and because of their possibility to stay longer in unemployment, waiting for more appealing job opportunities. We therefore expect that:

H2a Net of the absolute level of education, immigrants who are more positively selected in education will have higher unemployment risk than less positively selected ones;

H2b Net of the absolute level of education, immigrants who are more positively selected in education will attain higher occupational statuses in Italy than less positively selected ones.

The educational outcomes of immigrants' children

The second aim of this paper is to study the effects of immigrants' pre-migration and current socioeconomic status on their children's educational outcomes. We will consider early school dropout, defined as having quit education without completing an upper secondary school diploma, as an indicator of educational integration. Two reasons justify this choice. First, upper secondary education is considered nowadays in Italy a necessary prerequisite for a successful integration into the labour market, since individuals who failed to attain such educational qualification face severe unemployment risks and interrupted careers (Ballarino and Scherer, 2013). Second, due to data limitations, we cannot consider a wider set of educational outcomes.

Children with an immigrant background are particularly affected by early school leaving (ESL), mainly due to their parents' low material resources. Our aim is to establish whether, net of material resources and absolute level of education, children of positively selected immigrants are more likely to be better integrated in the educational system.

According to the rational choice theory, parents' resources affect their children's educational choices through the perception of costs and benefits of continuing education (Boudon, 1974). Scarce material

resources in the family can lead to a preference for lower investment in education anticipating children's entry into the labour market to make them actively contribute to the family economic resources. At the same time, parents with lower cultural resources may underestimate the importance of education for the economic success of their children (Bourdieu and Passeron, 1990), therefore also preferring shorter educational curricula and an early entry into the labour market. In a further specification of the rational choice mode, the relative risk aversion perspective (Breen and Goldthorpe, 1997) suggests that the main aim guiding educational decisions is parents' desire to avoid intergenerational downward mobility for their children. Therefore, children from lower social background families will meet this aim earlier in the educational career than children from higher social backgrounds, who will have instead to attend higher education to avoid social demotion. In sum, children from families with low socioeconomic status are expected to be more at risk of early school dropout because of lower material and cultural resources of their parents, because of their parents' overestimation of the costs of education and their underestimation of its benefits, and because of their parents' lower aspirations for their future socioeconomic status.

Previous studies on the educational integration of immigrants' children in Italy have shown that immigrants' children tend to lag behind their native peers in educational choices (Azzolini and Barone, 2013; Barban and White, 2011) and in scholastic performances (Azzolini, Schnell, and Palmer, 2012; Barban and White, 2011). In addition, they tend to have a higher risk of ESL (Azzolini and Barone, 2013; Mussino and Strozza, 2012). These immigrant-native gaps in education are largely explained by parental occupation (Azzolini and Barone, 2013) and/or level of education (Barban and White, 2011). In line with this literature, we expect that children whose parents have low economic and (absolute) cultural resources will be less integrated in the Italian school system and will have a higher risk of early school dropout. We therefore hypothesize that:

H3: Immigrants' children whose parents have lower absolute levels of education and/or lower current socioeconomic status have higher risks of early school dropout than children of more educated parents and of parents with higher socioeconomic status.

However, as argued by Ichou (2014), in the case of immigrants, the current socioeconomic status is not a sufficient measure for children's social background, and the absolute level of education does not completely capture the cultural capital of immigrant parents, especially if they come from countries with low literacy rates. Net of the absolute level of education, having a higher relative level of education is likely to indicate higher levels of cognitive skills – such as familiarity with written language and with abstract thinking (Ichou, 2014), which might enable parents to actively support their children in their scholastic learning. Moreover, the pre-migration social position will manifest in immigrant parents' habitus and in their practices, leading to social reproduction (Bourdieu and Passeron, 1990; Feliciano and Lanuza, 2017). Relatively highly educated immigrants will attribute more value to education and have higher aspirations for their children's educational attainment. Children tend to inherit their parents' habitus and to internalise their aspirations for educational and social attainment, which will affect their propensity to stay in education. We therefore hypothesize that:

H4 Net of the absolute parental level of education, the higher the relative level of education of the parents, the lower will be the risk of early school dropout of the children.

Moreover, due to the high risk of social downgrading following migration, immigrants are likely to experience a mismatch between their subjective social status, which depends on their pre-migration social status, and their current one, defined by their current labour market position and absolute level of education. In a relative risk aversion perspective (Breen and Goldthorpe, 1997), immigrants' choices and aspirations concerning their children's education will then not aim at maintaining their current social status, but at restoring their previous status (Feliciano, 2005; Feliciano and Lanuza, 2017; Ichou, 2014).

12

The relative level of education can partly account for the subjective social status of individuals, as it measures the position in the distribution of educational levels in the society of origin. This gives further reasons to support H4. In addition, owing to the same mechanism, we expect the socioeconomic status associated with the last job before migration to affect the children's decision on school continuation.

H5 The higher the pre-migration socioeconomic status of the parents, the lower the risk of early school dropout of the children.

Data, Variables and Methods

Data

We use the data from the survey "Social Condition and Integration of Foreign citizens" (SCIFC) by the Italian Institute of Statistics (ISTAT), conducted between 2010 and 2013 (ISTAT, 2016). The respondents were selected using a two-stage sampling procedure, the first stage units being the municipalities and the second-stage units being the households. Only households with at least one foreign citizen were sampled. The survey has been carefully designed to tackle potential issues with interviewing this particular category of respondents. All the members of the selected households were interviewed with Computer Assisted Personal Interviews in their homes. Children aged less than 14 were not directly interviewed, but an older member of the household answered for them. To facilitate respondents with poor Italian language skills, the questionnaire was translated in ten foreign languages. The response rate was fairly high, amounting to 85.4%.

Additional data sources providing macro-level information on the country of origin are used and integrated with the micro-level data. The Barro-Lee dataset (Barro and Lee, 2013) was used to estimate the individuals' relative education, whereas the level of economic development of the country of origin is derived from World Bank data.

In the first part of the analysis, only first-generation immigrants are included. The sample is furthermore restricted to immigrants who completed their education in their country of origin and who were 18 or older at their arrival in Italy, so that the immigrants' selectivity framework applies to them. We also restrict the sample to immigrants from non-rich countries (as defined by the World Bank's GNI index), because immigrants from economically developed countries are a small minority in the immigrant population in Italy, and they tend to have very different occupational trajectories than other immigrants (Fellini and Guetto, 2019). The analysis of the risk of unemployment is limited to the active population, and the analysis of the current job position only concerns those who were (self-)employed at the time of the survey.

The population for the second part of the analysis includes all the children of immigrants who were born in Italy or who arrived before 16 years of age. We also excluded children with one native parent and those coming from Western countries due to their very limited number, which would not allow them to be considered as a separate category in the analyses. In addition, we restrict the sample to children aged between 12 and 19, which is the age span covering lower and upper secondary education in Italy. We focus on secondary education since the vast majority of dropouts occur at these levels. We only consider youth until 19 years old because older individuals are more likely to move out of their parents' house, which would result in selection bias if there is an association between early school dropout and moving out. We ended up with an analytical sample size of 1,598 cases.

Variables

We analyse three outcome variables. *Unemployment* is defined following the ILO definition: it is a dichotomous variable indicating whether the individuals are not employed but willing to work versus those who are employed at the moment of the interview. The *current occupational status* is measured by the International Socioeconomic Status Index (ISEI-08). The original information in the SCIFC dataset

is given in the ISTAT 2011 Classification of Professions (CP2011), for which correspondence is available with the three-digit International Standard Classification of Occupations (ISCO-08). This classification was in turn recoded in the corresponding levels of the ISEI-08. The last outcome is *early school leaving (ESL)*, which is a dichotomous variable indicating, among children of immigrants aged between 12 and 19 years old those who are no longer enrolled in education and who did not attain any upper secondary qualification.

Our key explanatory variables are the absolute level of education, relative level of education, and the socioeconomic status of the last occupation before migration. The *absolute level of education* is measured considering both enrolment and completion of various school levels, including seven categories (no schooling, some primary, primary completed, some secondary, secondary completed, some tertiary, tertiary completed). The *relative level of education* measures an individual's position (percentile) in the distribution of educational qualifications among individuals of the same gender and age group (5-year) in the country of origin in 2010. This year was selected as it is the closest to the period of the fieldwork for which information is given in the Barro-Lee dataset. The variable was constructed following the procedure outlined in Ichou (2014). First, individuals are matched to the distribution of educational qualifications among comparable individuals (same gender and same age) in the country of origin. Then we compute, for each individual, which is the percentage of co-nationals of the same gender and age group, having a lower educational level, plus half of those equally educated. Finally, the variable is divided by ten to have more readable coefficients.[1]

---

[1] The information on the distribution of educational qualifications is not available for some countries, and incomplete for others. When the information on the distribution of educational titles was missing for a specific age group within a country of origin, the relative education was computed on the basis of the average distribution for the gender of the respondent. This affected 149 cases in 8 countries. When the information for a country was missing from the Barro-Lee dataset, we filled this gap with the average of the distributions (by gender and age class) for the neighboring countries, defined using the United Nations' classification of geographical regions. This was done for Nigeria (80 cases in the active first-generation sample) and for Burkina Faso (23 cases).

The socioeconomic status of the last occupation before migration is measured in terms of ISEI-08 (Ganzeboom, 2010). To build this variable, the same procedure as for the current socioeconomic status was used. Many immigrants (39% of the active first-generation sample) never had a job before migration. To avoid losing too much information, the individuals who never had a job before migration are given the average pre-migration socioeconomic status of immigrants coming from the same country. To limit the bias in the estimated effects of the pre-migration socioeconomic status, a dichotomous variable indicating whether the individual never had a job before migration is included in the statistical models.[2]

For the analysis of children of immigrants' ESL, children were matched with information on their parents (absolute and relative education[3], pre-migration and current occupation and employment condition). When the information on the current and on the pre-migration socioeconomic status of both parents were missing, to reduce the loss of information, the variables were given the mean values. For the current socioeconomic status, the bias in the estimates is reduced, controlling for the current employment condition of both parents (worker, unemployed, inactive or missing). For the pre-migration socioeconomic status, a dichotomous variable indicating whether no information is available for both parents is included in the models.

In all the analyses, the control variables include age, gender, religious denomination, macro-region of residence in Italy, reason to migrate (of the parents), macro-area of origin (following the United Nations regional groups definition), type of residential area before migration (of the mother, or of the father in case of missing information on the mother), number of children (or siblings). Additional control variables used only in the analyses on early school dropout of immigrants' children are the age of the mother (or,

---

[2] As a check, we have conducted selected analyses also on the subsample of individuals who had a job before migration. We comment in the text regarding this analysis exclusively when results differ from the ones reported in the main text.

[3] The variables on the parental background of immigrants' children indicate the level of absolute and relative education and current and pre-migration socioeconomic status of the parent scoring higher on the relevant characteristic. Therefore, the correlation between absolute and relative education is slightly weaker in this part of the analysis (r=0.60), as the parent with the higher absolute level of education may not be the one with the higher relative education.

if the information on the mother is not available, age of the father), whether the child lives with a single parent (versus living with both parents), and the age at arrival. Control variables used only in the analyses on the labour market outcomes of immigrants are their marital status, their length of stay and the Gross Domestic Product (GDP) per capita in purchasing power parity (PPP) of the country of origin, expressed in thousands of dollars. The information on the origin country's GDP per capita is derived from World Bank data, and it refers to 2010 if possible[4]. Details on the distribution of the variables used in the analyses are provided in Tables A1 and A2 in the Appendix.

Methods

The analyses are organized in two sections: the first section examines immigrants' labour market integration, whereas the second analysis focuses on their children's ESL, as a measure of educational integration.

Looking at labour market integration, we use binomial logistic regression to model the risk of being unemployed at the moment of the interview, whereas OLS linear regression is used to analyse current occupational status. We use again binomial logistic regression models to analyse immigrants' children probability of ESL. To take into account non-complete independence between co-nationals and correct the standard errors accordingly we computed clustered standard errors at the level of country of origin. As a robustness check, we have also run multilevel linear regressions, in which individuals are nested into their country of origin, but the results are substantially similar.

We relied on three main model specifications that differ in the main independent variables of interest, while adjusting the estimates of interest for the same set of control variables listed in Table 1. The first

---

[4] Due to the unavailability of this information for 2010, the GDP variable refers to different years for Cuba (2011), Somalia (2013) and Syrian Arab Republic (2007).

model estimates the effect of absolute education, net of control variables measuring immigrants' sociodemographic characteristics, features of country of origin, migration history and destination.

Model 1: Y=f(AbsEDU, Z)

Model 2: Y=f(AbsEDU, RelEDU, Z)

Model 3: Y=f(AbsEDU, RelEDU, PreMig_STATUS, Z)

The second model introduces our index of relative education, to assess whether immigrants' selectivity on unobserved individual characteristics affects immigrants' labour market integration in the destination country, independently from the absolute level of education attained.

Moreover, by assessing changes in the coefficients (or average partial effects) associated with the absolute education variable we are also in the position to establish whether omitting relative education produces a bias in the estimates associated to absolute education, which is the main indicator used in previous works. The third model includes additional variables measuring pre-migration socio-economic status, namely occupational status in the country of origin and whether the individual did not have any occupational experience.[5]

In the second analysis examining children's ESL, we followed the same model specifications, but we additionally estimated a fourth model including current parental employment condition and highest parental occupational status.

Model 4: Y=f(AbsEDU, RelEDU, PreMig_STATUS, CurrSTATUS, Z)

---

[5] We do not include these variables in the second model since we were interested in estimating the total effect of relative education. Since we treat relative education as a proxy of individual ability and motivations, it could affect also occupational attainment in the country of origin. Therefore, including such variables in the model 2 would lead to an over-control bias (e.g. Winship and Morgan 2007).

To ease the interpretation and compare results across nested models, we report average partial effects (Mood, 2009) and predicted probabilities for the key variables of interest. The full models are reported in the Online Appendix. We report results from unweighted models, but in Figure A6 the Online Appendix we also show that the results are analogous when using weights provided by ISTAT.

Empirical results

An exploration of immigrants' selectivity in Italy

Figure 1 represents the distribution of relative education within each category of absolute education using a violin plot. The graph incorporates a kernel density estimation of the distribution and a box plot for each category of absolute level of education. This distribution is quite dispersed, except for the higher educational categories (some tertiary and tertiary completed), which is a pattern found also by previous studies using this relative education measure (e.g. Ichou, 2014). The linear correlation between these two variables is r=0.64.

[figure 1 about here]

After this, we inspect the composition of our sample by looking at the scatterplot of country of origin by the level (average, horizontal axis) and dispersion (standard deviation, vertical axis) of the relative education variable.

[fig. 2 about here]

Figure 2 sheds light on a number of interesting aspects. Coherently with suppositions of previous studies, immigrants are on average positively selected compared to the population of their peers in the country of origin. Nevertheless, the average relative education is only slightly higher than 50% (53), the threshold distinguishing positive from negatively selected clusters of migrants. Second, there is a considerable variation in the average level of selectivity across countries of origin. While immigrants from Pakistan, Nigeria, Sudan, Senegal and India are clearly highly positively selected, those from Macedonia, Serbia, Romania and Russia are moderately negatively selected compared to the distribution of education in the country of origin. Furthermore, clusters of co-nationals do not only differ in their relative educational level, but also in the degree of internal homogeneity. For instance, immigrants coming from Pakistan, India, Ecuador and Brazil are relatively homogeneous in terms of relative education, whereas there is much more heterogeneity in the degree of selectivity within the group of immigrants from Russia, Ethiopia, Burkina Faso, Kosovo and Montenegro. While the groups with higher average levels of relative education are more likely to be more homogeneous (corr.=-.60), it seems there is not a strong correlation between average level of selectivity and group size (corr. = -.24). More detailed information of the distribution of relative education for each country of origin is reported in figure A1 in the Online Appendix. Interestingly, there is rather high variation not only in the dispersion of relative education across the clusters of co-national immigrants, but also in the shapes of the distributions, with some highly asymmetrical distributions on the left (e.g. Algeria, Egypt, Pakistan) and others characterized by a bimodal distribution (e.g. Russia, Macedonia). Differently from what reported by Ichou (2014) for France, in Figure A2 in the Online Appendix we see that older waves of immigrants were on average more positively selected than recent ones, at least in our sample of immigrants from lower income countries. However, there is some variation across macro-areas of origin (see table A2 in the Online Appendix): for instance, more recent waves of migrants from Northern Africa are less positively selected

than older waves, those from Southern Europe are characterized by more or less stable relative education, while immigrants from Eastern Africa became progressively more positively selected. It should be noted, however, that, given the cross-sectional nature of the data, we are not able to assess whether these results reflect differences in the composition of immigrant waves, or if they are partially determined by selective remigration patterns. Finally, figure A3 in the Online appendix reports another interesting but counterintuitive finding: immigrants arrived in Italy for political reasons (war, persecution in the country of origin) are on average more positively selected than those coming for mainly economic reasons (e.g. finding a better job). This finding does not change if we adjust the association by individuals' socioeconomic characteristics and country of origin features.

The risks of unemployment

The first three columns in table 1 present the results from the binomial logistic regressions modelling the risk of being unemployed at the moment of the interview. We report the average partial effects of the variables measuring pre-migration socio-economic status and immigrants' selectivity (relative education). From model 1, we see that, consistently with the previous literature on the Italian case, higher educational qualifications are not characterized by a smaller risk of unemployment among immigrants, conditional on the other covariates. We observe an increase in the size of the estimated coefficients of absolute education after including relative education (Model 2), which indicates that immigrants' unobserved traits such as motivation and ability work to some extent as a suppressor variable. Nonetheless, the estimates are surrounded by a considerable sampling uncertainty and no estimate is statistically significant at the 95% confidence level.[6]

---

[6] However, higher absolute educational levels are associated to reduced unemployment risks in the subpopulation of individuals who had an occupation before the migration experience, with estimated coefficients that are statistically significant at the 95% confidence level and substantially relevant.

Looking at the other indicators of pre-migration socio-economic status, we observe that also the labour market experience and occupational status before migration are not related to the risk of unemployment in the destination country (see model 3).

[table 1 about here]

In model 2 we examine the role of the index of relative education, finding that more positively selected migrants are more likely to be unemployed than the less positively selected ones. Looking at the magnitude of the conditional association, we can see that moving up on the relative educational scale by 10 percentiles increases the risk of being unemployed by less than one percentage point. The average difference in the probability of unemployment between immigrant in the 5th percentile of relative education and those in the 95th percentile amounts to 6.5 percentage points. The predicted values of the risk of unemployment by the level of relative education are reported in graph (A) in Figure 3. Interestingly, our analysis indicates, as expected, that selectivity in education affects the risk of unemployment of immigrants, but in a somewhat counterintuitive manner. Our interpretation is that more positively selected immigrants have higher perceived ability and motivations when they arrive in Italy; therefore, having higher expectations, they are more likely to refuse job positions that are too much below their expectations.

[fig. 3 about here]

If this is the case, we should find that the positive association between relative education and unemployment is larger among immigrants recently arrived in Italy compared to those with longer experience in the country. This is because, given the widespread difficulties for migrants to find good jobs in the Italian labour market (Fellini and Guetto, 2019), highly ambitious migrants will have to lower their expectations and accept jobs below their aspirations, or migrate to countries with more favourable labour markets. To test this interpretative hypothesis, we estimated an extension of model 2 by including an interaction between relative education and length of stay in Italy. The results reported in graph (B) in Figure 3 seem to support our hypothesis: the average partial effect related to immigrants' selectivity is larger among those who arrived in the country in the last two years, it decreases among those who arrived between 3 and 5 years before the interview, to become not statistically significant among those with longer length of stay in Italy.

Occupational attainment in the destination country

The last three columns of Table 1 report the "effect" of immigrants' pre-migration socioeconomic status and selectivity on current ISEI, conditional on individual sociodemographic characteristics, features of the place of origin and information on the migration history. The results from OLS linear regression indicate a reversed pattern compared to what found on the unemployment risks: occupational attainment in terms of ISEI scores is positively related to absolute level of education and pre-migration occupational status, but not to relative education (at least in the overall sample). This main finding remains the same also if we account for selectivity into employment, applying a Heckman selection model.[7]

---

[7] The Heckman selection model used as a robustness check is based on two simultaneous equations estimated jointly using maximum likelihood method, in the which the first stage is a probit model on the probability of being employed and the second one a linear regression on the ISEI score. Following the literature, we used a dummy variable "having children" as exclusion restriction to avoid identification based on the functional form alone. Results available from the authors upon request.

From Model 1 in Table 1, we see that higher educated immigrants, on average, attain better jobs in Italy than lower educated immigrants. The effect size is substantial, especially considering the limited range of variation of the variable in the sample of immigrants (12-40, comparing 5th-95th percentiles). The expected difference in the ISEI score of the current job between immigrants with no schooling and those with a tertiary education is around 8 percentage points, which is roughly the difference between mail carriers (ISEI score 32) and house builders (ISEI score 40). Model 3 shows that the socioeconomic status associated with the last job before migration is associated to the one attained in Italy, but this association is quite weak: net of the other considered characteristics, one standard deviation of difference in the ISEI score of the last job before migration is associated with around one-point difference in the current ISEI in the destination country. Furthermore, predicted values from the model (not shown here) suggest that immigrants who used to have relatively high socioeconomic status before migrating are likely to experience some social downgrading as a consequence of migration. Those who never had a job before migration also tend to attain slightly lower socioeconomic status in Italy (on average, .6 points in the ISEI score).

[fig. 4 about here]

As anticipated, the relative level of education is positively associated with occupational attainment, but the estimate is substantially small and not statistically significant at the 95% confidence level (see model 2). Predictive values from model 2, reported in Figure 4 - Graph (A) show that, net of the other characteristics, more positively selected immigrants do not attain better job positions in Italy than less positively selected migrants. It seems that, if relative education is an indicator of aspirations and

unobservable skills, these do not find a fertile ground in the Italian labour market. However, the role of immigrants' selectivity might not be homogeneous across educational groups, because educational qualifications could be attached to different sets of occupations and segments of the labour market, in which aspirations and unobserved skills are more or less positively rewarded. To assess this hypothesis, we extended model 2 by including an interaction term between relative education and absolute level of education, classified into four categories. Figure 4-Graph (B) shows that our expectation is supported by the data: indeed, while the average partial effect of relative education is approximately zero and not statistically significant among the lower educated, it is substantial and statistically significant among immigrants who attended tertiary education. Within this subgroup, a one-unit increase in the relative education scale (equivalent to 10 percentiles) is associated with a difference of around 3 ISEI points. Given the limited variation of relative education among tertiary educated (from 50th to 99th percentile), we can estimate the maximum effect of relative education to be around 15 ISEI points, which corresponds roughly to the difference between, for instance, web technicians (50) and data entry clerks (36).

The educational outcomes of immigrants' children

In the last part of the analysis, we investigate whether immigrants' socioeconomic status, before and after migration, and the extent to which they are positively selected affect their children's risk of leaving secondary education without a diploma. Model 1 in table 2 indicates that, absolute education is related to reduced dropout risks, in particular children whose parents have tertiary education or completed secondary education are less likely to dropout from secondary school (respectively -14 and -11 percentage points). The role of relative education is examined in Model 2 (fourth column of table 2) and in Figure 5.

[Table 2 about here]

The analysis shows that immigrants' selectivity is associated significantly with their children's risk of ESL. A variation of 10 percentiles is associated to a reduction in the probability of dropout of 1.6 percentage points. Comparing immigrants at the 5th percentile with those at the 95th percentile in the relative education distribution leads to an estimated difference of 14 percentage points. Furthermore, comparing results from Model 1 and 2, we observe that introducing relative education makes the effect of absolute education irrelevant for children's ESL: indeed, the coefficients shrink widely in magnitude and are no longer statistically significant at 95% confidence level.

[Figure 5 about here]

Model 3 indicates that also pre-migration occupational status matters for immigrants' children's educational integration in Italy as well: one standard deviation change in the pre-migration ISEI is associated to 2.8 percentage lower risk of early dropout from secondary education. Again, this is not only a statistically significant association but also relevant in substantial term, since it amounts to a difference of about 10 percentage points between immigrants in the 5th and 95th percentile of the pre-migration ISEI distribution. No variable measuring the current parents' occupational condition, is statistically significant at the 95% confidence level (Model 4).[8]

While our focus was on educational integration in terms of avoiding ESL, we were able to conduct an additional analysis investigating whether pre-migration status and current employment conditions of

---

[8] In an additional model it emerged that there is no statistically significant interaction between the occupational status hold before and after migration on children's ESL probability.

immigrant parents are related to the risk of being retained in secondary school. Since the results are explorative and the analysis is based on a reduced sample size due to missing values, we only report results in Table A6 in the Online Appendix. Interestingly, it seems that neither relative education nor pre-migration ISEI are related to children's retention probability in Italy, while having a parent who is currently unemployed strongly affects such risk. This is in line with previous literature, which suggests that immigrants' selectivity affects their children's educational choices, but not their grades (Engzell, 2019).

Discussion and conclusions

The pre-migration socioeconomic conditions of immigrants have rarely been considered in analyses of their and their children's socioeconomic outcomes in the destination country. According to the human capital theory, the educational qualifications of the individuals, their previous labour market experience and their unobservable characteristics such as motivation and ability affect their success in the labour market. In this article, we aimed at analysing whether and to what extent the predictions derived from human capital theory are corroborated when looking at the labour market outcomes in Italy of immigrants from lower income countries. We proposed to look at pre-migration socio-economic status in terms of absolute level of education, labour market experience, and pre-migration occupational status. Furthermore, we built an individual measure of immigrant selectivity, by looking at the relative position of the immigrants' educational level compared to the distribution of their peers in the country of origin. Based on the international migration literature, the immigrant's level of selectivity is considered as an indicator of their ability and motivation, and a proxy of their subjective social status. Positively selected immigrants have higher-than-average ability and motivation, which should be an asset in the labour market. As individuals generally aim at avoiding social downgrading, more positively selected

immigrants and those with higher pre-migration status are expected to aim at attaining a job position matching, or not too much lower than, their subjective social status.

Our empirical analysis suggests that the human capital theory only partially explains the patterns of immigrants' socioeconomic outcomes in Italy. On the one hand, supporting hypothesis 1, we found that immigrants with higher absolute levels of education and higher pre-migration socioeconomic status have higher occupational status in Italy than those with lower educational levels and lower socioeconomic status in the origin country, but the effect sizes are not very large. On the other hand, we also found that absolute education and pre-migration status are only very weakly related to unemployment risks in the destination country. Given the large availability of unskilled and semiskilled jobs and the scarce availability of the corresponding native labour force, immigrants in Italy have low unemployment rates, but they are also segregated in the secondary labour market, with few differences depending on their educational qualifications (Fullin and Reyneri, 2011). Immigrants from non-Western countries therefore have very high risk of severe social downgrading after migration, independently of the time they spent in Italy; the higher their pre-migration socioeconomic status, the stronger their social downgrading after migration (Fellini and Guetto, 2019). In this context, also those with lower levels education are able to find a job, even if at a slightly lower level than those with higher levels of education.

We also found that, in line with our second hypothesis, net of the absolute level of education, immigrants with a higher relative education have a higher risk of unemployment, especially when they have been staying in in Italy for a shorter amount of time. However, contrary to the expectation, immigrants' selectivity is not related to occupational attainment in Italy in the overall sample, but only among those with tertiary education. We speculate that more positively selected immigrants have higher subjective social status and, in the first period after arriving in Italy, tend to refuse jobs that are too much below their expectations. It seems that more positively selected immigrants are more likely to prefer

unemployment to low status jobs in their earlier stages of job search, but that eventually, due to the lack of opportunities in the Italian labour market, they end up accepting jobs below their expectations, or leaving the country for new destinations. This is supported by the fact we found a significant effect of relative education only for immigrants with a shorter length of stay in Italy. Moreover, unobserved ability and motivation, proxied by relative education, appear to facilitate the occupational attainment process but only among immigrants with at least tertiary education. It could be that, among immigrants, these individual traits give an edge only in specific segments of the labour market, characterized by medium-level occupations and not much in the underqualified occupations.

Given the process of social downgrading due to the difficulties faced in the Italian labour market, the main way immigrants try to restore their lost social status is therefore through their children's education. Previous studies in Italy found that the absolute education of immigrant parents and their current material conditions are significant determinants of their children's educational success. We argued that, in addition, the pre-migration social status of immigrant parents could affect their children's educational outcomes. The results corroborate our hypothesis: the relative level of education of the parents and their pre-migration ISEI affect their children's risk of ESL in substantial way. Children whose parents are more highly relatively educated and had higher socioeconomic status before migrating are less likely to drop out of education before attaining the upper secondary school diploma. In addition, when pre-migration socioeconomic status of the parents is taken into account, the effect of the absolute level of education of the parents reduces to a large extent, and occupational status in Italy does not matter much. This suggests that the previously observed relation between the immigrant parents' material conditions and their children's educational success, in Italy, may be at least partially due to their pre-migration socioeconomic conditions. Contrarily, we found that immigrants' selectivity does not affect the risk of their child of being retained in secondary education, which is usually the outcome of not meeting basic levels of scholastic achievement. Putting together this finding with the previous one, we can speculate

that immigrants' selectivity seems to work more by boosting educational aspirations, and thereby affecting educational decisions, than by improving children's academic performance, a result that echoes those found by Engzell (2019).

This article represents a first attempt to investigate the role of the pre-migration socioeconomic conditions in affecting the immigrants' socioeconomic outcomes in the country of destination. Further research is needed to assess to what extent the findings of this article hold valid considering other indicators for the socioeconomic outcomes. To have a more complete overview on the phenomenon, it would be interesting to study how the pre-migration socioeconomic characteristics of immigrants affect their earnings in the destination country, or the chance of having a regular rather than an irregular job position. If immigrants in Italy are not able to attain high status jobs, we can imagine that those who are more positively selected may be abler to negotiate their salary, or that they might be less willing to accept irregular jobs. Also, ESL is a very limited side of immigrants' children's educational success. Further research should extend the study on the effects of the parental pre-migration socioeconomic status on outcomes such as secondary track choice, grades and overall attainment.

Further research should also aim at expanding the focus of the study to other countries in Europe, especially concerning the effect of the pre-migration socioeconomic status on the labour market outcomes of immigrants. To our knowledge, this article is the first to directly estimate the effect of immigrants' selectivity on their labour market outcomes. Italy is a new immigration country with a strongly segmented labour market, scarce unemployment benefits and lacking policies specifically aimed at the integration of immigrants. Replicating the analyses to other European countries would allow to establish to what extent the results of this article can be generalized or if they should be considered as a national specificity. In addition, it would allow to understand what are the characteristics of the destination countries that can facilitate or hinder the immigrants' integration efforts.

References

Azzolini, D., and Barone, C. (2013). Do they progress or do they lag behind? Educational attainment of immigrants' children in Italy: The role played by generational status, country of origin and social class. *Research in Social Stratification and Mobility*, *31*(1), 82–96. https://doi.org/10.1016/j.rssm.2012.11.002

Azzolini, D., Schnell, P., and Palmer, J. R. B. (2012). Educational Achievement Gaps between Immigrant and Native Students in Two "New" Immigration Countries: Italy and Spain in Comparison. *Annals of the American Academy of Political and Social Science*, *643*(1), 46–77. https://doi.org/10.1177/0002716212441590

Ballarino, G., and Scherer, S. (2013). More investment - Less returns? Changing returns to education in Italy across three decades. *Stato e Mercato*, *XXXIII*(99), 359–388. https://doi.org/10.1425/75010

Ballarino, G., and Panichella, N. (2015). The occupational integration of male migrants in Western European countries: Assimilation or persistent disadvantage? *International Migration*, *53*(2), 338–352. https://doi.org/10.1111/imig.12105

Barban, N., and White, M. J. (2011). Immigrants' children's transition to secondary school in Italy. *International Migration Review*, *45*(3), 702–726. https://doi.org/10.1111/j.1747-7379.2011.00863.x

Barro, R. J., and Lee, J. W. (2013). A new data set of educational attainment in the world, 1950-2010. *Journal of Development Economics*, *104*, 184–198. https://doi.org/10.1016/j.jdeveco.2012.10.001

Becker, G. S. (1964). *Human Capital Theory*. New York: Columbia.

Borjas, G. (1987). Self-Selection and the Earnings of Immigrants. *American Economic Review*, *77*(4), 531–553.

Borjas, G. (1994) The Economics of Immigration, *Journal of Economic Literature*, 32: 1667–1717.

Boudon, R. (1974). *Education, opportunity, and social inequality: Changing prospects in western society*. New York: Wiley.

Bourdieu, P., and Passeron, J.-C. (1990). *Reproduction in Education, Society and Culture*. *Reproduction*.

Breen, R., and Goldthorpe, J. H. (1997). Explaining Educational Differentials. *Rationality and Society*, *9*(3), 275–305. https://doi.org/10.1177/104346397009003002

Chiswick, B. R. (1978). The Effect of Americanization on the Earnings of Foreign-born Men. *Journal of Political Economy*, *86*(5), 897–921. https://doi.org/10.1086/260717

Chiswick, B. R., and Miller, P. W. (2008). Why is the payoff to schooling smaller for immigrants? *Labour Economics*, *15*(6), 1317–1340. https://doi.org/10.1016/J.LABECO.2008.01.001

Chiswick, B. R., and Miller, P. W. (2009). The international transferability of immigrants' human capital. *Economics of Education Review*, *28*(2), 162–169. https://doi.org/10.1016/j.econedurev.2008.07.002

Chiswick, B. R., Lee, Y. L., and Miller, P. W. (2005). A Longitudinal Analysis of Immigrant Occupational Mobility: A Test of the Immigrant Assimilation Hypothesis. *International Migration Review*, *39*(2), 332–353. https://doi.org/10.1111/j.1747-7379.2005.tb00269.x

Cohen, Y., and Kogan, I. (2006). Next Year in Jerusalem ... or in Cologne? Labour Market Integration of Jewish Immigrants from the Former Soviet Union in Israel and Germany in the 1990s. *European Sociological Review*, *23*(2), 155–168. https://doi.org/10.1093/esr/jcl026

Engzell, P. (2019). Aspiration Squeeze: The Struggle of Children to Positively Selected Immigrants. *Sociology of Education*, *92*(1), 83–103. https://doi.org/10.1177/0038040718822573

Engzell, P., and Ichou, M. (2019). Status Loss: The Burden of Positively Selected Immigrants. *International Migration Review*, 019791831985075. https://doi.org/10.1177/0197918319850756

Feliciano, C. (2005). Does selective migration matter? Explaining ethnic disparities in educational attainment among immigrants' children. *The International Migration Review*, *39*(4), 841–871. https://doi.org/10.1111/j.1747-7379.2005.tb00291.x

Feliciano, C., and Lanuza, Y. R. (2017). An Immigrant Paradox? Contextual Attainment and Intergenerational Educational Mobility. *American Sociological Review*, *82*(1), 211–241. https://doi.org/10.1177/0003122416684777

Fellini, I., and Guetto, R. (2019). A "U-shaped" pattern of immigrants' occupational careers? A comparative analysis of Italy, Spain, and France. *International Migration Review*, *53*(1), 26-58.

Fellini, I., and Guetto, R. (2020). Legal status and immigrants' labour market outcomes: comparative evidence from a quasi-experiment in Western and Southern Europe. *Journal of Ethnic and Migration Studies*, 1–22. https://doi.org/10.1080/1369183X.2020.1752639

Fullin, G., and Reyneri, E. (2011). Low Unemployment and Bad Jobs for New Immigrants in Italy. *International Migration*, *49*(1), 118–147. https://doi.org/10.1111/j.1468-2435.2009.00594.x

Ganzeboom, H. B. (2010). A new International Socio-Economic Index (ISEI) of occupational status for the International Standard Classification of Occupation 2008 (ISCO-08) constructed with data from the ISSP 2002-2007. In *Annual Conference of International Social Survey Programme, Lisbon* (Vol. 1).

Goodman, S. W., and Wright, M. (2015). Does mandatory integration matter? Effects of civic requirements on immigrant socio-economic and political outcomes. *Journal of Ethnic and Migration Studies*, *41*(12), 1885-1908.

Heath, A. F., Rothon, C., and Kilpi, E. (2008). The second generation in Western Europe: Education, unemployment, and occupational attainment. *Annu. Rev. Sociol*, *34*, 211-235.

Ichou, M. (2014). Who they were there: Immigrants' educational selectivity and their children's educational attainment. *European Sociological Review*, *30*(6), 750–765. https://doi.org/10.1093/esr/jcu071

Ichou, M., and Wallace, M. (2019). The Healthy Immigrant Effect: The role of educational selectivity in the good health of migrants. *Demographic Research*, *40*(4), 61–94. https://doi.org/10.4054/DemRes.2019.40.4

ISTAT. (2016). Condizione e integrazione sociale dei cittadini stranieri: file per la ricerca. Retrieved May 27, 2018, from https://www.istat.it/it/archivio/191090

Kanas, A., van Tubergen, F., and van der Lippe, T. (2009). Immigrant self-employment: Testing hypotheses about the role of origin- and host-country human capital and bonding and bridging social capital. *Work and Occupations*, *36*(3), 181–208. https://doi.org/10.1177/0730888409340128

Kogan, I. (2011). New Immigrants - Old Disadvantage Patterns? Labour Market Integration of Recent Immigrants into Germany. *International Migration*, *49*(1), 91–117. https://doi.org/10.1111/j.1468-2435.2010.00609.x

Koopmans, R. (2010). Trade-offs between equality and difference: Immigrant integration, multiculturalism and the welfare state in cross-national perspective. *Journal of ethnic and migration studies*, *36*(1), 1-26.

Lancee, B. , and Bol, T. (2017). The transferability of skills and degrees. Why the place of education affects immigrant earnings. *Social Forces*, 96(2), 691-716.

Levels, M., Kraaykamp, G., and Dronkers, J. (2008). Immigrants' children's educational achievement in western countries: Origin, destination, and community effects on mathematical performance. *American Sociological Review*, *73*(5), 835–853. https://doi.org/10.1177/000312240807300507

OECD (2012). *International Migration Outlook 2012*. OECD Publishing. https://doi.org/10.1787/migr_outlook-2012-en

Reyneri, E., and Fullin, G. (2008). New immigration and labour markets in western Europe: a trade-off between unemployment and job quality?. *Transfer: European Review of Labour and Research*, *14*(4), 573-588.

Simón, H., Ramos, R., and Sanromá, E. (2014). Immigrant Occupational Mobility: Longitudinal Evidence from Spain. *European Journal of Population*, *30*(2), 223–255. https://doi.org/10.1007/s10680-014-9313-1

Sørensen, A. B. (1979). A model and a metric for the analysis of the intragenerational status attainment process. American Journal of Sociology, 85(2), 361–384.

Spörlein, C., and Kristen, C. (2019). Educational Selectivity and Language Acquisition among Recently Arrived Immigrants. *International Migration Review*, *53*(4), 1148–1170. https://doi.org/10.1177/0197918318798343

van Tubergen, F., Maas, I., and Flap, H. (2004). The economic incorporation of immigrants in 18 western societies: Origin, destination, and community effects. *American Sociological Review*, *69*(5), 704–727. https://doi.org/10.1177/000312240406900505

van Tubergen, F., and Kalmijn, M. (2005). Destination Language Proficiency in Cross National Perspective: A Study of Immigrant Groups in Nine Western Countries. *American Journal of Sociology*, *110*(5), 1412–1457. https://doi.org/10.1086/428931

van de Werfhorst, H. G., and Heath, A. (2019). Selectivity of migration and the educational disadvantages of second-generation immigrants in ten host societies. *European Journal of Population*, *35*(2), 347-378.

Figures
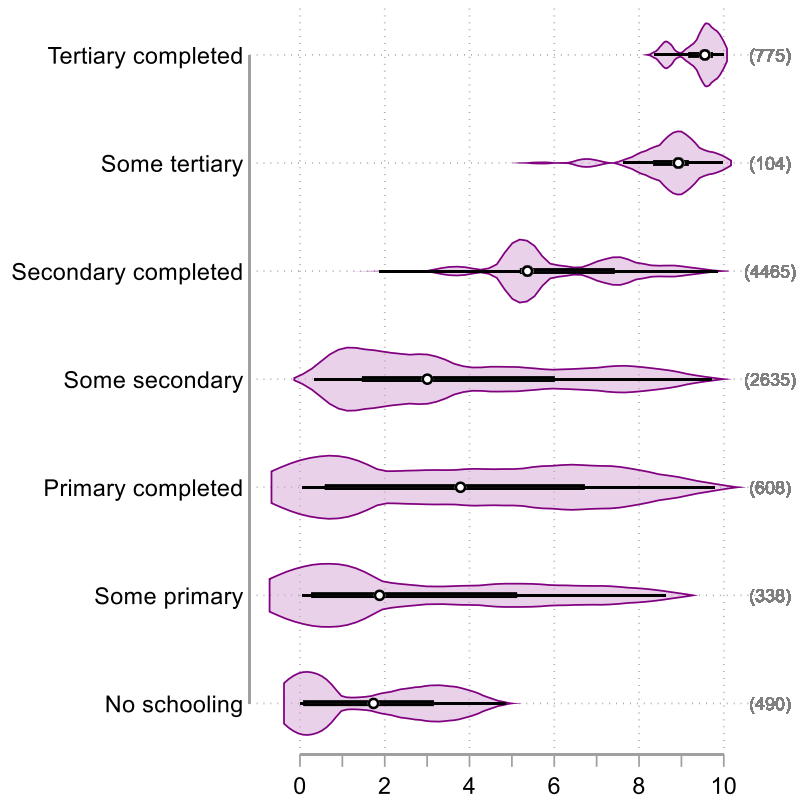
Fig. 1 – Distribution of relative education by absolute level of education

Note: on the right, sample size for each category is reported in parentheses.
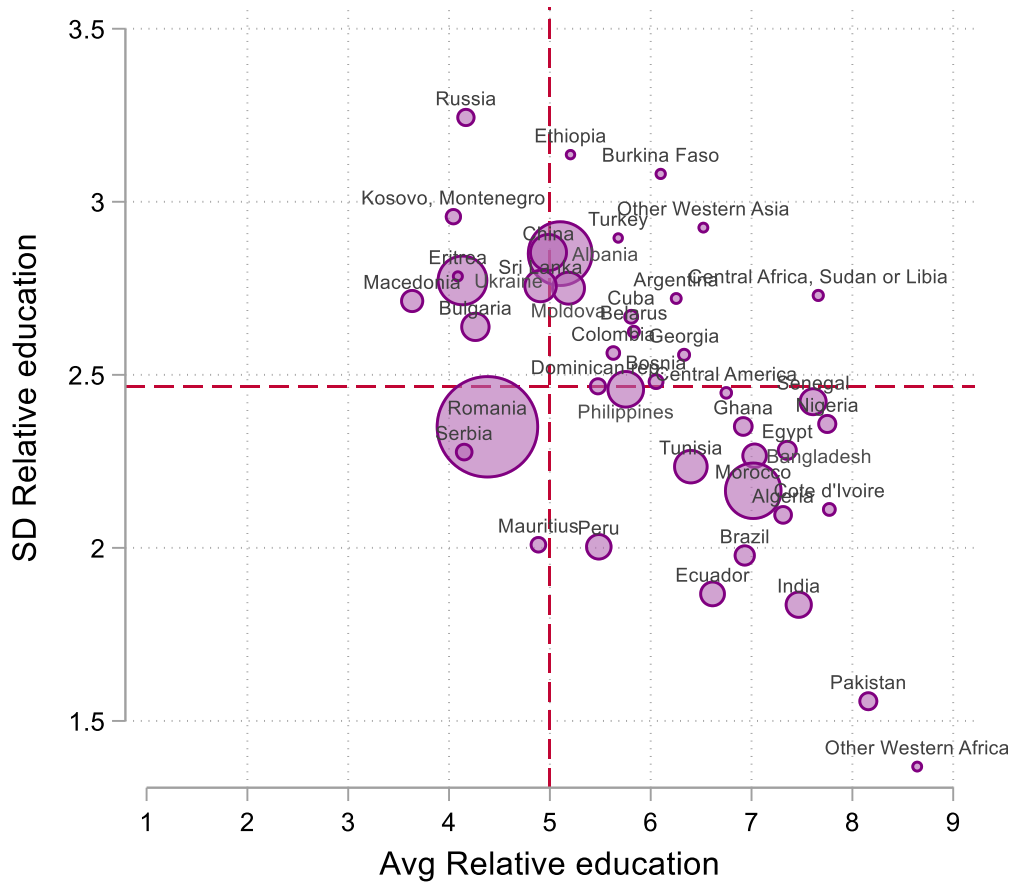
Fig. 2- Scatterplot of country of origin by level (average) and dispersion (standard deviation) of relative education
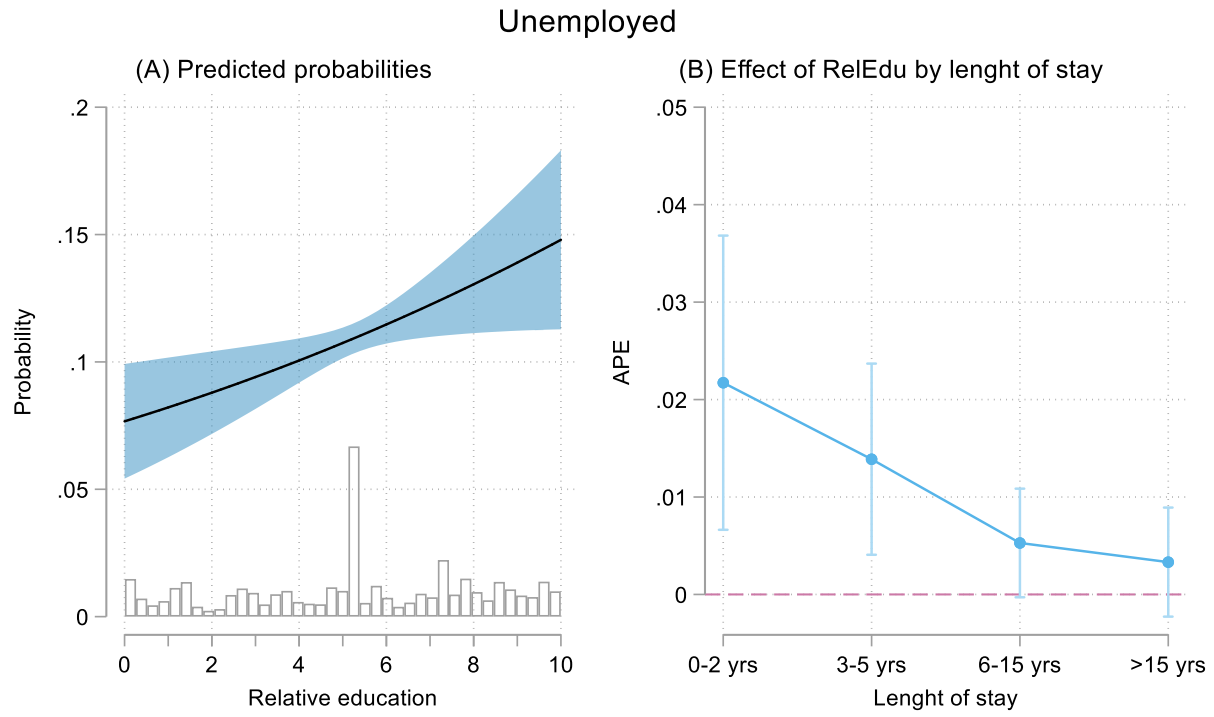
Fig. 3 – Binomial logistic regression: (A) predicted probability of being unemployed by relative education, and (B) heterogeneous average partial effects of relative education by length of stay in Italy.
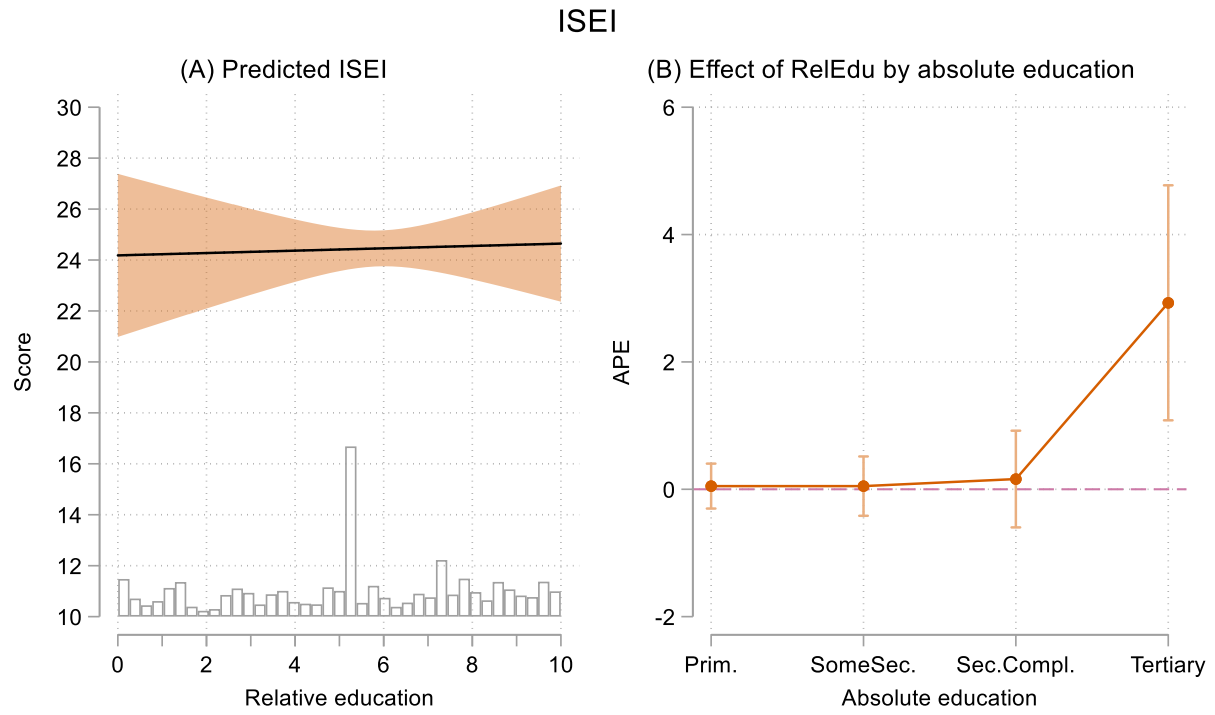
Fig. 4 – OLS linear regression models: (A) predicted ISEI by relative education and (B) heterogeneous average partial effects of relative education by absolute level of education.
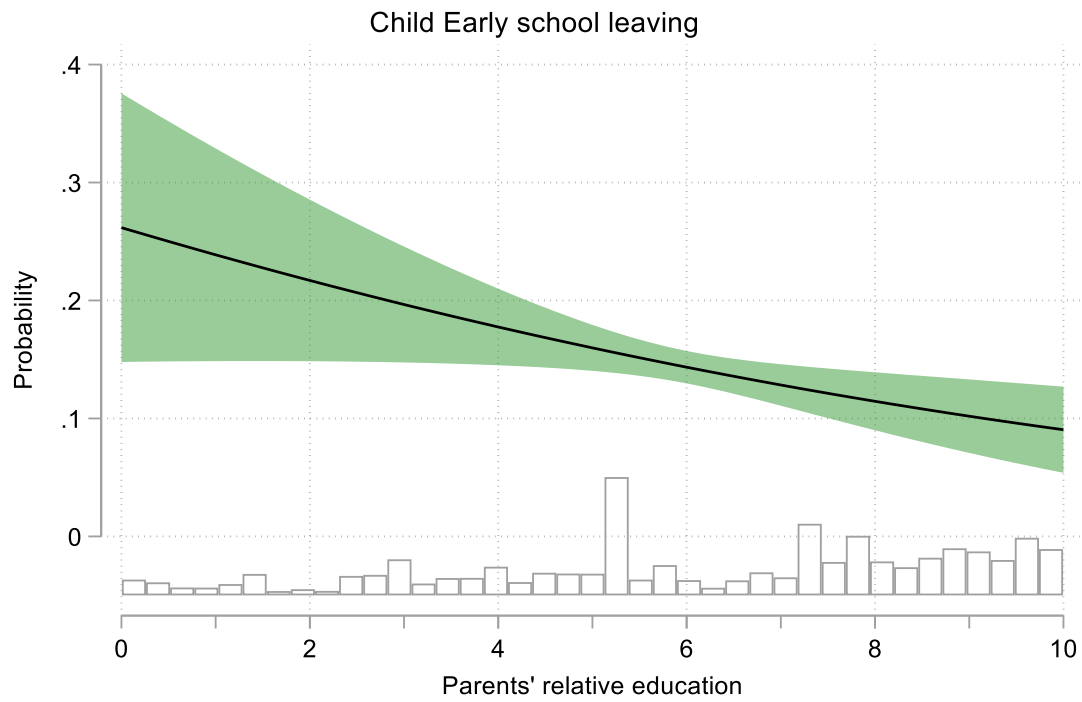
Fig. 5 – Binomial logistic regression: predicted probability of child early school leaving from upper secondary education (12-19 years old).

Tables

Table 1 – Results from binomial logistic regression to predict unemployment (first 3 columns) and OLS linear regression to predict ISEI: average partial effects of immigrants' selectivity and pre-migration socio-economic status

	Unemployment			ISEI		
	M1	M2	M3	M1	M2	M3
Absolute education (Ref.: No education)						
Some primary	0.026	0.017	0.016	-0.812	-0.886	-1.032
	(0.035)	(0.046)	(0.047)	(0.439)	(0.646)	(0.632)
Primary completed	0.023	0.005	0.004	-0.143	-0.251	-0.461
	(0.023)	(0.031)	(0.032)	(0.427)	(0.815)	(0.782)
Some secondary	0.012	-0.016	-0.018	-0.204	-0.361	-0.670
	(0.011)	(0.021)	(0.021)	(0.419)	(1.130)	(1.098)
Secondary completed	0.009	-0.042	-0.044	1.371**	1.078	0.351
	(0.012)	(0.028)	(0.029)	(0.449)	(2.010)	(1.961)
Some tertiary	-0.016	-0.077	-0.081	4.316***	3.914	2.016
	(0.038)	(0.050)	(0.049)	(0.891)	(2.607)	(2.572)
Tertiary completed	0.003	-0.065	-0.071	8.216***	7.787**	5.510*
	(0.018)	(0.037)	(0.037)	(1.638)	(2.463)	(2.303)
Relative education		0.007*	0.007*		0.044	0.077
		(0.003)	(0.003)		(0.262)	(0.258)
Pre-migration ISEI			0.003			1.072***
			(0.003)			(0.167)
No Job before migration			-0.005			-0.644***
			(0.006)			(0.171)
Control variables	✓	✓	✓	✓	✓	✓
Observations	9,415	9,415	9,415	8,377	8,377	8,377

Note: Clustered standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05
The full models are reported in Table A4 and A5 in the Online Appendix.

Table 2 – Results from binomial logistic regression to predict the probability of child's early school leaving from secondary education: average partial effects of immigrants' selectivity, pre-migration and current socio-economic status

	M1	M2	M3	M4
Absolute education parents (Ref: Some primary or less)				
Primary completed	0.014	0.032	0.031	0.030
	(0.056)	(0.043)	(0.041)	(0.038)
Some secondary	-0.041	0.008	0.011	0.019
	(0.042)	(0.037)	(0.037)	(0.035)
Secondary completed	-0.112**	-0.014	-0.004	0.012
	(0.044)	(0.054)	(0.056)	(0.056)
Tertiary	-0.137***	-0.004	0.039	0.057
	(0.047)	(0.072)	(0.081)	(0.080)
Relative education parents		-0.016**	-0.015**	-0.017**
		(0.006)	(0.007)	(0.007)
Parents' highest pre-migration ISEI			-0.028**	-0.024**
			(0.011)	(0.010)
Parents never had a job before migration			0.014	0.020
			(0.017)	(0.016)
Parents' highest current ISEI				-0.018
				(0.015)
Father's employment condition				
Unemployed				0.061
				(0.050)
Inactive				-0.028
				(0.069)
Missing				-0.066
				(0.040)
Mother's employment condition				
Unemployed				-0.003
				(0.030)
Inactive				0.027
				(0.022)
Missing				-0.105***
				(0.019)
Control variables	✓	✓	✓	✓
Observations	1,598	1,598	1,598	1,598

Note: Clustered standard errors in parentheses; *** p<0.001, ** p<0.01, * p<0.05. The full models are reported in Table A6 in the Online Appendix.

Appendix – Electronic Supplementary Material

Table A1 - Summary of the variables used in the first section of analysis – active first-generation sample.[9]

	N	Mean	SD
Unemployed	9,415	0.110	0.313
ISEI	8,377	24.427	10.057
Absolute education (ref.: No schooling)			
Some primary	9,415	0.036	0.186
Primary completed	9,415	0.065	0.246
Some secondary	9,415	0.280	0.449
Secondary completed	9,415	0.474	0.499
Some tertiary	9,415	0.011	0.105
Tertiary completed	9,415	0.082	0.275
Relative education	9,415	5.330	2.736
Pre-migration ISEI (standardised)	5,758	0.006	1.243
Never worked before migration	9,415	0.388	0.487
Age (in decades, centered on the mean)	9,415	-0.065	0.961
Age (in decades, centered on the mean) squared	9,415	0.928	1.138
Woman	9,415	0.471	0.499
Marital status (ref.: Never married)			
Currently married	9,415	0.505	0.500
Formerly married	9,415	0.237	0.425
Number of children (ref.: No children)			
1	9,415	0.244	0.430
2	9,415	0.281	0.450
3 and more	9,415	0.136	0.343
Religious denomination (ref.: Roman catholic)			
Muslim	9,415	0.255	0.436
Orthodox	9,415	0.365	0.481
Other	9,415	0.174	0.379
Region of origin (ref.: Northern Africa)			
Central and Western Africa	9,415	0.049	0.215
Eastern Africa	9,415	0.011	0.102
Central and South America, Caribbean	9,415	0.067	0.249
Eastern Europe	9,415	0.429	0.495

---

[9] The number of cases is smaller for the variables Current ISEI and Premigration ISEI. For the current ISEI, this is because this variable is only valid for the working population. The number of observations for the premigration ISEI is exclusive of those who never had a job before migration, but these will be included in the analyses. Please refer to the description of this variable.

Southern Europe	9,415	0.151	0.358
Central, Eastern and Southern Asia	9,415	0.147	0.354
Western Asia	9,415	0.008	0.088
GDP country of origin (centred)	9,415	10.902	5.064
Pre-migration residential area (ref.: Big city, capital)			
Average/small city	9,415	0.420	0.494
Village, little town	9,415	0.223	0.416
Isolated place (countryside, desert)	9,415	0.023	0.149
No answer	9,415	0.042	0.200
Reason to migrate (ref.: Economic)			
Family reunification	9,415	0.184	0.387
Political, other	9,415	0.087	0.282
Length of stay (ref.: 1-2 years)			
3-5 years	9,415	0.205	0.404
6-15 years	9,415	0.579	0.494
More than 15 years	9,415	0.171	0.377
Residential region in Italy (ref.: North)			
Centre	9,415	0.181	0.385
South	9,415	0.459	0.498

Table A2 - Summary of the variables used in the second section of analysis – children of immigrants sample.[10]

	N	Mean	SD
Early school leaving	1,598	0.148	0.355
Absolute education parents (Ref: Some primary or less)			
Primary completed	1,598	0.071	0.256
Some secondary	1,598	0.270	0.444
Secondary completed	1,598	0.485	0.500
Tertiary	1,598	0.108	0.311
Relative education parents	1,598	6.179	2.576
Parents' highest pre-migration ISEI	1,598	-0.107	1.005
Parents never had a job before migration	1,598	0.248	0.432
Parents' highest current ISEI	1,598	-0.185	0.781
Father's employment condition (ref.: Worker)			
Unemployed	1,598	0.070	0.255
Inactive	1,598	0.031	0.174
Missing	1,598	0.190	0.393
Mother's employment condition (ref.: Worker)			
Unemployed	1,598	0.106	0.308
Inactive	1,598	0.345	0.476
Missing	1,598	0.019	0.136
Region of origin (ref.: South America)			
Northern Africa	1,598	0.182	0.386
Other Africa	1,598	0.068	0.251
Asia	1,598	0.148	0.355
Southern Europe	1,598	0.262	0.440
Eastern Europe	1,598	0.273	0.446
Mother[father]'s pre-migration residential area (ref.: Big city, capital)			
Average/small city	1,598	0.387	0.487
Town, other	1,598	0.235	0.424
Unknown	1,598	0.061	0.240
Religious denomination (ref.: Roman catholic)			
Muslim	1,598	0.351	0.477

---

[10] The number of cases for the current and premigration ISEI are smaller because the cases with missing information on these variables are excluded. Please refer to the description of the explanatory variables for detail on the treatment of missing information on these variables.

Orthodox	1,598	0.253	0.435
Other	1,598	0.205	0.404
Parents' reason to migrate (ref.: Economic)			
Political, other	1,598	0.064	0.246
Family reunification	1,598	0.072	0.259
Other	1,598	0.168	0.374
Residential region in Italy (ref.: North)			
Centre	1,598	0.166	0.372
South	1,598	0.392	0.488
Mother[father]'s age	1,598	40.534	5.465
Single parent	1,598	0.146	0.354
Number of siblings (ref.: No siblings)			
1			
2 and more	1,598	0.417	0.493
	1,598	0.422	0.494
Female			
	1,598	0.480	0.500
Age (ref.:12)			
13	1,598	0.148	0.356
14	1,598	0.130	0.337
15	1,598	0.120	0.325
16	1,598	0.125	0.330
17	1,598	0.140	0.347
18	1,598	0.115	0.319
19	1,598	0.089	0.285
Age at arrival (ref.: Second generation)			
Arrival 0-5 years old	1,598	0.237	0.425
Arrival 6-12 years old	1,598	0.447	0.497
Arrival 13-15 years old	1,598	0.117	0.322

Table A3 – Average level of relative education by macro-area of origin and length of stay in Italy

	0-2 yrs	3-5 yrs	6-15 yrs	>15 yrs
Macro-area of origin				
Northern Africa	6.0	6.2	6.9	7.4
Central and Western Africa	7.2	7.5	7.5	7.6
Eastern Africa	7.5	4.4	4.1	5.1
Central and South America, Caribbean	5.5	6.1	6.3	6.0
Eastern Europe	4.3	4.2	4.5	4.2
Southern Europe	5.0	4.9	4.8	5.3
Central, Eastern and Southern Asia	4.6	5.8	5.8	6.3
Western Asia	4.7	7.0	6.1	5.7

Table A4 – Binomial logistic regression models on unemployment risks: logit coefficients and clustered standard errors

	Model 1	Model 2	Model 3
Absolute education = 1, Some primary	0.274	0.132	0.132
	(0.356)	(0.387)	(0.387)
Absolute education = 2, Primary completed	0.257	0.042	0.042
	(0.241)	(0.274)	(0.274)
Absolute education = 3, Some secondary	0.146	-0.151	-0.151
	(0.131)	(0.174)	(0.174)
Absolute education = 4, Secondary completed	0.112	-0.428*	-0.428*
	(0.138)	(0.250)	(0.250)
Absolute education = 5, Some tertiary	-0.193	-0.942	-0.942
	(0.496)	(0.646)	(0.646)
Absolute education = 6, Tertiary completed	0.039	-0.777**	-0.777**
	(0.203)	(0.391)	(0.391)
Relative education		0.079**	0.079**
		(0.033)	(0.033)
Pre-migration ISEI		0.027	0.027
		(0.037)	(0.037)
Pre-migration No Job = 1		-0.058	-0.058
		(0.070)	(0.070)
Age in decades, centered on the mean (41)	-0.093**	-0.123***	-0.123***
	(0.046)	(0.045)	(0.045)
Age^2	0.062**	0.057**	0.057**
	(0.027)	(0.027)	(0.027)
Woman = 1	0.275***	0.309***	0.309***
	(0.089)	(0.093)	(0.093)
Marital status = 2, Currently married	0.326**	0.323**	0.323**
	(0.149)	(0.149)	(0.149)
Marital status = 3, Formerly married	-0.112	-0.105	-0.105
	(0.116)	(0.116)	(0.116)
N. children = 1, 1	0.264*	0.259*	0.259*
	(0.142)	(0.140)	(0.140)
N. children = 2, 2	0.138	0.135	0.135
	(0.161)	(0.162)	(0.162)
N. children = 3, 3 and more	0.261**	0.258**	0.258**
	(0.109)	(0.109)	(0.109)
Religious denomination = 2, Muslim	0.497***	0.442***	0.442***
	(0.166)	(0.148)	(0.148)
Religious denomination = 3, Orthodox	0.300**	0.274**	0.274**
	(0.143)	(0.136)	(0.136)
Religious denomination = 4, Other	0.310*	0.290*	0.290*
	(0.174)	(0.165)	(0.165)
Macro-area of origin = 2, Central and Western Africa	0.190	0.103	0.103
	(0.126)	(0.105)	(0.105)
Macro-area of origin = 3, Eastern Africa	-1.016	-0.932	-0.932
	(0.671)	(0.661)	(0.661)

Macro-area of origin = 4, Central and South America, Caribbean	0.096	0.179	0.179
	(0.222)	(0.212)	(0.212)
Macro-area of origin = 6, Eastern Europe	-0.194	0.070	0.070
	(0.202)	(0.239)	(0.239)
Macro-area of origin = 7, Southern Europe	-0.276**	-0.082	-0.082
	(0.130)	(0.169)	(0.169)
Macro-area of origin = 8, Central, Eastern and Southern Asia	-0.699***	-0.622***	-0.622***
	(0.257)	(0.240)	(0.240)
Macro-area of origin = 9, Western Asia	-0.307	-0.196	-0.196
	(0.262)	(0.274)	(0.274)
GDP country of origin	-0.015	-0.014*	-0.014*
	(0.009)	(0.008)	(0.008)
Pre-migration area of living = 2, Average/small city	-0.085	-0.077	-0.077
	(0.064)	(0.065)	(0.065)
Pre-migration area of living = 3, Village, little town	-0.222**	-0.213**	-0.213**
	(0.091)	(0.091)	(0.091)
Pre-migration area of living = 4, Isolated place(countryside, desert)	-0.107	-0.094	-0.094
	(0.250)	(0.245)	(0.245)
Pre-migration area of living = 5, No answer	-0.123	-0.114	-0.114
	(0.214)	(0.212)	(0.212)
Reason to migrate = 2, Family reunification	0.768***	0.768***	0.768***
	(0.089)	(0.087)	(0.087)
Reason to migrate = 3, Political/Other	0.427***	0.429***	0.429***
	(0.157)	(0.158)	(0.158)
Length of stay = 2, 3-5 yrs	-0.503***	-0.506***	-0.506***
	(0.167)	(0.170)	(0.170)
Length of stay = 3, 6-15 yrs	-0.991***	-0.995***	-0.995***
	(0.209)	(0.214)	(0.214)
Length of stay = 4, >15 yrs	-1.094***	-1.116***	-1.116***
	(0.205)	(0.213)	(0.213)
Geographic area = 2, Center	-0.188	-0.188	-0.188
	(0.117)	(0.116)	(0.116)
Geographic area = 3, South	-0.611***	-0.602***	-0.602***
	(0.083)	(0.087)	(0.087)
Constant	-1.687***	-1.806***	-1.806***
	(0.260)	(0.269)	(0.269)
Observations	9,415	9,415	9,415

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A5 - OLS linear regression models on current socioeconomic status (ISEI): coefficients and clustered standard errors

	Model 1	Model 2	Model 3
Absolute education = 1, Some primary	-0.804*	-0.881	-1.025
	(0.447)	(0.649)	(0.636)
Absolute education = 2, Primary completed	-0.160	-0.273	-0.480
	(0.428)	(0.810)	(0.778)
Absolute education = 3, Some secondary	-0.242	-0.406	-0.713
	(0.406)	(1.111)	(1.081)
Absolute education = 4, Secondary completed	1.332***	1.026	0.300
	(0.435)	(1.992)	(1.943)
Absolute education = 5, Some tertiary	4.255***	3.834	1.937
	(0.918)	(2.615)	(2.582)
Absolute education = 6, Tertiary completed	8.181***	7.731***	5.454**
	(1.647)	(2.462)	(2.296)
Relative education		0.046	0.079
		(0.262)	(0.257)
Pre-migration ISEI			1.074***
			(0.167)
Pre-migration No Job = 1			-0.625***
			(0.168)
Age in decades, centered on the mean (41)	-0.306	-0.317	-0.465*
	(0.255)	(0.273)	(0.273)
c.age#c.age	0.129	0.126	0.132
	(0.138)	(0.143)	(0.143)
Woman = 1	-2.343***	-2.326***	-2.399***
	(0.536)	(0.550)	(0.545)
Marital status = 2, Currently married	-0.029	-0.031	-0.024
	(0.534)	(0.536)	(0.525)
Marital status = 3, Formerly married	-0.258	-0.255	-0.272
	(0.591)	(0.601)	(0.612)
N. children = 1, 1	-0.155	-0.155	-0.226
	(0.350)	(0.350)	(0.350)
N. children = 2, 2	-0.119	-0.120	-0.152
	(0.347)	(0.347)	(0.353)
N. children = 3, 3 and more	-0.743*	-0.745*	-0.723
	(0.439)	(0.436)	(0.436)
Religious denomination = 2, Muslim	0.298	0.258	0.388
	(0.884)	(0.813)	(0.842)
Religious denomination = 3, Orthodox	-0.672	-0.685	-0.754
	(0.774)	(0.768)	(0.780)
Religious denomination = 4, Other	1.792	1.779	1.726
	(1.564)	(1.559)	(1.553)
Macro-area of origin = 2, Central and Western Africa	2.026**	1.976**	2.008**
	(0.905)	(0.948)	(0.985)

Macro-area of origin = 3, Eastern Africa	-3.988**	-3.935*	-3.679*
	(1.943)	(2.000)	(2.178)
Macro-area of origin = 4, Central and South America, Caribbean	1.581	1.646	1.314
	(1.516)	(1.577)	(1.582)
Macro-area of origin = 6, Eastern Europe	0.099	0.274	0.180
	(1.316)	(1.589)	(1.621)
Macro-area of origin = 7, Southern Europe	-0.453	-0.330	-0.189
	(0.695)	(1.057)	(1.088)
Macro-area of origin = 8, Central, Eastern and Southern Asia	0.313	0.365	0.504
	(1.820)	(1.769)	(1.794)
Macro-area of origin = 9, Western Asia	3.694	3.787	3.083
	(2.678)	(2.683)	(2.957)
GDP country of origin	0.185**	0.185**	0.213**
	(0.090)	(0.090)	(0.089)
Pre-migration area of living = 2, Average/small city	-0.561*	-0.560*	-0.386
	(0.320)	(0.318)	(0.325)
Pre-migration area of living = 3, Village, little town	-1.522***	-1.524***	-1.298***
	(0.274)	(0.277)	(0.286)
Pre-migration area of living = 4, Isolated place(countryside, desert)	-1.445**	-1.448**	-1.091*
	(0.578)	(0.579)	(0.591)
Pre-migration area of living = 5, No answer	-0.770	-0.771	-0.514
	(0.983)	(0.985)	(0.969)
Reason to migrate = 2, Family reunification	0.081	0.081	0.027
	(0.346)	(0.347)	(0.352)
Reason to migrate = 3, Political/Other	2.056***	2.058***	1.906***
	(0.682)	(0.679)	(0.682)
Length of stay = 2, 3-5 yrs	0.734*	0.728*	0.756*
	(0.378)	(0.388)	(0.393)
Length of stay = 3, 6-15 yrs	1.694***	1.688***	1.669***
	(0.472)	(0.482)	(0.496)
Length of stay = 4, >15 yrs	2.300***	2.284***	2.373***
	(0.614)	(0.649)	(0.674)
Geographic area = 2, Center	-0.461	-0.461	-0.429
	(0.402)	(0.402)	(0.384)
Geographic area = 3, South	-2.532***	-2.530***	-2.413***
	(0.467)	(0.466)	(0.468)
Constant	22.223***	22.140***	22.431***
	(1.894)	(1.953)	(1.933)
Observations	8,377	8,377	8,377

Robust standard errors in parentheses

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

Table A6– Binomial logistic regression on children of immigrants' early school leaving: logit coefficients and clustered standard errors

	Model 1	Model 2	Model 3	Model 4
Absolute education parents = 2, Primary compl.	0.097	0.286	0.287	0.299
	(0.381)	(0.396)	(0.402)	(0.395)
Absolute education parents = 3, Some sec.	-0.305	0.076	0.105	0.197
	(0.296)	(0.358)	(0.379)	(0.382)
Absolute education parents = 4, Sec.complet.	-0.976***	-0.134	-0.037	0.127
	(0.341)	(0.527)	(0.570)	(0.594)
Absolute education parents = 5, Tertiary	-1.285***	-0.043	0.360	0.537
	(0.454)	(0.696)	(0.749)	(0.765)
Relative education parents		-0.151**	-0.145**	-0.167**
		(0.060)	(0.066)	(0.070)
Parents' highest pre-migration ISEI			-0.269**	-0.240**
			(0.116)	(0.106)
Parents never had a job before migration = 1			0.130	0.189
			(0.163)	(0.152)
Parents' highest current ISEI				-0.181
				(0.149)
Father current empl. condit. = 1, Unemployed				0.509
				(0.374)
Father current empl. condit. = 2, Inactive				-0.282
				(0.745)
Father current empl. condit. = 3, missing				-0.734
				(0.513)
Mother current empl. condit. = 1, Unemployed				-0.026
				(0.308)
Mother current empl. condit. = 2, Inactive				0.259
				(0.204)
Mother current empl. condit. = 3, missing				-1.697***
				(0.542)
Macro-area of origin = 2, Northern Africa	0.166	0.461	0.431	0.318
	(0.608)	(0.569)	(0.566)	(0.594)
Macro-area of origin = 3, Other Africa	-0.298	0.008	0.010	0.014
	(0.670)	(0.671)	(0.674)	(0.717)
Macro-area of origin = 4, Asia	0.719	0.843	0.791	0.695
	(0.544)	(0.528)	(0.520)	(0.551)
Macro-area of origin = 5, Southern EU	0.369	0.136	0.109	-0.110
	(0.577)	(0.590)	(0.578)	(0.607)
Macro-area of origin = 6, Eastern EU	0.996**	0.602	0.592	0.398
	(0.497)	(0.523)	(0.518)	(0.546)
Mother[father]: City of origin size = 2, City	0.102	0.095	0.072	0.056
	(0.189)	(0.183)	(0.185)	(0.189)
Mother[father]: City of origin size = 3, Town, other	0.031	0.018	-0.030	-0.027
	(0.244)	(0.236)	(0.241)	(0.241)
Mother[father]: City of origin size = 4, Unknown	-0.235	-0.172	-0.225	-0.195
	(0.317)	(0.312)	(0.322)	(0.311)

Religious denomination = 2, Muslim	0.568	0.678**	0.663**	0.590*
	(0.346)	(0.339)	(0.325)	(0.336)
Religious denomination = 3, Orthodox	-0.253	-0.203	-0.176	-0.191
	(0.204)	(0.207)	(0.205)	(0.199)
Religious denomination = 4, Other	0.312	0.338	0.353	0.324
	(0.295)	(0.297)	(0.299)	(0.296)
Reason to migrate parents = 2, Political (war, persecution)	0.470*	0.455*	0.483*	0.433*
	(0.279)	(0.275)	(0.265)	(0.252)
Reason to migrate parents = 3, Family reunification	0.485	0.451	0.509	0.672*
	(0.340)	(0.346)	(0.353)	(0.385)
Reason to migrate parents = 4, Other	-0.382	-0.459	-0.437	-0.432
	(0.339)	(0.340)	(0.340)	(0.551)
Geographical area Italy = 2, Center	0.168	0.153	0.121	0.127
	(0.262)	(0.253)	(0.257)	(0.251)
Geographical area Italy = 3, South	0.808***	0.788***	0.738***	0.781***
	(0.139)	(0.137)	(0.142)	(0.137)
Age of the mother[father]	0.000	0.003	0.010	0.016
	(0.016)	(0.016)	(0.017)	(0.018)
Single parent = 1	0.378	0.470	0.463	1.318***
	(0.304)	(0.314)	(0.324)	(0.424)
Number of siblings = 2, 1	0.131	0.152	0.178	0.124
	(0.269)	(0.260)	(0.262)	(0.260)
Number of siblings = 3, 2 and more	0.171	0.168	0.183	0.070
	(0.232)	(0.234)	(0.231)	(0.248)
Female = 1	-0.396**	-0.384**	-0.370**	-0.410***
	(0.158)	(0.159)	(0.159)	(0.157)
Age = 13	-0.037	-0.013	-0.043	-0.074
	(0.272)	(0.272)	(0.272)	(0.286)
Age = 14	0.077	0.101	0.060	0.055
	(0.399)	(0.399)	(0.405)	(0.405)
Age = 15	0.313	0.340	0.318	0.347
	(0.312)	(0.313)	(0.317)	(0.344)
Age = 16	0.692**	0.690**	0.664**	0.682**
	(0.323)	(0.337)	(0.337)	(0.341)
Age = 17	1.074***	1.119***	1.081***	1.119***
	(0.325)	(0.325)	(0.332)	(0.357)
Age = 18	1.415***	1.457***	1.440***	1.442***
	(0.295)	(0.288)	(0.282)	(0.313)
Age = 19	1.399***	1.439***	1.400***	1.430***
	(0.475)	(0.472)	(0.479)	(0.515)
Arrival age = 1, 0-5 years old	-0.012	0.027	0.051	0.095
	(0.274)	(0.269)	(0.274)	(0.277)
Arrival age = 2, 6-12 years old	0.481**	0.518**	0.545**	0.609**
	(0.234)	(0.230)	(0.232)	(0.244)
Arrival age = 3, 13-15 years old	1.364***	1.410***	1.426***	1.555***
	(0.316)	(0.309)	(0.321)	(0.328)
Constant	-3.512***	-3.402***	-3.837***	-4.058***

	(0.918)	(0.928)	(0.962)	(0.951)
Observations	1,598	1,598	1,598	1,598

Robust standard errors in parentheses

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

Table A6– Binomial logistic regression on children of immigrants' probability of school retention: average partial effects and clustered standard errors. Sample includes children of immigrants aged 14-19.

	M1	M2	M3	M4
Absolute education parents (Ref: Some primary or less)				
Primary completed	0.125**	0.125**	0.122**	0.096*
	(0.054)	(0.054)	(0.055)	(0.056)
Some secondary	-0.001	-0.003	-0.008	0.001
	(0.046)	(0.049)	(0.051)	(0.055)
Secondary completed	-0.012	-0.015	-0.027	-0.018
	(0.047)	(0.067)	(0.071)	(0.080)
Tertiary	-0.051	-0.055	-0.071	-0.073
	(0.054)	(0.083)	(0.086)	(0.091)
Relative education parents		0.001	0.003	0.001
		(0.008)	(0.008)	(0.009)
Parents' highest pre-migration ISEI			-0.000	-0.005
			(0.015)	(0.015)
Parents never had a job before migration			0.049*	0.063**
			(0.029)	(0.029)
Parents' highest current ISEI				0.010
				(0.015)
Father's employment condition				
Unemployed				0.179***
				(0.040)
Inactive				0.084
				(0.070)
Missing				-0.207***
				(0.056)
Mother's employment condition				
Unemployed				0.029
				(0.059)
Inactive				0.031
				(0.028)
Missing				-0.176***
				(0.016)
Control variables	✓	✓	✓	✓
Observations	881	881	881	881

Robust standard errors in parentheses

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

Fig A1 – Histogram and kernel density estimate of the distribution of relative education across countries of origin
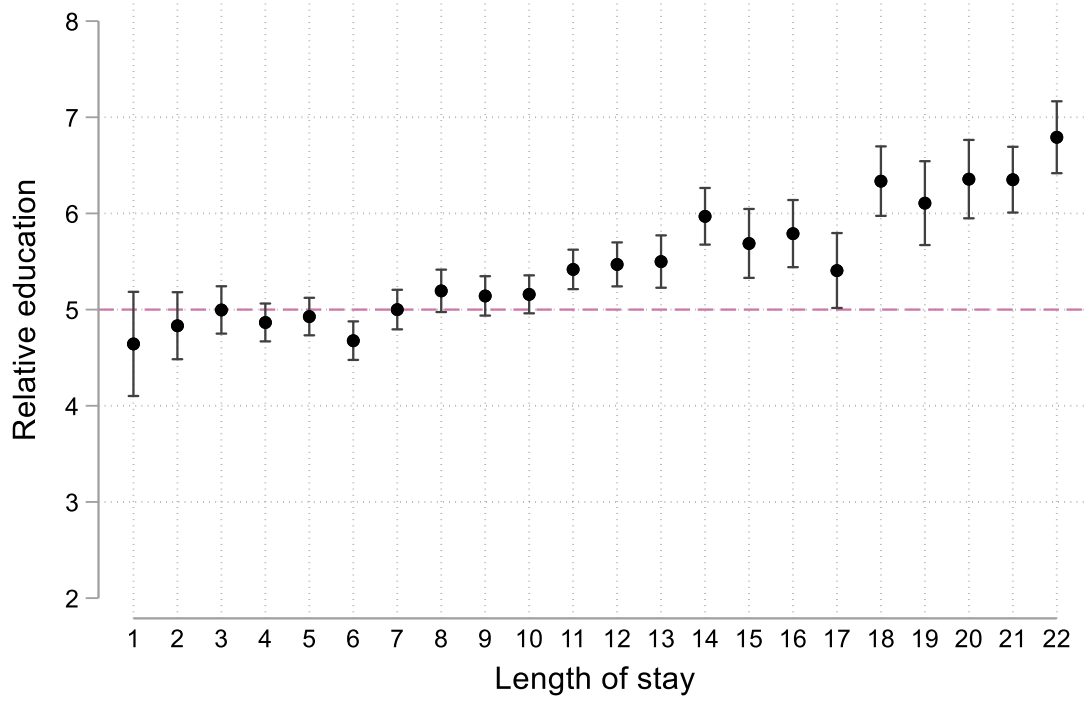
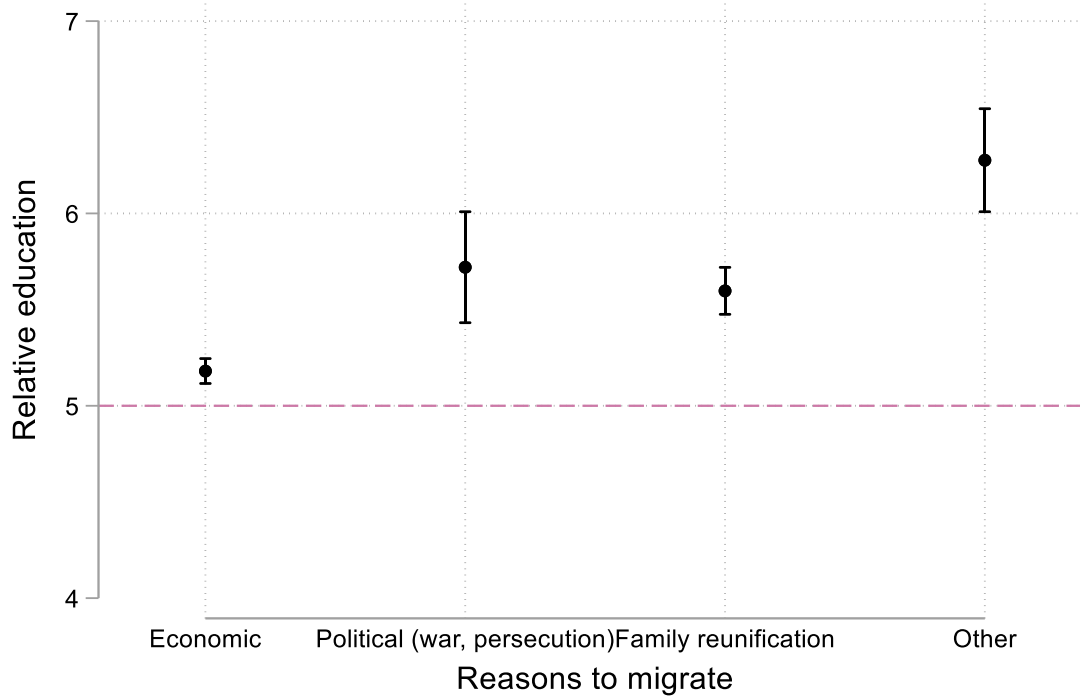Fig. A2 – Average level of immigrants' selectivity by length of stay (years) in Italy

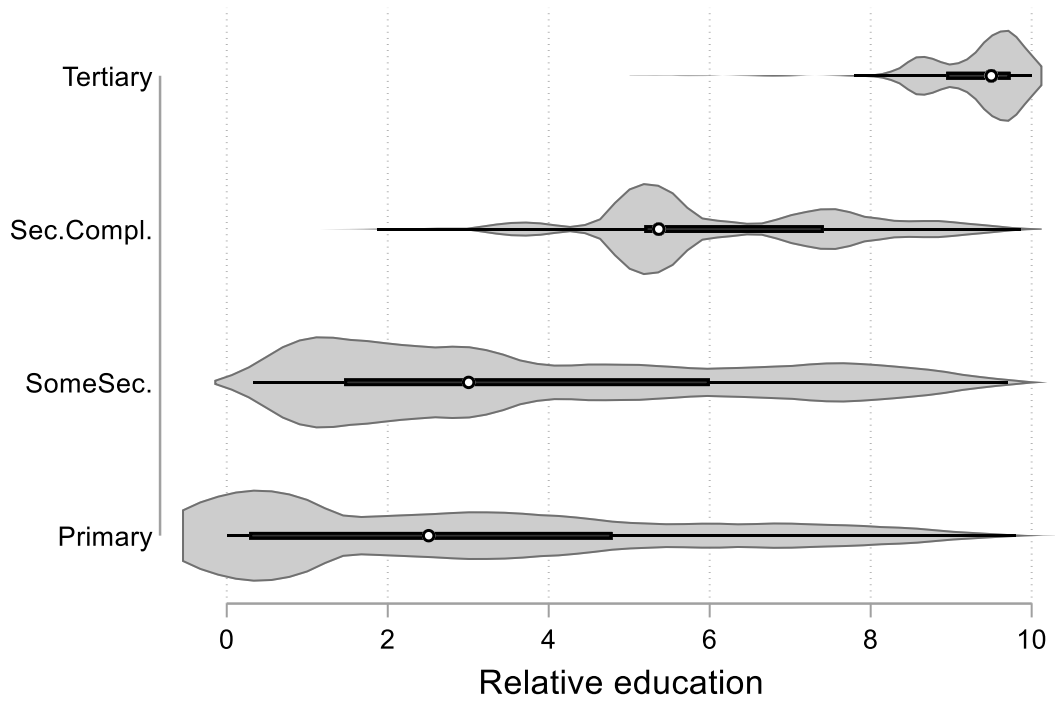Fig. A3 – Average level of immigrants' selectivity by reason to migrate

Fig. A4 – Distribution of relative education by aggregated absolute educational level

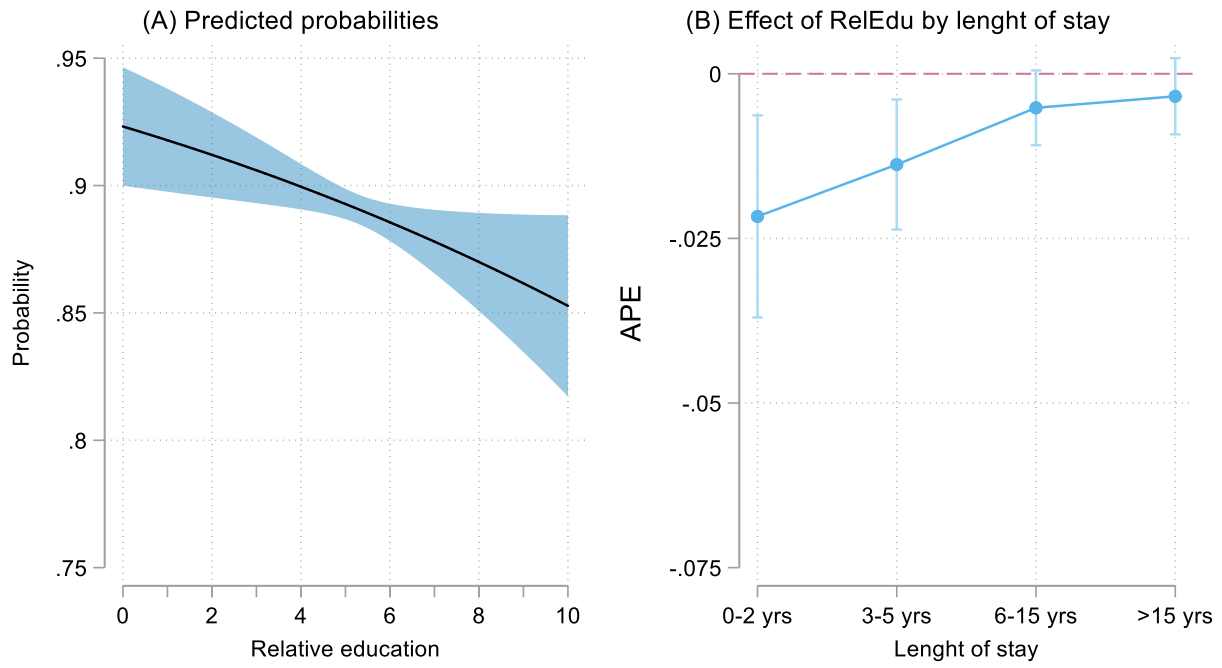Fig. A5 – Binomial logistic regression: (A) predicted probability of being employed along relative education, and (B) heterogeneous average partial effects of relative education by length of stay in Italy.
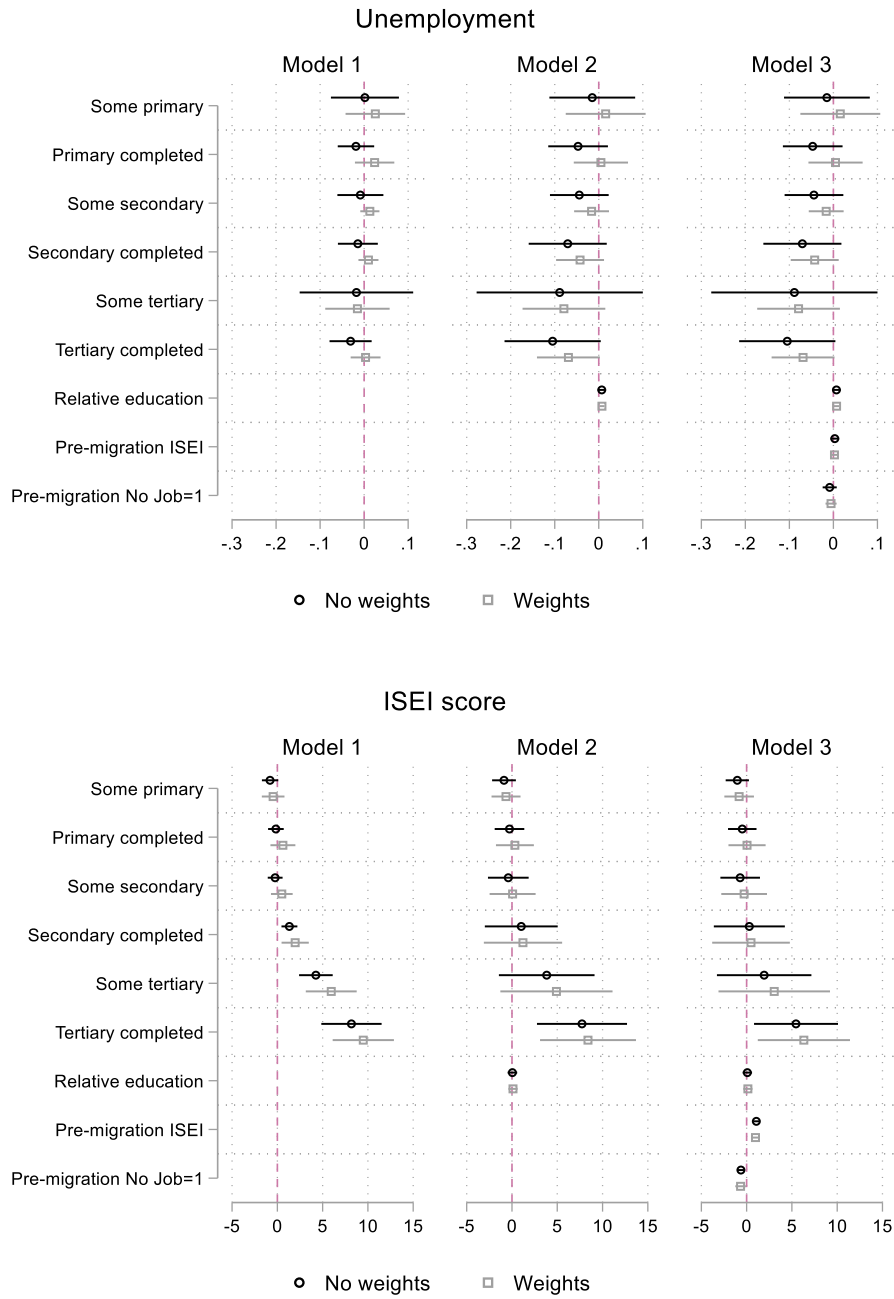
Fig. A6 – Comparison of the estimates obtained using (squares) and not using (hollow circles) the weights provided by ISTAT: average partial effects and 95% confidence intervals