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INTERNAL GEOGRAPHICAL MOBILITY AND EDUCATIONAL OUTCOMES
AN ANALYSIS FOR AN ITALIAN PROVINCE

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AN ANALYSIS FOR AN ITALIAN PROVINCE

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This paper aims at analysing the educational outcomes of a cohort of youths living in an Italian province (Novara). Whereas we do not use a sample representative of the whole Italian population, the analysed province was interested by large immigration phenomenon during the last decades, and, therefore, it is particularly suited to study these issues. Among different determinants of education outcomes we focus on the role played by the individual's family origin, distinguishing between native-born and immigrants. In particular we aim at establishing if, once controlled for parental education background, it is possible to detect an effect of family origin, according to the findings of the economical and sociological literature on this issue. We find that non native youths in average have a higher probability of early leaving the educational system. If the 1st generation immigrants are the less advantaged as for education attainments, even 2nd generation immigrants, that in principle should be completely integrated, perform worse than the native-born. This evidence suggests the need for further investigations on this issue, especially to deal with the integration of foreign immigrants for which education plays a fundamental role.

Keywords: Geographical Mobility; Education; Survival analysis

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1. Introduction

The great economic and social benefits associated with human capital investment are widely accepted and recognised. The development of skills and knowledge associated with higher levels of human capital is particularly important for migrants, since an increase of their labour market value represents the main mechanism to speed up the process of integration and improvement of their social status. Hence, the analysis of geographical mobility effects on human capital accumulation and employability provides important insights about the migrants' integration process. In this context, since education obviously plays a central role in the process of human capital accumulation, a key aspect is then to what extent education achievements of migrant differ as compared to natives, especially for what concerns investments beyond compulsory schooling.

As regards issues related to migration and mobility patterns, the policy debate is now typically concerned about the effects of foreign immigration. However, until very recently, in many countries the economic and social consequences of internal migration deserved major attention. One example is given by Italy, which has been interested by massive internal migration flows from Southern to Centre-Northern regions. Whereas it is commonly accepted that these dynamics have produced several consequences, both in terms of the immigrants' social integration and cohesion, and in terms of their impact on educational attainments and labour market performance, yet little is known about the magnitude of these effects. In particular, the empirical evidence is still rather limited, and confined to disciplines such as sociology and demography. While, for the most part, internal migration flows sharply decreased by the end of the '70s, the status of immigrant from the South or of a person born in a family of migrants may still have had consequences for the accumulation of human capital, even within young generations. Indeed, the available evidence from other countries suggests that there exists a long-term relationship between geographical mobility and educational achievement.

From a policy perspective, also the analysis of the effect of migration timing on education outcomes is of key importance, as there might be systematic differences in the accumulation of human capital between first and second generation migrants.

This paper aims at analysing the educational outcomes of a cohort of youths living in an Italian province (Novara). Among different determinants of schooling, we focus on the role played by being a first or second generation immigrant from another Italian (southern) region,

i.e. to the fact that the individual belongs to a family which migrates to Novara' s province after or before his/her birth, respectively. Whereas, on the one hand, we do not use a sample representative of the whole Italian population, on the other hand, the Novara's province was interested by large immigration phenomenon during the last decades, and, therefore, it is particularly suited to study these issues.

Our sample is composed by individuals born in 1982 and 1983, thus later than the years of strong internal migrations, occurred mainly between the mid 50s and the early 70s of the past century. However, the data provide information about different generations of Italian immigrants. Thus we observe individuals moved to the province of Novara after their birth and "second generation" migrants, i.e. people born in the analysed province but whose parents moved there before their birth. We can thus study differences in educational outcomes of these two distinct immigrants' generations, whose parents were probably induced to emigrate for different reasons and who experienced different integration problems. Clearly, a family yet established in a territory may provide the young with an advantage in the accumulation of skills and education: for example, this kind of individuals may have access to better information about the local environment, the relative quality of schools, as well as they can rely on more developed social network giving assistance and facilities to both the family and the children. On the opposite, children whose parents emigrated during the period of large internal immigration may face several difficulties in terms of specific cultural beliefs, which may have not facilitate the integration in the new area of residence, reducing the advantages associated with this movement's decision.

The paper is organized as follows. Paragraph 2 presents a brief review of the empirical literature. Paragraph 3 describes the data set and provides descriptive statistics. Paragraph 4 describes the empirical strategy used to identify the effect of migration on educational outcomes. Paragraph 5 presents the results of the analysis. Finally paragraph 6 concludes.

2. Review of the literature

Over recent decades human capital accumulation has been playing an increasingly central role in all debates and policy decisions related to economic performance in every country.

As a matter of fact it has been proved that people who invest in education, especially in tertiary education, have more job opportunities, and thereby a reduced probability of being unemployed, and they earn more during their entire working life than those who have spent

less time in education. On the other hand, increased access to education is typically related to an improvement in health, a reduction in fertility, longer life expectancy, a decline in crime rates and an increased claiming of liberty rights (UNDP, 2001). Taking all these aspects into consideration, human capital accumulation can be seen as an important determinant of individual's earning capacity and employment prospects, therefore playing an important role in determining the level and distribution of income in society.

Although a better understanding of the determinants which affect educational achievement is of fundamental importance, empirical evidence on the role played by the Italian internal immigration on educational attainments has been almost an ignored issue, especially from an economic perspective.

Della Zanna and Impicciatore (2006), using a data set drawn from an ISTAT Survey (Famiglia, Soggetti Sociali e Condizioni dell'Infanzia) carried out in 1998, analyse the internal immigration phenomenon from Southern to Centre-Northern regions looking at the educational outcomes of the second immigrants' generation. They especially distinguish between those who have got a high school diploma or not and between those who already graduated with regard to those who are still enrolled at university. Their final goal is to detect whether or not it does exist differences in schooling attainment among native generations and immigrants one. Their most important result is that being a native-born increases of about 47% the probability of getting a high school degree with respect to second generation's immigrants, and at the same time the former category has greater chances of enrolment at college.

As regards the other countries, researches focusing on educational outcomes of the foreign immigrants are more common, mainly where immigration has a long history and at the same time it does exist information relating to several immigrant generations.

Regarding the United States, Betts and Lofstrom (1998) find that immigrants have become during the observed period (1970-1990) more educated in absolute but less educated relatively to natives. Aydemir and Sweetman (2006) confirms that immigrants of both sexes have fewer years of schooling than the native-born white population, with those who arrive young having at least a full year more schooling than those who arrive later in life. In contrast, immigrants to Canada have more years of education than the third generation and individuals in the second generation have at least as many years of schooling as the third generation both in the US and in Canada. The higher education level of second immigrant generations is even established by Chiswick and Deb Burman (2004). The authors find that this generation of US immigrants is more educated even than the native born with native-born

parents. The same result has been obtained by Gang and Zimmerman (1999) with reference to Germany that is characterized, according to authors, from an assimilation process in the acquisition of education.

In addition, Astone and Mclanahan (1994) examine the hypothesis that high levels of residential mobility among nonintact families account for part of the well-known association between living in a nointact family and dropping out of high school. They underline that residential mobility might lower school achievement for several reasons. Children who often change schools may miss key educational material, thereby lowering their school performance. Moreover, children and parents who are new to a community have less information about the school system – which class are good, which teachers to avoid – and thus are less able to take full advantage of the resources in a particular school than children who have lived in the community for a long time. Residential mobility may also undermine children's relationships with teachers and peers.

Moreover, Haveman, Wolfe and Spaulding (1999) analyse the effects of a variety of family and economic circumstances experienced during childhood on one indicator of success in young adulthood. They find that mother's work and parental education are positive determinants of high school completion, whereas growing up in a family with more children, being persistently poor and on welfare, and moving one's residence as a child have negative impacts on high school completion. The principal policy implication drawn from these results is that, due to the dominant role played by parental education levels, it will be difficult to increase high school completion rates through standard policy interventions.

From a sociological point of view, several analyses focus on family and community networks and on the role of social capital in children's education attainments. For example, Sin-Kwock Wong (1998), extending Coleman's social network theory and Bourdieu's cultural capital theory, identify four family capitals that influence the educational attainment of children: human capital, financial capital, social capital and cultural capital. In particular social capital includes social relationships and networks outside the family that help its components in several ways including education. Coleman (1990) then identifies the social capital of the family with the relationships between children, parents and the community that are useful for the cognitive or social development of children. As regards the impact of surrounding context on youths educational attainments, Coleman (1988) then finds that cohesive immigrants communities facilitate the parental normative control of children. Portes and Rumbaut (1990) instead emphasize the influence on migrants' performances of the "modes of incorporation", that is the attitude of the context that receive them, independently

from the human capital they posses. On this, Portes and MacLeod (1996) emphasize the positive effect of well integrated immigrants communities on education in United States and the long-lasting negative effect, even on 2nd generation students, of disadvantaged ethnicities.

Within this wide economical and sociological literature our paper represents an attempt to fill the gap in the analyses of internal immigration outcomes in Italy. In particular, thanks to a data set containing detailed information not only about the youths educational path but also their family backgrounds (parents education and occupation, family characteristics, territorial displacements), it aims at providing a contribution to the debate on immigrants integration.

3. Data and descriptive statistics

The analysis is based on a unique cohort questionnaire covering 1,700 individuals born in 1982 and in 1983 and living in the province of Novara at the time of the interview. This sample is drawn from a population of about 7,000 people through a stratification methodology and it is representative of the whole province cohort population. The questionnaire collects a wide set of variables about: personnel information, family characteristics, educational choices and outcomes, employment condition, job features.

About schooling levels, from the Survey we know whether the individual completed (or not) compulsory schooling, three-years vocational secondary school or five-years upper secondary school. Because of the age at the time of the interview (21 – 22 years), several individuals were still enrolled at a university programme. Thus, we only know whether the person enrolled and, eventually, drop out the university. In other words, we cannot keep track of the whole schooling career of individuals in the sample because for many of them is still ongoing.

As regards to the focus of our paper, following a conventional classification (Warner and Srole, 1945), we distinguish in our sample Southern regions natives that moved to the province of Novara (so called 1st immigrant generation) from those born in province of Novara from parents native of Southern regions and that moved to Novara before their children birth (2nd immigrant generation). In addition, our classification also accounts for individuals born in the province of Novara from one native parent and a parent native in a Southern region (2nd mix generation). This last category is added in order to verify whether or not having one native-born parent makes the individuals more similar, with regard to education performances, to the native-born or to the 2nd generation immigrants. If education is

the result not only of individual talent and of parental educational background, but also of family and community relations affecting school quality and providing information flows and demonstrations, we would expect that these individuals benefit from the already established networks of their native-born parent. Our natural comparison group is represented by individuals born in province of Novara from both native-born parents[1].

Table 1 provides some descriptive statistics of our sample. The native-born are 44% of the sample, the 1st generation immigrants the 5.6%, while the 2nd generation immigrants about 17% and the 2nd mix about 13%. Definitively, 35% of the sample is represented by individuals that have at least one parent born in a Southern region. The last group (Others) is composed by the remaining individuals, that is people born in other Centre-North regions or born in Piedmont and Lombardy from parents natives of other Centre-North regions.

[TABLE 1 AROUND HERE]

As regards personnel characteristics, non-native families (group (6) and (7)) are characterized by a lower presence of females amongst their offspring. In particular, only about 37% of the 1st generation immigrants are females. As to explain this odd figure, we argue that having a male child probably positively affects the decision to migrate toward areas with greater job possibilities, because parents aims at providing him with better labour market conditions in the future. Non-native born have also a higher probability to live in the province capital – Novara - probably because a city offers greater job opportunities and also allows at creating richer social networks. Native born individuals live in average in littler families as showed by the lower average number of siblings.

As regards parental background which, as it is well known, is crucial for offspring education outcomes, we observe that non native born, and especially 1st generation immigrants, have in average less educated parents: in particular 18.4% of the mothers and 13.2% of the fathers did not complete the compulsory schooling, against a 6% amongst the native-born. There are several differences in the educational level between the two groups even when looking at the youth performances: only 8.6% of the native-born leave the educational system at the end of the compulsory schooling (i.e. at 14 years old), but this percentage is equal to 18.75% for the 2nd mixed generation, 19.3% for the 2nd generation

[1] Since we do not have a specific information about the individuals' province of birth, we consider as native of the province of Novara individuals born in Piedmont or Lombardy. This choice depends on the consideration that this province is on the border between the two regions.

immigrants and even 44% for the 1st generation immigrants. The very low rates of university degree attainments clearly depends on the age of our sample.

These figures confirm then the strong relationship between parents and offspring educational level within our sample. Even when we look at other features of the education career (final marks obtained at the lower and upper secondly school, failures and drop-outs) of the identified groups we always find worse performance for the non natives-born and particularly for the 1st generation immigrants that appears as the most disadvantaged.

Figures 1, 2 and 3 then show the plots of the Kaplein-Meier survival function disaggregated by gender, and origin that graphically confirms previous descriptive statistics. We can observe that the risk of leaving educational system is a bit more higher for males (gender 1) than for females (gender 2) in the whole analyzed period, i.e. from 6 to 21 or 22 years old. Moreover, at the end of the observed period about 40% of the males are still in education, while this percentage is more than 50% for the females.

[FIGURES 1,2 AND 3 AROUND HERE]

As regards individual origin, non-native born always have a higher probability to leave education than natives, but the difference between the two groups slightly increases in the last years, after compulsory schooling. At 21 and 22 years old about 55% of native-born are still in education, while for non natives this percentage is only 45%.

In Figure 3 we distinguish for different groups of non-natives. The figure shows that 1st generation immigrants (origin=1) have the highest risk of leaving education in the whole period, while the risk for other non-native groups, and especially for 2nd generation immigrants (origin=2), stray from the one of native-born especially in the last years. At the age of the interview, the percentage of individuals belonging to the 1st generation immigrants that are still in education is only 25% and for the other non-native groups this percentage is a little higher, about 40%.

Our empirical analysis aims at investigating the differences previously noticed in educational outcomes. The adopted empirical strategy allows at detecting the effect of the family origin once controlled for any relevant characteristics and especially for parental education level.

4. Empirical strategy

When we look at the probability of leaving the educational system the econometric approach applied is based on survival analysis models. For this issue binary dependent regression models cannot be applied because the analysis is about modeling of time to event data. In addition they are not suitable as they do not handle aspects like censoring, time varying covariates[2] and they do not take account of the differences in time in which each individual is at risk of experiencing the event. In this section of our analysis we take into consideration time that elapses for a student to exit from the educational system . In order to study these events we use a complementary logistic model (*cloglog*) where the dependent variable takes value 0 when individuals are still in education and 1 when they leave.

In our study the event of interest, educational system withdrawal, may occur at any particular instant in time, but data are provided in discrete intervals of time, which leads to use a discrete hazard model. Furthermore, it is remarkable to notice that the sample is random and composed by only young people of 21 or 22 years old observed until the spells end or till the end of the survey, as a consequence for some of them we do not observe the transition out of education. Observations for whom transition does not occur are right censored. Moreover, we assume that process which gives rise to the censoring is independent of survival time.

If T identifies time spent at education, which ends in one given interval of time $[t_{j-1}, t_j)$. The hazard rate, for a student *i*, is given by

$$h_{ij} = \Pr[T_i \in [t_{j-1}, t_j) \mid T_j \geq t_{j-1}]$$

Which is the probability of drop out of educational system in the interval $[t_{j-1}, t_j)$**,** on condition of being student at the time t_{j-1}.

So that, given the hazard rate, the survivor function[3] is

$$S(i, j) = \prod_{k=i}^{j} (1 - h_k)$$

which represents the fraction of students still in education at time *j* out of all those who were in the origin state at time *i* ($i < j$).

As we mentioned earlier in our analysis data are discrete as we have only one observation at year about each student, although they can leave education on a daily basis.

[2] Cf. Jenkins (2004).
[3] Note that the inverse of the survivor function is equal to the cumulative hazard function.

Despite the nature of our data, complementary log-log model specification for the hazard regression is consistent with a continuous time model and interval censored survival time data (Jenkins, 2004). Prentice and Gloeckler (1978) show the equivalence among interval censored discrete-time model and continuous time model with the proportional hazards assumption. As a consequence, it is possible to transform the coefficients of this analysis into hazard ratios, which facilitate interpretations of the regression results. This is due to the fact that "proportional hazards" entails that the duration profile of the hazard is the same for all the university students, where this profile is shifted upwards or downwards by the explanatory variables considered.

The hazard ratio is so given by:

$$HR = \frac{\chi(x = a)}{\chi(x = a - 1)} = \exp(\beta_x)$$

where χ is the continuous time hazard rate. This is the relative risk associated with a one unit change in the value of the corresponding explanatory variable, holding everything else constant.

Naturally it is questionable whether all students with the same set of observed covariates face the same expected hazard of exiting the educational system. Due to the unobservable factors, it is reasonable to assume that there are some students who are more or less likely to leave education. Ignoring unobserved heterogeneity can lead to various biased[4]. In our study, to overcome unobserved heterogeneity means that we have to consider in our regression differences in students' abilities. Nevertheless, due to the structure of our data I cannot model unobserved heterogeneity since we do not have multiple spells as a student can experience transition only once over time.

5. Results

The analysis is focused on the probability of leaving the educational system among youths. The aim is to verify whether or not family characteristics, and especially its origin, might become a sort of "stigma" affecting the success or failure in education attainment for each student.

Table 2 presents coefficients, t statistics and hazard ratios of the exit probability from education. It contains three columns, the first for both males and females, the second for females sub-sample and, the third for only men. The hazard ratios represent the complement

[4] Cf. Jenkins (2004 – pg. 79-87)

to one of the probability of leaving the educational system. For instance, if the estimated hazard ratio for a characteristic j is 0.6, then the individuals with that characteristics have a 40% lower probability of exiting from educational system than the referring group; instead, if the hazard ratio is 1.5 the individuals have a 50% higher probability of exiting from educational system.

[TABLE 2 AROUND HERE]

First, we consider both males and females in our regression. As regards the logarithm of the duration, it has positive and statistically significant effect on students withdrawal. As expected, this result is in line with the empirical evidence on this topic as it means that students are more likely to drop from education as time elapses, especially after having passed the compulsory schooling. This result is in line with Italian figures on education. In fact, in Italy only a tiny fraction of the population achieves the highest level of education even if the situation has dramatically improved.

Regarding women then it is noticeable that they face a lower withdrawal probability compared to their counterpart of about 38% less. Again this result is not surprising for several reasons. Women are more devoted to study respect to males, besides men are more likely to get a job while they are still enrolled at any educational level and by this proposal might find more convenient working instead of studying.

Regarding the area where individuals live and in particular distinguishing between province capital **(**the city of Novara**)** versus all the other villages, we note that living in the main town of the province has a positive effect on the probability of staying on the educational system. This result might be related both to the direct costs of attending school, which increase sharply after compulsory schooling, and to the lower existing educational supply in the suburban area, which may be among the causes that contribute to reduce the schooling attendance.

Let us now examine the results relating to the variables such as parental background and family characteristics. By this way we can observe the impact of those aspects on educational exit. Looking at parents' education, we find that the probability of youths' withdrawal from schooling system is strongly related to the level of education achieved by their parents as both those variables are statistically significant. In particular if the mother has a vocational school degree the offspring's probability to withdrawal decreases by 34%, by about 50% if she got a high school degree and by about 68% if she is graduate. We obtain

similar results for fathers. In particular, the chances of dropping from education is lower especially if the father has a high school diploma (about 43% lower) or a university degree (52% lower), even if in general the estimated fathers' effects are lower than the mothers' impacts. These results underline the importance of cultural family background during attendance of education as well as success in human capital accumulation process. As a result, having poorly educated parents does make a huge difference in terms of educational attendance, and of course this result is in line with the literature, where parents' education, especially the mothers', plays a central role in influencing children enrolment at the highest schooling's level. Several studies reveal that when parents, and especially mothers are better educated, their children tend to receive a greater education as well (Haveman and Wolfe, 1995). It is natural to address our attention to this fact, as it does not depend on the individual's choices: no-one can choose their parents. Further studies address attention to the underlying mechanism that explain how the education of parents is passed on to the next generation, in fact the transmission of schooling across generations remains something of a mystery (Bowles and Gintis, 2002).

In line with the above results, we notice that also the mother's occupation status affects the attendance behaviour. We find that individuals living with a working mother during their childhood have lower probability of exiting from education compared with those with a housewife mother. In particular a full time mother increases the chances of staying in education of about 81%, but it does not occur this effect if the mother is a part-time employee. In somehow also family size is found to be relevant in the withdrawal process. In our regression we include in the set of covariates whether or not a person has got or not one or more older siblings. The only statistically significant effect is the one of having two older brothers or sisters. This result is not easily interpretable on the basis of the hypothesis of greater financial resources available to family as the number of older siblings increases, since when the number of siblings is different from two (one or three and more), we do not find any statistically significant effect.

Moreover, also the variables related to the fact of having been helped by someone in doing homeworks during the childhood is statistically significant. Results highlight that receiving a support for doing homeworks increases the probability of withdrawal especially if this help is provided by someone who is not related to the family.

Finally, we find several robust results also about the effect origin of the family, that is the focus of our analysis. In general we notice that those who are native-born have a greater probability of staying in the educational system compared to all the other categories we have

taken into consideration. Going into detail, we note that the group who has the worst performance in terms of being in education is that composed by the 1st generation immigrants, which includes youths born in the South of Italy that moved after their birth in province of Novara. However, also the 2nd generation of immigrants show a higher probability of exiting from the educational system (about 54%), which is lower compared with the previous category, but greater regarding the group called 2nd mixed generation, that have only one native born parent, the other being native of a Southern region.

These results highlight that it is definitely important, in order to increase the years spent at education, the capacity of immigrants to take over in the new area of residence. Several plausible explanations might be considered to shed some light on this phenomenon. First of all, people who leave their own region for moving into another one, may face some difficulties in fitting in the new society, especially due to the cultural constraints or to difficulty of establishing new social networks. This could induce them to create quite closed communities where a negative peer effect can easily emerge. Second, it might happen that people who move to another region driven by the hope to find better working condition, with their example and implicit conditioning transmit to their children the concept of the importance of finding a job as soon as possible instead of increasing their human capital. Third, as emphasized in the sociological literature, the worst performance of the migrants may be the effect of a sort of social "stigma" towards the non-native born that could affect children from their early school experiences.

Looking at female sub-sample, it is noticeable that some variables are statistically insignificant such as mother's time spent at work as well as the fact of having a mother with only a vocational degree or a father with a university degree. However, it is remarkable to underline that the effect of being a 1st generation immigrant has a larger and positive effect on the probability of exiting compared with the magnitude find for the all sample. This maybe due to the specific characteristics of women, as well as the unobservable information, such as cultural constraints which give rise to the importance of finding a job or of getting married instead of staying at school.

Considering regression about only males reported in column three we notice that results are similar to the whole sample apart from the variable which identifies students who have more than three older siblings and the second generation immigrants ad the mixed group. The fact that living in a family in which a male has got more than three brothers/sisters increases the probability of educational exiting is not surprising, as it is more likely that men are induced to enter into the labour market instead of going on with their studies as they have to

contribute to the household expenses. This result might be also related to the cultural constraint, which underline the importance of men to be involved in the familial financial support.

6. Concluding remarks

This paper aims at investigating whether not being native-born of a territory affects youth educational outcomes. By this paper we aim at providing a new contribution to the policy debate on the integration process of the internal migrants in Italy.

Education is one of the main sources of integration. If school and society as a whole fail in giving to everyone the same possibilities of getting the desired human capital level independently from its origin, the integration of migrants from whichever provenance (internal or external) is a very though process. A greater comprehension of the effects in terms of education and integration of internal migrants that moved from the Southern regions of Italy toward Centre-North regions during the second part of the last decade can provide useful elements to deal with the current immigration foreign flows.

By our analyses we find that being non-native born in province of Novara, strongly decreases the probability of a long-lasting permanence in the educational system. This negative effect is particularly high for 1st generation immigrants and decreases when the migration process occurred far away in the time (2nd generation immigrants) or when it is possible to rely at least on one native-born parent. Even if our analysis is limited to the province of Novara, we believe that this high-industrialised province, that has been attracting during the last decades a great number of internal migrants, can be quite representative of the whole Northern Italy.

How to explain these results? Why not being native-born in a territory is so disadvantageous for education performance? The possible explanations, in our opinion, are mainly three. Firstly, individuals that decide to leave their native territories in general take this decision so as to improve their employment condition: it is plausible to hypothesize that they someway “transmit” to their offspring the importance that they attribute to work, pushing them toward more practical and short-lasting educational track. Secondly, this result can be the effect of the poorest social network characterizing the non natives. As previously noted, family and community networks can provide help (for example to children that experiment difficulties at school), information flows on the quality of the schools and, in general, can affect education decision throughout a typical “peer effect”. Thirdly, worse education

performance of the non natives can be the effect of a sort of social stigma affecting them since their early education career and decreasing their propensity to acquire further education.

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APPENDIX

Table 1 Descriptive Statistics

	(1) All	(2) Natives	(3) 1st generation immigrants	(4) 2nd generation immigrants	(5) 2nd Mixed generation immigrants	(6) =(3)+(4)+(5)	(7) Other origins
	100	44.74	5.65	16.72	12.64	35.02	20.24
Personal information							
Female	49.36	53.53	36.56	45.82	50.96	46.18	45.65
Born in 1982	50.82	51.77	61.29	50.18	60.10	55.56	40.54
Resident in Novara	38.91	31.52	49.46	58.18	37.50	49.31	37.24
Family information							
Siblings							
No siblings	21.42	28.87	5.49	12.73	14.90	12.37	20.80
One sibling	56.12	49.03	54.95	68.73	61.54	63.9	58.10
Two siblings	15.82	16.02	23.08	12.00	18.75	16.20	14.68
Three siblings or more	5.35	4.28	12.09	6.55	4.81	6.79	5.2
No older siblings	40.84	36.65	32.93	45.00	45.20	42.68	44.71
One older sibling	47.21	50.40	46.34	44.17	50.28	46.52	41.96
Two older siblings	8.76	10.76	15.85	5.83	4.52	7.49	8.24
Three older siblings or more	2.15	1.2	1.22	3.33	0	2.44	5.1
Mother education							
Elementary school or no education	12.10	5.84	27.96	18.18	14.42	18.40	15.02
Lower secondary school	30.27	22.83	33.33	49.45	39.42	43.23	49.45
Vocational school	9.79	11.68	15.05	1.82	8.17	6.25	11.71
Upper secondary school	33.13	41.44	12.90	22.55	30.29	23.78	30.93
University degree	12.10	14.67	6.45	7.27	7.21	7.12	15.02
Father education							
Elementary school or no education	11.19	6.52	17.20	10.91	14.42	13.19	18.02
Lower secondary school	31.43	25.00	46.24	48.00	36.54	43.58	24.62
Vocational school	5.47	6.11	6.45	4.36	4.81	4.86	5.11
Upper secondary school	32.22	37.64	23.66	29.09	29.33	28.30	27.03
University degree	15.87	20.24	6.45	6.18	12.98	8.68	18.62
Education							
Highest education attainment							
No compulsory school	0.30	0	2.15	0	0	0.35	0.90
Compulsory school	15.93	8.56	41.94	19.27	18.75	22.7	20.42
Vocational school	6.02	5.98	4.30	6.91	4.33	5.56	6.91
Upper sec. school	75.99	83.15	51.61	73.82	74.04	70.31	69.9
University diploma	0.49	2.31	0	0	2.88	1.04	1.80
Lower secondary school final							

mark							
Sufficiente (Pass)	20.36	12.64	36.56	29.09	25.48	28.99	22.5
Buono (Good)	23.95	21.60	21.51	26.18	26.44	25.52	26.43
Distinto (Very good)	12.77	15.49	13.98	11.27	13.46	12.5	7.21
Ottimo (Excellent)	13.92	18.61	10.75	9.09	11.06	10.07	10.21
No answer	28.69	31.66	15.05	24.36	23.56	22.5	32.73
Upper secondary school final mark							
60-70	23.22	20.38	18.28	29.09	30.29	27.78	21.62
70-80	18.66	20.24	10.75	20.36	15.87	17.19	17.72
80-90	14.59	14.95	12.90	14.18	13.94	13.89	15.02
90-100	15.74	23.78	2.15	5.82	14.42	8.33	10.81
No answer	5.53	6.11	7.53	4.36	2.40	4.17	6.61
Dropouts							
During upper sec. school	9.85	4.76	26.88	11.27	12.98	14.41	13.21
During university	3.04	2.99	1.08	3.64	3.37	3.13	3.00
Fails							
One or more	29.48	20.11	42.78	34.18	38.46	40.63	35.73

Figure 1

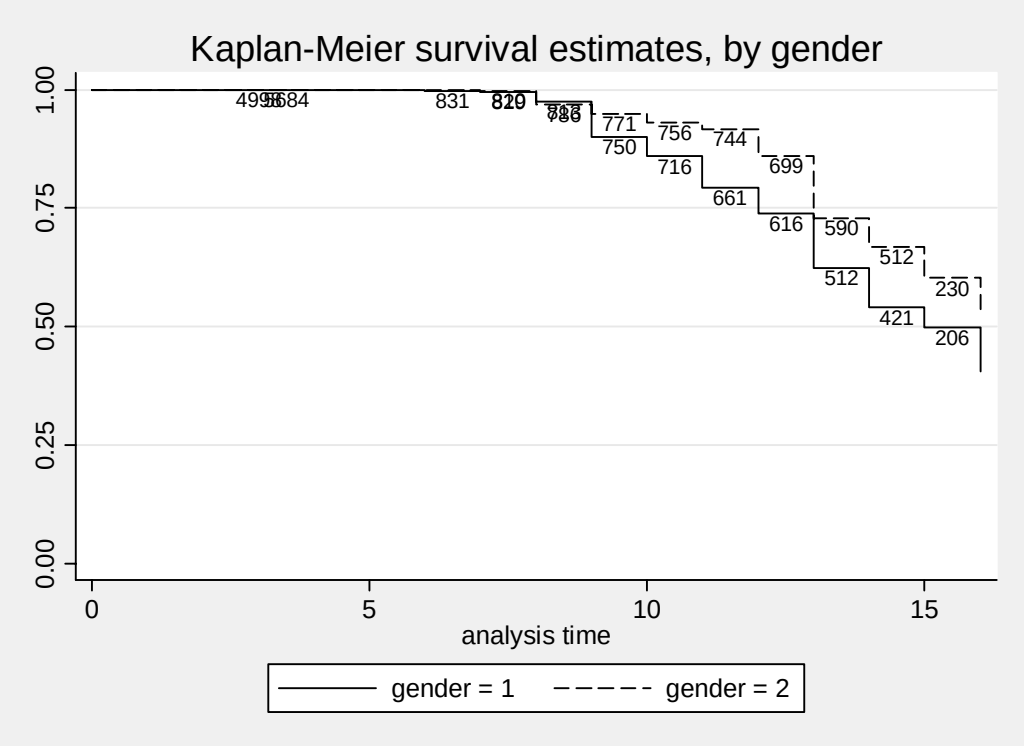

Figure 2

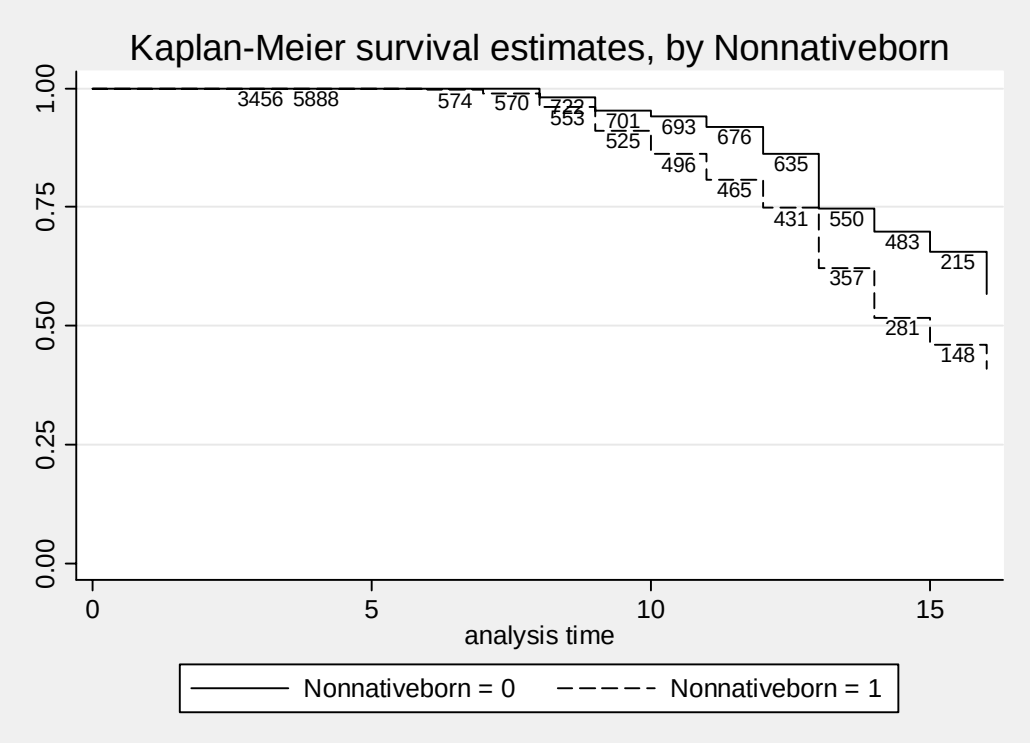

Figure 3

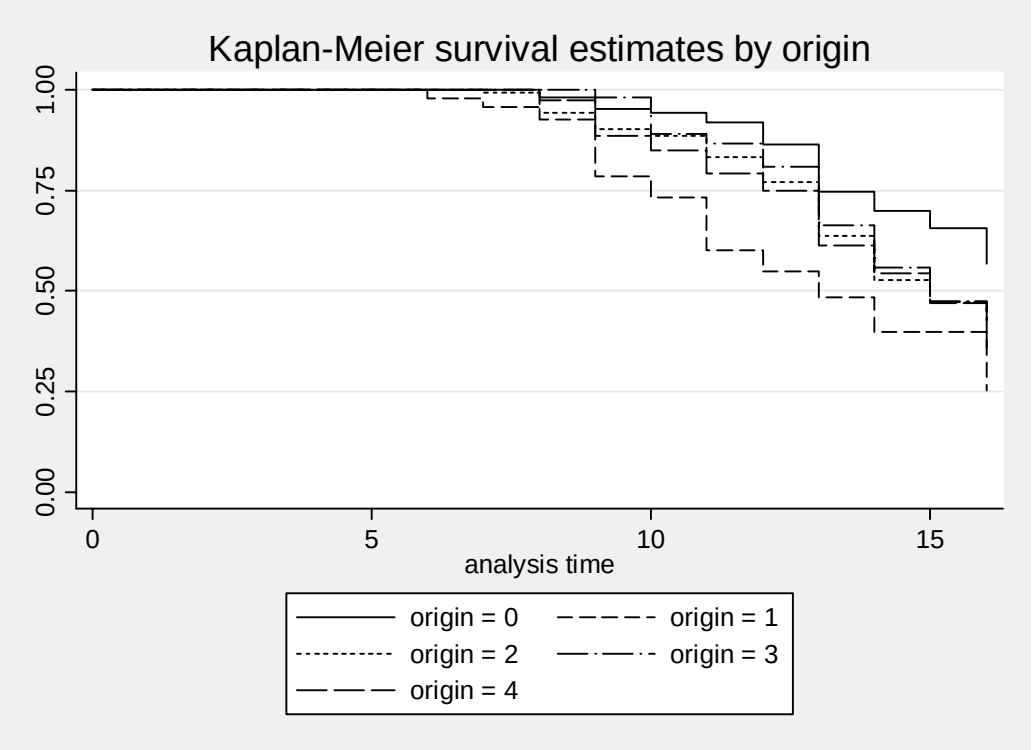
Kaplan-Meier survival estimates by origin
0.00
0.25
0.50
0.75
1.00
0
5
10
15
analysis time
origin = 0
origin = 1
origin = 2
origin = 3
origin = 4

Table 3 Probability of leaving educational system

	All			Females			Males		
Educational exit	**Coef.**	**t**	**Hazard ratios**	**Coef.**	**t**	**Hazard ratios**	**Coef.**	**t**	**Hazard ratios**
Female	-0.46013	***	0.631201						0
1982	-0.20929	***	0.811163	-0.3997	***	0.671	0.0101		1.010
Town	-0.79608	***	0.451092	-0.9394	***	0.391	-0.7827	***	0.457
1 older sibl.	0.039295		1.040077	-0.3129	**	0.731	0.3728	***	1.452
2 older sibl	-0.32465	**	0.722783	-0.7231	**	0.485	-0.0372		0.963
3 or more older sibl	0.224493		1.251688	-0.3219		0.725	1.2601	***	3.526
Na_sibl.	-1.23764	**	0.290068	-1.0311	**	0.357	-1.6084	**	0.200
M_empl	-0.55462	***	0.574292	-0.8837	***	0.413	-0.2920	**	0.747
M_Full time	-0.20671	**	0.813253	-0.2236		0.800	-0.2629	**	0.769
M_Part time	0.16515		1.17957	0.2622		1.300	-0.0602		0.942
M_na	0.256343		1.292195	0.1395		1.150	0.6155	**	1.851
Homework_F	0.33243	***	1.394353	0.3894	***	1.476	0.3579	***	1.430
Homework_noF	0.950914	***	2.588074	0.9486	***	2.582	1.2970	***	3.658
Na_help	-0.70313	**	0.495035	-0.4604		0.631	-1.0876	**	0.337
M_Voc	-0.41168	***	0.662536	-0.3148		0.730	-0.4391	**	0.645
M_Highsec.	-0.67476	***	0.50928	-0.5560	***	0.573	-0.7710	***	0.463
M_Univ.	-1.1255	***	0.32449	-1.1308	***	0.323	-1.1971	***	0.302
P_Voc	-0.80218	***	0.448352	-0.5883	**	0.555	-1.0725	***	0.342
P_Highsec.	-0.55076	***	0.57651	-0.7619	***	0.467	-0.3778	***	0.685
P_Univ.	-0.73312	***	0.480405	-0.3178		0.728	-1.1851	***	0.306
1st gen. Immigr.	0.88418	***	2.420999	1.9587	***	7.090	0.4058	**	1.500
2nd gen. Immigr.	0.436313	***	1.546993	0.7009	***	2.016	0.1733		1.189
2nd mixed gen. Immigr.	0.344571	***	1.411384	0.6554	***	1.926	0.2328		1.262
Others	0.630076	***	1.877753	0.6539	***	1.923	0.6305	***	1.878
Ln(Duration)	4.316975	***		4.6935	***		4.3312	***	
Const	-12.1771	***		-13.280	***		-12.508	***	

*Statistical significant at 10%; ** Statistical significant at 5%; ***Statistical significant at 1%