

Education and its Intergenerational Transmission:
Country of Origin – Specific Evidence for Natives and Immigrants from Switzerland

(Running title: Intergenerational Transmission – Swiss Natives and Immigrants)

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This study compares the intergenerational transmission of educational attainment across immigrant groups using the Swiss Census 2000. Determinants of educational outcome and educational mobility are examined. A child's educational opportunity depends on its parental background. Not only the effect of parental human capital but also other determinants of child educational attainment vary depending on the child's nationality. Overall educational upward mobility is more pronounced among second generation immigrants than among natives. Children of Turkish, Portuguese and former Yugoslavian origin appear to be most disadvantaged in the process of human capital formation.

Keywords: intergenerational transmission, educational attainment, immigrants, ethnic capital.

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I. Introduction

Modern western societies aim at providing equal opportunities to their youth. This is not just perceived as a matter of fairness. It is also recognized to be economically inefficient to leave talent untapped. Nevertheless, the available empirical evidence regularly suggests that individual educational and economic outcomes depend on certain background measures. Most prominently, the educational success of children is a function of their parents' human capital. This is an important finding because education is the key determinant of lifelong well being on the one hand and productivity in the labor market on the other. Both for economists and for sociologists education is seen as a potent determinant of class (Erikson and Goldthorpe 2002).

While there is a growing literature dealing with the phenomenon of intergenerational transmission, this literature typically considers intergenerational transmission as a uniform characteristic of a society. The heterogeneity of this social feature across population groups is discussed only rarely. Also, immigrants do not find much attention when social mobility is at issue. In this study we investigate intergenerational educational mobility with a focus on the comparison of population groups sorted by their country of origin. We pay particular attention to differences between ethnic groups and across first versus second generation immigrants. Differences across ethnicities might indicate to what degree for example cultural background inhibits assimilation and social mobility. This not only helps to understand the transmission processes but also prepares the ground for policy interventions that may be required to strengthen equality of opportunities.

We apply data from the Swiss 2000 census to answer the following questions: (i) what are the key determinants of educational outcomes and how do they differ across population groups; (ii) how mobile is the Swiss society and to what extend is the destiny of children determined by their parents' background; (iii) is intergenerational mobility higher among

immigrants; (iv) can we distinguish determinants of educational mobility and do they differ across ethnic groups?

The paper proceeds as follows: section II presents some background on migration to Switzerland and the Swiss schooling system, section III surveys the literature before section IV describes the data and the empirical approach. The results are discussed in section V. Section VI concludes.

II. Background Information

Switzerland has a long history of positive net migration. About 70 percent of the rise in the Swiss population between 1945 and 2000 is due to the direct and indirect effects of immigration (Haug 2002a). This is despite the fact that only a minority of all immigrants settled permanently. The Swiss population growth of the last 50 years depends more strongly on migration than population growth in classical immigration countries such as the U.S., Canada, or Australia (Haug 2002b). Today, Switzerland has the second highest foreigner share in the OECD, being surpassed only by Luxembourg (OECD 2004).

The origins of this high share of immigrants reach back to the 1950s and 1960s when Switzerland attracted foreign workers in an economic boom period when manpower was in short supply. Until the oil crisis at the beginning of the 1970s labor migration was predominantly a European phenomenon, when workers mostly came from Italy and Spain (BFS 2005). The migration pattern changed in the 1980s when family migration increased and ethnic groups from Portugal, Turkey, former Yugoslavia, and Eastern Europe entered. In addition, Switzerland experienced significant refugee inflows from Sri Lanka, the Middle East, and Africa. The available evidence suggests that immigrants from different immigration waves experienced different treatment and integration processes. Whereas immigrants of Italian and Spanish origin are now integrated and respected population groups, those with Turkish or former Yugoslavian origin increasingly live in segregated parts of the cities. Their

children grow up in less integrated environments than those who came a decade earlier from Italy or Spain (cf. Haug 2003, Höpflinger 1999).

Swiss migration law always differentiated seasonal workers from workers with annual permits and permanent immigrants. Seasonal workers who returned regularly to Switzerland eventually could obtain annual permits. Holders of annual permits could apply for permanent permits after having lived in Switzerland long enough. Thus, over time, former seasonal workers acquired the right to stay in Switzerland permanently (BFS 1988, 2004). However, a large number of these guestworkers later returned home after spending a few years in Switzerland (Mahnig and Piguet 2003).

Switzerland hosts not only guest-workers and refugees but is also home to a large number of international organisations and headquarters of multinational companies. Therefore, there are also a number of foreign workers from developed countries, such as Northern and Western Europe who tend to be highly skilled.

Since 1994 the share of the foreign resident population in Switzerland has exceeded 20 percent (BFS 2005). The largest national groups are Italians with a share of 18.8 percent among all foreigners, individuals from Serbia and Montenegro (12.9%), Portugal (10.6%), and Germany (10.0%). Immigrants from Turkey (4.9%), Spain (4.6%), and France (4.5%) rank behind. Following the bilateral treaty about freedom of movement between Switzerland and the European Union (in effect since June 2002) particularly the migration inflows from Germany and Portugal increased. The economic and cultural situation of the different ethnic groups varies considerably (BFS 2004).

In the Swiss educational system, children enter primary school between the ages of 5 and 7 for between 4 and 6 years. Then, they continue in mandatory school until they complete grade 9. At that point, pupils choose whether and how to continue their education. A cohort share of about 44 percent takes up an apprenticeship lasting between two and four years,

which prepares for a vocational career.¹ Alternatively, there are a variety of other vocational or general schools that train either for a specific occupation or prepare for specialized schools. Individuals aiming at a university education then attend advanced school for another 2 to 3 years.

Whereas almost 90 percent of the Swiss population aged between 25 and 34 years have a post-mandatory schooling degree (BFS 2003), only about 19 percent obtain the advanced school qualification which grants access to a university (BFS 2004). Compared to other OECD countries this is an extremely low cohort share (BFS 2003) which is all the more surprising given that at the same time Switzerland spends more in education per capita than for example the U.S., Great Britain, or Germany.

III. Literature and Theoretical Background

Theories of optimal schooling and schooling transmission go back to the 1960s (see e.g. Becker 1967 and Schultz 1969 on human capital). Probably the most prominent model of family human capital transmission is Becker and Tomes (1979, 1986) (see also Becker 1981). They describe the transmission of endowment as a Markov process, where the degree of inheritance lies between 0 and 1. Parents care about the economic opportunities of their children and their investment is determined by preferences, income, and fertility. While this framework contained only few determinants such as family size or income, Leibowitz's (1974) model generated additional testable hypotheses. This framework includes child's inherited abilities which are affected by genetic endowment and parental investment. Parents take a variety of decisions that affect the schooling performance of their children (for an overview, see Haveman and Wolfe 1995). However, the empirical evidence also shows a strong impact of parental background measures on a child's educational outcome: Belzil and

¹ For cultural and historic reasons there is substantial heterogeneity in the educational careers pursued in the French- and German-speaking regions of Switzerland. Whereas in the German-speaking regions up to two-thirds of a cohort pursue an apprenticeship that figure is less than half in the French-speaking regions.

Hansen (2003) detect that household background accounts for more than 80 percent of the explained cross-sectional variation in school attainment, much of which is caused by parental schooling. For other results confirming the strong family impact, see Behrman und Taubman (1989), Dearden et al. (1997), Mulligan (1999), Woessmann (2004), and Chevalier (2004). For more ambiguous results see Plug and Vijverberg (2003), and Gang and Zimmermann (2000). Regarding immigrants, there is some empirical evidence that second generation immigrants are educationally more mobile than natives (Nielsen et al. 2003, Card et al. 2000, Bauer and Riphahn 2005).²

Based on Becker (1967), Chiswick (1988) formulates an optimal schooling model to capture possible explanations of ethnic differences. Schooling investment is optimal if the supply, which follows from the interest cost of investment, equals the demand for investment, which is related to its marginal rate of return (see also Becker and Chiswick 1966). The supply curve depends on the price of investible funds and on the taste for schooling. The demand curve varies depending on abilities. The empirical patterns suggest that ethnic group differences result from variation in demand schedules, reflecting differences in abilities that are likely to be a result of out-of-school human capital formation. Chiswick (1988) concludes that other factors besides discrimination and “tastes” are relevant and dominant in explaining educational performance.

Coleman (1988) introduced the concept of social capital as a potential determinant of educational attainment. He writes “social capital, however, comes about through changes in the relations among persons that facilitate action” (Coleman 1988, p.100). Thus, similar to human capital, social capital can be relevant for educational outcomes. Family background may be conceptualized as consisting of three different components, financial capital, human capital, and social capital: financial capital refers to resources that can aid learning or smooth any kind of material conflicts; human capital can be regarded as parental education that

² Van Ours and Veenman (2003) find the opposite result for the Netherlands.

provides a certain cognitive environment, and social capital is interpreted as time spent with the child or direct support from parents or other family members.

Borjas (1989, 1992, 1993, and 1994) points to the relevance of yet another concept in the determination of immigrant educational outcomes, namely ethnic capital as an externality in the child investment model. He defines it as “the quality of the ethnic environment in which parents make their investments” (Borjas 1992, p.123). The existence of ethnic capital would support the persistence of ethnic differences: “If the external effect of ethnicity is sufficiently strong, ethnic differences in skills observed in this generation are likely to persist for many generations (and may never disappear)” (Borjas 1992, p.124). This suggests that intergenerational transmission is strongly affected by ethnicity. The empirical evidence, however, is mixed. Borjas (1992, 1995) finds strong impacts of ethnic capital on child educational attainment (see also Bowles and Gintis 2002, Gang and Zimmermann 2000). On the other hand, there are some studies which find no such correlations (see e.g. Nielsen et al. 2003, and Bauer and Riphahn 2005).

In our analysis we first test the empirical relevance of parental education and ethnic capital for the educational outcomes of Swiss natives and immigrants. Then we go one step further and look at the correlates of intergenerational transmission processes in order to investigate factors that affect social mobility. Given considerable differences in the educational performance between ethnic groups, we investigate whether there also are ethnic differences in the within-family transmission of education. We model the level of child i 's education ($y_{i,t}$) as a function of the educational level of the parents ($y_{i,t-1}$) and other factors (Z_i),

$$y_{i,t} = a_n + b_n y_{i,t-1} + c_n Z_i, \quad (1)$$

where b_n describes the correlation of parental education with child educational outcomes. Educational mobility is measured as the derivative of y_t with respect to y_{t-1} . The larger this correlation, the smaller is educational mobility, and the stronger is the impact of parental

background on child outcomes. The subscript n indicates that the coefficients may be ethnicity-specific. Two possible mechanisms that might cause heterogeneity in mobility across ethnicities are the selection mechanisms that cause migrants from different countries to come to Switzerland and differential measurement error in the education measures. If for example individuals from some countries seek entry to Switzerland in order to further their children's educational opportunities, educational transmission should be less important for them than for families coming to Switzerland as temporary labor migrants. Since we cannot separate such unobservable mechanisms from the observed transmission patterns, the estimated coefficients need to be interpreted with care as they capture the joint effect. In addition, measurement error in the explanatory variables may vary depending on how similar the national education systems are to the Swiss one. Thus the coefficients of some ethnic groups may suffer from attenuation bias more than others.

In the final step of our analysis we describe the correlates of educational upward mobility. We focus on the children of low educated parents and measure the ethnicity-specific impact of various characteristics on the probability of high educational outcomes. Again, every ethnic group may be differently affected by the characteristics. The results yield whether the determinants of educational outcomes also affect educational mobility.

IV Data and Empirical Approach

A. Data

The Swiss Census 2000 contains information on the socioeconomic characteristics such as family structure, occupation, education, and ethnic origin of the entire population. To learn about education transmission we need information on the educational status of both parents and children. Since children are not asked about their parents and parents do not provide detailed information on their children, we can only match the necessary information by using the household structure. Within each household, a household head is identified and

the relation of every household member to the household head is described. Because young people tend to leave the parental household at some point, we need to measure child and parent educational attainment sufficiently early. In our sample we utilize all 17 year olds. At that age most youths still live with their parents and the important educational decisions after the end of compulsory schooling have been taken. Certainly more youth have reached higher educational outcomes at later ages. However, among those aged 20 only 49 percent still live with their parents, which is a requirement to identify intergenerational transmission.

In order to correctly match parents to their children, we drop households with more than one household head of the same sex and require that the parent must be at least 14 years older than the child. Parents have to provide the birth year of their child in the questionnaire. We only consider those children in our data whose birth year matches their parent's statement. Finally, only those observations were considered for whom both child and (some) parental education information was given. For the immigrant sample we required that the country of origin could be determined. With these restrictions we retain 47,391 observations of native 17 years old and 22,362 observations of first and second generation immigrant youths.³

Following the literature, individuals are considered as first generation immigrants if they are foreign born with at least one parent born abroad. Swiss born individuals with at least one parent born abroad are considered as second generation immigrants. Swiss born individuals with Swiss born parents are considered to be natives. In general, the ethnicity of a child is determined by its place of birth. For second generation immigrants, we use the father's country of birth. If the child grows up without a father, the mother's country of birth is used instead.⁴

³ In the year 2000, the Swiss Census counts 87,135 17-year olds. 74,600 observations could be categorised into 48,130 natives, 10,298 first, and 14,686 second generation immigrants. Further, 2622 youths are dropped due to missing information about current schooling level or ethnic origin. The final sample contains 47,391 natives, 8,516 first, and 13,846 second generation immigrants.

⁴ The following nations are distinguished: Italy, Germany, France, Spain, Turkey, and Portugal. Croatia, Bosnia and Herzegovina, Republic of Yugoslavia and Serbia, Macedonia and Albania are summarized as "Balkan states". Eastern Europe forms a separate category. All other Western, Northern, and Southern European

Given the heterogeneity of educational pathways in Switzerland, educational attainment cannot usefully be approximated by the number of years spent in education. Thus, we defined three categories of educational attainment. The category “low educational attainment” is assigned to those persons who did not complete mandatory school or who did not continue their education after the compulsory level. Individuals moving on to advanced school in order to get a university entry qualification or those who already entered university are considered to be in the high education group. Finally, the middle category contains persons who continue with any other school or vocational training.⁵

Summary statistics are presented in Table 1 for all immigrants and separately by ethnicity. Immigrants with the highest average education originate in France, Germany, and other Northern and Western European Countries. A particularly high share of advanced education is also found for individuals from Eastern Europe and Africa. The lowest educational outcomes are obtained by Turks and children from the Balkan states, where also Portuguese children have a low probability of advanced schooling. Overall, second generation immigrants appear to be better educated than natives.

Parental education is similarly classified in three outcome groups. These educational patterns vary strongly across country of origin groups. Whereas only 10 percent of native Swiss fathers and 5 percent of Swiss mothers have a higher education these shares are substantially higher among immigrants as a group and particularly among immigrants from Eastern Europe, Africa, Northern Europe, and Asia. Parental educational background is particularly low in countries such as Portugal and Turkey where not only very few are highly educated but also few parents belong to the middle educational groups. About two-thirds of Turkish and Portuguese fathers only have a low education.

countries are summed up in a “Rest of Europe” group, to which the small number of individuals from Canada and the United States were added. Nations in Africa, South America, and Asia were combined in these continent groups.

⁵ In principle, one might have considered additional categories. However, those at the margins had very few observations and the different educational choices which we combine in our middle category do not have a natural ordering.

Table 1 also describes our other control variables. We consider sex and language ability of the child, parental age, and the number of siblings. We control for several characteristics of the household's region of residence in Switzerland: the regional language,⁶ the community youth unemployment rate, as well as seven categories of "degree of urbanity" in the municipality.⁷ A comparison of the distribution of immigrants across language regions yields strong sorting effects. While about 78 percent of the native population lives in the German- and almost 20 percent in the French-speaking regions, we find German and French immigrants concentrated in their native-language regions. Similarly, immigrants from Spain, Portugal, South America, and Africa appear to concentrate in the French-speaking regions of western Switzerland, whereas the Turks and those from the Balkans are in the German speaking regions. This is a meaningful separation as economic circumstances differ across language-regions. See for example the community specific youth unemployment rate, which is higher for those ethnic groups who reside predominantly in west Switzerland.

Immigrant specific variables describe for example whether parents hold a Swiss passport. While empirical studies on immigration typically use the "years since migration" variable in order to capture assimilation patterns, this measure is not available in our dataset. As a replacement we control for parental citizenship status, which should be correlated with the years since migration to Switzerland. This rationale is supported by the particularly low rates of citizenship among parents of youth from Turkey, Portugal, and the Balkans. This can be indicative for recent arrival of these immigrants or for high shares of return migration in these immigrant groups. Finally, our indicator for ethnic capital describes the share of individuals from a given home country (or region of origin) who are well educated and live in

⁶ The language regions are categorised at the cantonal level. As a robustness check, we also defined language regions at a community level and obtained very similar results.

⁷ The degree of urbanity is classified based on a typology by Schuler (2001). We aggregated the 22 subgroups into 7 categories.

the same community as the considered individual. Again, the lowest rates are observed for individuals from Southern European countries (Portugal, Turkey, Spain, Balkans).

B. Empirical Approach

Since our dependent variable, child educational attainment, is ordinal, we use an ordered probit estimation. We use a simple linear model for the latent educational attainment. The model is estimated for natives, jointly for all immigrants, and separately by nationality. In order to be able to interpret the magnitude of the estimated effects, we evaluate the marginal effects of the explanatory variables focusing on the probability of attaining the highest level of education. We then calculate the probability of high educational attainment conditional on parental education separately for all groups. In order to analyse the correlates of intergenerational upward mobility, we then consider only the children of low educated parents and directly estimate their probability of attaining higher educational degrees.⁸ The standard errors of predicted probabilities are calculated using the delta method.⁹

V Results

A. Educational Outcome

Before concentrating on the patterns of intergenerational educational mobility we evaluate the determinants of levels of education. We estimated ordered probit models on whether a 17 year old attained a low, middle, or high education. The marginal effects on the probability of attaining high educational outcomes are presented in Table 2 first for natives and jointly for all immigrants, then separately for immigrants by ethnic background.

⁸ The estimations are based on children of low educated fathers. If the child does not live with a father also children of mothers with low education are considered. The results are similar if the sampling is based on the educational degree of the mother.

⁹ As a robustness check, the same models were also estimated using a multinomial logit estimator. However, the results did not differ substantially.

We very carefully specified the indicator variables describing parental human capital in order to capture the patterns as they exist in the data. We distinguish between high, middle, and low educated parents (with middle being the reference group), allow for parental non-response, and consider a control variable for single-parent households. It is important to note that our results do not necessarily provide evidence on causal effects. Rather we interpret the patterns in the data as correlations which may be determined by other, in part unobservable, mechanisms driving migration decisions and data quality.

For all population groups we find strong and significant correlations between parental education and the probability that children attain a high education. The marginal effects are even larger for natives than for immigrants, suggesting that parental education is even more important for the educational success of the former. Comparing the results for first and second generation immigrants the relevance of parental background is higher among second than among first generation immigrants. This may suggest that over successive generations immigrants assimilate to the low levels of educational mobility predominant in Switzerland. Alternatively, the two subsamples differ in their composition beyond the characteristics the model controlled for. For the joint sample of all immigrants, having a father with high education increases the probability that his child attains high education by 14.1 percentage points (compared to a child with a middle educated father). The pattern for highly educated mothers is similar. For natives as well as immigrants having a low educated mother affects a child's educational outcome more negatively than if father's education is low.

The marginal effects of parental education differ across country of origin groups. Among Portuguese children the marginal effect of having a highly educated father on the probability that the child attains high education amounts to 0.32 (the reference category is middle-educated fathers) whereas the marginal effect for children from the Balkans is zero. The effect of high maternal education is largest for Italians and again weakest for individuals from the Balkans and Turkey.

Across population groups, females have typically significantly higher educational attainment than males. Exceptions are the Balkans, Turkey, South America, and Eastern Europe where the impact of a child's sex is small and insignificant. Parental age does not appear to be a strong predictor of educational outcomes. However, with only a few exceptions, the children of older parents typically do marginally better.

The results do not yield clear patterns regarding the effect of the number of siblings. Whereas having one additional sibling significantly increases the probability of high educational attainment for Swiss children by one percentage point, the overall effect for immigrants yields the expected negative sign. The latter result agrees with Becker's quantity vs. quality of children paradigm (e.g. Becker and Lewis 1973).

Interestingly and contrary to the previous literature, youth unemployment is for almost all groups negatively correlated with educational attainment. However, the estimate is not robust to the type of regional controls considered in the model. It switches sign when additional regional controls are added to our three indicators of language regions.

Next, a number of immigrant-specific variables are controlled for and yield quite substantial correlation patterns. Speaking a main language that differs from the main language in the community of residence is associated with a reduced probability of high education (almost minus 9 percentage points for the pooled sample of all immigrants). Interestingly, the opposite language effect obtains for native Swiss (or for individuals from Italy and France) who do better if they grow up in a community that does not share their main language.

Also the other assimilation indicators yield the expected results: those immigrant youths who hold a Swiss passport benefit from substantially better educational outcomes. The probability of an advanced degree is by about 6 to 8 percentage point higher for passport holders with even larger marginal effects for some countries of origin.

The assimilation of parents does not yield the same advantage as that of the immigrant youths themselves. Having parents who hold a Swiss passport, does not yield significant

improvements in the probability of high educational outcomes, in fact some marginal effects are significantly negative.

Finally, in accordance with Borjas' ethnic capital hypothesis, the share of highly educated co-ethnics is significant and positively correlated with the educational success of immigrants. However, the effect is not robust and changes sign when instead of the share of highly educated coethnics in the community their absolute number at a regionally more aggregated level is considered (see e.g. Bauer and Riphahn 2005).

The last rows of Table 2 corroborate the heterogeneity of immigrant education not only with respect to the determinants of high educational outcomes, but also with respect to the average levels. While some regions of origin have better outcomes than the natives (e.g. children with German, French, African, and Eastern European origins), others have extremely low overall probabilities of reaching advanced schooling (e.g. the Balkans, Turkey, and Portugal). Based on McKelvey and Zavoina's R^2 the various models' fit to the data is similar with values around 0.20 (McKelvey and Zavoina 1975, Windmeijer 1995).

B. Patterns of Educational Mobility

We now turn to the patterns of intergenerational education mobility. Table 3 presents the predicted probability of high educational attainment as a function of parental education. The predictions in Panel 3(A) were obtained after regressing educational attainment exclusively on parental education. For the predictions both parents were assumed to be either both in the high, medium, or low education category. The predictions in Panel 3(B) generated the same predicted probabilities as Panel 3(A) only now based on fully specified models with covariates as presented in Table 2. The models were estimated separately for each country or region of origin.

The results confirm the substantial heterogeneity in educational outcomes and the relevance of parental background across ethnicities. The first column shows the results for

natives: the probability of reaching high educational outcomes given that a child has poorly educated parents amounts to only 9 percent. The same probability among all immigrants is much higher at 13 percent. A comparison of the figures in rows 4 and 7 suggests that contrary to the above results the educational upward mobility of second generation immigrants is substantially larger than that of first generation immigrants with 16.7 versus 9.8 percent.

The differences in social mobility across immigrant groups are substantial. The lowest probability of educational upward mobility is found for the children of low educated immigrants from the Balkans and Turkey, at below 10 percent. Among first generation immigrants their probability of reaching an advanced school is about one quarter that of children with similarly educated parents from Germany, France, or Northern Europe.

Rows (10) to (12) present the ratio of the probability of reaching high education given high vs. low educated parents in order to provide a summary measure of social mobility. The smaller the ratio, the less parental education matters for their children's education. As already suggested by the regression results, the effect of parental education on children's attainment is larger among natives than among immigrants. Overall, educational mobility appears to be higher for second than for first generation immigrants. Children of Turkish origin are an exception to that rule, which suggests that for Turks the opportunity to exceed parental education declines over successive immigrant generations. Parental education appears to be most important among children of Turkish, Portuguese, and Italian origin and least important for children from Spain, Northern Europe, and Asia.

Rows 13 to 24 in Table 3(B) show similar indicators, only now controlling for the covariates introduced earlier. A comparison with our prior results (compare rows 10-12 to rows 22-24) reveals that the estimated correlation between parental education and child outcomes is now attenuated. The key patterns of very low upward mobility among children from the Balkans or Turkey persist, as does the heterogeneity across country-specific results. Apparently none of the immigrant groups reach educational mobility levels as low as the

native Swiss population. Among those ethnic groups with poor education records (from Turkey, Portugal, the Balkans) Turkey and the Balkans additionally have low probabilities of upward mobility. The magnitude of the parental effect appears to be largest for youths from Turkey. While the influence of parental education diminishes between the first and second generation for youths from Portugal and the Balkans it goes up for Turks.

Rows 25-27 of Table 3(B) compare the relevance of parental education as calculated in the bottom rows of Table 3(A) to that calculated for the models with covariates as presented in Table 3(B). The rate of 0.69 in row 25 for all immigrants indicates that the predicted effect of parental human capital on child educational attainment is reduced by about 30 percent after controlling for covariates. This reduction in the predicted effect of parental human capital on child educational attainment is largest for immigrants from South America and the Balkans. The effect of parental human capital on child educational outcomes appears to be uncorrelated with other control variables for youth from native Switzerland, and Northern and Western Europe as for these countries the ratios in lines 25-27 are about 1.00. Thus, educational immobility is not a consequence of indicators which might easily be influenced by politics but is a robust social feature.

C. Determinants of Educational Mobility

As the final step of our analysis, we examine the correlation patterns behind educational upward mobility, restricting our sample to youths with low educated parents alone. Since for some ethnic groups (e.g. German and French nationals) the resulting samples are small, some groups have to be reclassified. We combine Germany and France with the rest of Western and Northern European countries and merge Africa, Asia, and South America to a “rest of world” group.

Table 4 presents the marginal effects of the explanatory variables for the probability of high educational attainment for youths with poorly educated parents. The impact of being

female is mostly significant with particularly large effects for Italy, Northern Europe, and Spain, where the probability of upward educational mobility is at least 4 percentage points larger for females than for males.

Given that a child's parents received only low education it seems beneficial for child advancement if the parents are older. This result, however, might derive from unobserved differences across immigrant birth cohorts (e.g. regarding data quality or from heterogeneous selection mechanisms to the pool of migrants). For immigrants overall, living with numerous siblings has a small detrimental effect on educational advancement.

Interestingly, there seem to be substantial and significant differences in the probability of educational upward mobility for both natives and immigrants across the Swiss regions of residence.¹⁰ The evidence suggests quite clearly that those in the German-language regions have significantly worse opportunities for educational advancement compared to those living in the French- and particularly in the Italian-speaking regions. It is possible that these differences in opportunities relate to institutional differences of the Swiss educational system across language regions: in Bauer and Riphahn (2006) we show that the late age of tracking, which predominates in the Italian-speaking region, furthers equality of opportunity. The low mobility in the German-speaking regions of Switzerland may be influenced by the high prevalence of apprenticeships in these cantons. Possibly the alternatives to apprenticeships which are available to youths in the French-speaking regions more easily lead to higher educational outcomes. Differences in youth unemployment do not seem to be strongly correlated with educational mobility.

Again and similar to their impact on levels of educational attainment, assimilation indicators such as speaking the regional language and holding a Swiss passport are positively correlated with educational upward mobility as long as they characterize the youth himself. These correlation patterns do not obtain for immigrants' parents. Finally, the ethnic capital

¹⁰ Given that parents might choose their region of residence in view of potential educational consequences our estimations do not permit conclusions on causal effects.

indicators are again positively correlated with youth educational attainment, with some extremely large effects: if the share of highly educated Spaniards increases by ten percentage points, the probability of upward educational mobility of Spanish youths in that region increases by nine percentage points.

VI. Conclusion

In this study, we investigate the educational attainment and intergenerational educational mobility of Swiss native and immigrant youth. This is an interesting and timely topic because Switzerland is at once one of the most immobile societies in Europe (cf. OECD 2002) and an important host country for immigrants (Haug 2002b). An analysis of the educational mobility of immigrants reveals whether they are trapped over generations in a given social stratum or whether they can hope for economic and social advancement. Our analysis investigates the educational performance of immigrants in great detail by country of origin since other extant evidence suggests that there are substantial differences between national groups. This level of detail is new to a literature, which if at all, so far looked at immigrants as one homogeneous group.

Our analysis of data from the complete 2000 Swiss population census yields the following results: there are indeed significant differences in the correlates of educational outcomes across population groups by country of origin. Intergenerational mobility is higher among immigrants (and particularly second generation immigrants) than among natives, which suggests that immigrant youths are not trapped by the Swiss education system. Among natives the probability of high educational attainment is about 8 times higher if a youth is born to highly educated parents compared to parents with just mandatory education. On average this factor amounts to only 3.5 for immigrants as a group. It varies between 7.5 for second generation Turks and 2.2 for second generation immigrants from Asia, who represent the educationally most mobile group. For immigrant youths, assimilation into Swiss society -

as measured by the language they speak or by their holding a Swiss passport – is highly and positively correlated with educational attainment. In addition, being female and benefiting from ethnic capital externalities appears to matter for the educational attainment of immigrants.

Our analyses yield that the most important correlate of educational mobility is the region of residence in Switzerland. This holds for all immigrant groups as well as for natives. Just living in the Italian-speaking region is correlated with a 14 percentage point difference in the probability of exceeding low parental education compared to living in the German-speaking region. Such regional differences are confirmed for all population groups and suggest an in-depth analysis of the differences between the educational institutions in southern Switzerland to those in other parts of the country. Prior analyses suggest that early educational tracking and the high share of apprenticeship trainings are detrimental to educational mobility of natives and immigrants in the German-speaking regions of Switzerland.

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Table 1 Descriptive Statistics on Explanatory Variables by Subsample

Variable	Natives		All Immigrants		FGI	SIGI	Balkan	Italy	Europe	Germany	Asia	France	Portugal	Turkey	Spain	Africa	S. America	E. Europe
	Mean	Std.Dev.	Mean	Std.Dev.	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
Child education: low	0.083	0.276	0.209	0.407	0.326	0.138	0.339	0.123	0.137	0.125	0.236	0.124	0.275	0.341	0.161	0.200	0.247	0.123
Child education: middle	0.682	0.466	0.531	0.499	0.493	0.555	0.572	0.636	0.478	0.490	0.407	0.458	0.575	0.551	0.568	0.387	0.452	0.438
Child education: high	0.235	0.424	0.260	0.438	0.181	0.308	0.088	0.241	0.384	0.384	0.356	0.418	0.150	0.108	0.271	0.413	0.301	0.439
Father education: low (0/1)	0.082	0.275	0.333	0.471	0.440	0.267	0.491	0.472	0.048	0.040	0.214	0.083	0.646	0.663	0.472	0.136	0.097	0.093
Father education: middle (0/1) (ref.)	0.619	0.486	0.347	0.476	0.223	0.422	0.285	0.365	0.488	0.520	0.322	0.481	0.146	0.130	0.318	0.345	0.348	0.320
Father education: high (0/1)	0.094	0.292	0.154	0.361	0.150	0.156	0.098	0.063	0.284	0.246	0.250	0.217	0.026	0.070	0.061	0.287	0.203	0.337
Father education: no response (0/1)	0.003	0.059	0.014	0.119	0.021	0.010	0.028	0.013	0.004	0.004	0.013	0.012	0.021	0.023	0.014	0.007	0.002	0.002
Father missing (0/1)	0.201	0.401	0.152	0.359	0.165	0.144	0.097	0.087	0.176	0.191	0.202	0.207	0.161	0.113	0.134	0.225	0.350	0.248
Mother education: low (0/1)	0.191	0.393	0.451	0.498	0.598	0.361	0.683	0.514	0.151	0.102	0.373	0.181	0.800	0.778	0.577	0.271	0.327	0.140
Mother education: middle (0/1) (ref.)	0.706	0.455	0.348	0.476	0.186	0.448	0.157	0.383	0.558	0.665	0.324	0.515	0.099	0.084	0.300	0.455	0.406	0.392
Mother education: high (0/1)	0.050	0.218	0.140	0.347	0.133	0.145	0.078	0.050	0.245	0.199	0.241	0.250	0.034	0.031	0.070	0.212	0.228	0.428
Mother education: no response (0/1)	0.006	0.080	0.020	0.141	0.032	0.013	0.040	0.015	0.010	0.007	0.024	0.013	0.023	0.041	0.013	0.010	0.009	0.007
Mother missing (0/1)	0.046	0.209	0.040	0.197	0.051	0.034	0.043	0.038	0.036	0.027	0.038	0.042	0.044	0.066	0.040	0.052	0.030	0.033
Child female (0/1)	0.484	0.500	0.481	0.500	0.482	0.480	0.482	0.480	0.484	0.475	0.483	0.494	0.489	0.455	0.456	0.493	0.509	0.474
Father's age (missing adjusted) ^a	48.058	4.872	47.452	5.844	45.277	48.756	45.187	48.355	49.275	49.940	48.961	49.091	43.472	44.869	47.309	48.745	48.472	49.607
Mother's age (missing adjusted) ^a	45.050	4.420	44.243	5.303	42.218	45.466	42.097	44.648	46.384	46.544	45.169	46.284	40.886	41.842	44.394	44.851	44.318	46.020
Number of siblings	1.366	0.973	1.318	1.038	1.528	1.189	1.717	1.106	1.308	1.177	1.382	1.111	1.025	1.657	0.982	1.495	1.223	0.979
Language region: German (0/1) (ref.)	0.776	0.417	0.646	0.478	0.661	0.637	0.818	0.584	0.717	0.878	0.688	0.214	0.304	0.858	0.482	0.369	0.580	0.731
Language region: French (0/1)	0.198	0.399	0.295	0.456	0.289	0.298	0.139	0.230	0.265	0.105	0.279	0.774	0.668	0.108	0.489	0.619	0.367	0.236
Language region: Italian (0/1)	0.026	0.160	0.059	0.236	0.050	0.065	0.043	0.186	0.017	0.018	0.033	0.013	0.028	0.035	0.029	0.012	0.052	0.033
Municipality: center (0/1) (ref.)	0.202	0.401	0.339	0.473	0.368	0.320	0.342	0.339	0.244	0.226	0.352	0.313	0.452	0.418	0.450	0.360	0.357	0.363
Municipality: high income (0/1)	0.035	0.184	0.051	0.220	0.040	0.057	0.016	0.032	0.096	0.078	0.079	0.102	0.028	0.019	0.032	0.096	0.065	0.074
Municipality: tertiary functions (0/1)	0.044	0.205	0.028	0.165	0.026	0.029	0.029	0.032	0.046	0.030	0.016	0.041	0.037	0.008	0.014	0.011	0.014	0.024
Municipality: metropolitan region (0/1)	0.245	0.430	0.288	0.453	0.264	0.303	0.243	0.281	0.327	0.314	0.316	0.286	0.245	0.273	0.307	0.328	0.353	0.315
Municipality: non-metrop. agglomeration (0/1)	0.163	0.370	0.145	0.352	0.146	0.144	0.176	0.192	0.124	0.147	0.134	0.086	0.096	0.146	0.092	0.097	0.115	0.136
Municipality: non-metrop. commuters (0/1)	0.094	0.291	0.042	0.201	0.039	0.044	0.043	0.034	0.051	0.070	0.035	0.065	0.037	0.034	0.022	0.044	0.028	0.028
Municipality: small commuter residence (0/1)	0.217	0.412	0.107	0.310	0.116	0.102	0.151	0.091	0.112	0.135	0.068	0.108	0.106	0.103	0.083	0.063	0.067	0.060
Youth unemployment rate	2.091	0.709	2.429	0.836	2.395	2.450	2.114	2.534	2.306	2.066	2.416	3.088	2.897	2.137	2.730	2.923	2.588	2.358
Main language differs from municipal language (0/1)	0.011	0.104	0.170	0.375	0.330	0.071	0.312	0.147	0.118	0.023	0.183	0.030	0.225	0.208	0.128	0.106	0.203	0.101
Child Swiss passport (0/1)	0.995	0.068	0.491	0.500	0.162	0.694	0.144	0.505	0.801	0.777	0.653	0.799	0.122	0.249	0.382	0.714	0.702	0.733
Father's assimilation: Swiss passport ^b	0.793	0.405	0.313	0.464	0.099	0.445	0.098	0.257	0.528	0.499	0.491	0.522	0.063	0.156	0.197	0.538	0.500	0.490
Father's assimilation: no Swiss passport ^b	0.006	0.075	0.535	0.499	0.736	0.411	0.805	0.655	0.296	0.310	0.307	0.270	0.776	0.730	0.669	0.237	0.150	0.261
Mother's assimilation: Swiss passport ^b	0.950	0.219	0.449	0.497	0.148	0.633	0.119	0.424	0.766	0.757	0.625	0.769	0.102	0.167	0.328	0.688	0.699	0.647
Mother's assimilation: no Swiss passport ^b	0.005	0.068	0.511	0.500	0.801	0.333	0.838	0.538	0.198	0.216	0.337	0.189	0.853	0.767	0.633	0.261	0.271	0.321
Share of highly educated coethnics	-	-	0.155	0.138	0.135	0.168	0.090	0.068	0.280	0.219	0.236	0.249	0.035	0.073	0.081	0.244	0.244	0.405
No. Obs	47391		22362		8516	13846	4782	4188	2287	1921	1417	1357	1308	1243	1162	1008	860	829

Notes: a: missing adjusted statistics describe the values only for that part of the sample without missing values. b: Parental assimilation indicators do not add to 100 percent due to missing values for some observations.

Table 2 Marginal effect on the probability of high education - ordered probit estimation

	Natives	All immigrants	FGI	SGI	Balkan	Italy	Europe	Germany	Asia	France	Portugal	Turkey	Spain	Africa	S. America	E. Europe
Father education: low (0/1)	-0.075 ** (0.005)	-0.031 ** (0.007)	-0.025 ** (0.008)	-0.038 ** (0.01)	-0.027 ** (0.006)	-0.050 ** (0.013)	-0.073 + (0.041)	-0.044 (0.052)	0.025 (0.036)	-0.110 ** (0.042)	-0.003 (0.022)	0.000 (0.016)	-0.039 (0.03)	-0.039 (0.048)	-0.059 (0.047)	-0.096 (0.062)
Father education: high (0/1)	0.240 ** (0.008)	0.141 ** (0.009)	0.081 ** (0.013)	0.184 ** (0.013)	0.000 (0.008)	0.155 ** (0.033)	0.180 ** (0.026)	0.215 ** (0.029)	0.217 ** (0.035)	0.179 ** (0.036)	0.321 ** (0.097)	0.182 ** (0.051)	0.128 * (0.061)	0.233 ** (0.04)	0.124 ** (0.045)	0.166 ** (0.044)
Mother education: low (0/1)	-0.098 ** (0.004)	-0.093 ** (0.006)	-0.085 ** (0.01)	-0.092 ** (0.008)	-0.045 ** (0.008)	-0.091 ** (0.014)	-0.096 ** (0.025)	-0.113 ** (0.032)	-0.064 * (0.03)	-0.136 ** (0.032)	-0.035 (0.028)	-0.088 ** (0.029)	-0.071 * (0.03)	-0.116 ** (0.036)	-0.084 ** (0.031)	-0.117 * (0.051)
Mother education: high (0/1)	0.184 ** (0.011)	0.124 ** (0.01)	0.102 ** (0.014)	0.140 ** (0.013)	0.033 * (0.013)	0.224 ** (0.039)	0.132 ** (0.026)	0.196 ** (0.03)	0.140 ** (0.034)	0.199 ** (0.034)	0.144 * (0.071)	0.050 (0.05)	0.170 ** (0.06)	0.109 * (0.043)	0.117 ** (0.04)	0.146 ** (0.038)
Father missing (0/1)	0.002 (0.034)	0.015 (0.028)	-0.010 (0.034)	-0.038 (0.039)	0.014 (0.033)	0.026 (0.072)	-0.024 (0.11)	-0.246 ** (0.09)	0.024 (0.123)	-0.109 (0.137)	-0.069 (0.069)	0.072 (0.086)	-0.036 (0.126)	0.133 (0.162)	0.050 (0.148)	0.109 (0.192)
Mother missing (0/1)	0.158 * (0.074)	0.012 (0.03)	-0.097 ** (0.019)	0.135 ** (0.051)	-0.056 ** (0.009)	-0.030 (0.067)	0.072 (0.132)	0.134 (0.141)	-0.117 (0.116)	0.375 ** (0.125)	0.045 (0.113)	-0.081 ** (0.016)	-0.010 (0.137)	0.297 + (0.155)	0.490 ** (0.158)	0.144 (0.209)
Father education: no response (0/1)	-0.061 ** (0.023)	-0.078 ** (0.016)	-0.045 ** (0.017)	-0.106 ** (0.027)	-0.038 ** (0.007)	-0.124 ** (0.028)	0.165 (0.154)	0.316 + (0.17)	0.063 (0.108)	-0.083 (0.107)	0.009 (0.052)	-0.045 * (0.02)	-0.097 (0.072)	-0.246 * (0.113)	0.044 (0.277)	0.127 (0.353)
Mother education: no response (0/1)	-0.118 ** (0.012)	-0.133 ** (0.01)	-0.097 ** (0.009)	-0.138 ** (0.021)	-0.046 ** (0.006)	-0.084 * (0.034)	-0.195 ** (0.066)	-0.200 * (0.084)	-0.153 ** (0.058)	-0.120 (0.1)	-0.105 ** (0.016)	-0.071 ** (0.011)	-0.092 (0.076)	-0.170 (0.114)	-0.078 (0.113)	0.065 (0.197)
Child female (0/1)	0.043 ** (0.003)	0.037 ** (0.005)	0.011 + (0.006)	0.060 ** (0.007)	0.001 (0.004)	0.047 ** (0.011)	0.081 ** (0.018)	0.074 ** (0.021)	0.086 ** (0.023)	0.065 ** (0.025)	0.025 + (0.013)	0.005 (0.01)	0.063 ** (0.022)	0.056 + (0.029)	0.023 (0.026)	0.053 (0.033)
Father's age	0.001 * (0)	0.002 ** (0.001)	0.001 + (0.001)	0.001 (0.001)	0.001 (0.001)	0.002 (0.001)	0.001 (0.002)	-0.004 * (0.002)	0.002 (0.002)	0.000 (0.003)	-0.001 (0.002)	0.002 * (0.001)	0.001 (0.003)	0.003 (0.003)	0.002 (0.003)	0.004 (0.004)
Mother's age	0.006 ** (0)	0.004 ** (0.001)	0.000 (0.001)	0.006 ** (0.001)	-0.001 (0.001)	0.003 * (0.001)	0.004 + (0.002)	0.007 ** (0.002)	0.001 (0.003)	0.010 ** (0.003)	0.004 + (0.002)	0.000 (0.001)	0.005 + (0.003)	0.007 * (0.003)	0.010 ** (0.003)	0.004 (0.004)
Number of siblings	0.010 ** (0.002)	-0.017 ** (0.002)	-0.018 ** (0.003)	-0.002 (0.004)	-0.013 ** (0.002)	0.008 (0.007)	-0.009 (0.009)	-0.013 (0.011)	-0.004 (0.011)	0.029 * (0.015)	-0.005 (0.009)	0.001 (0.005)	0.002 (0.014)	0.000 (0.014)	-0.009 (0.015)	0.023 (0.02)
Youth unemployment rate	-0.020 ** (0.004)	-0.015 * (0.006)	-0.012 (0.007)	-0.016 + (0.009)	-0.008 (0.006)	-0.012 (0.016)	-0.037 (0.024)	-0.015 (0.025)	-0.052 (0.033)	-0.012 (0.031)	0.020 (0.016)	-0.018 (0.013)	0.027 (0.029)	-0.080 * (0.04)	0.022 (0.036)	-0.111 * (0.046)
Main language differs from municipal language (0/1)	0.030 + (0.017)	-0.087 ** (0.006)	-0.070 ** (0.006)	-0.023 + (0.013)	-0.042 ** (0.004)	0.029 (0.018)	-0.165 ** (0.029)	-0.037 (0.073)	-0.099 ** (0.03)	0.091 (0.083)	-0.085 ** (0.013)	-0.035 ** (0.011)	-0.063 * (0.031)	-0.155 ** (0.044)	-0.141 ** (0.03)	-0.015 (0.06)
Child Swiss passport (0/1)	0.116 ** (0.033)	0.084 ** (0.011)	0.065 ** (0.016)	0.056 ** (0.015)	0.041 * (0.016)	0.082 ** (0.021)	0.016 (0.049)	0.120 * (0.056)	0.036 (0.045)	-0.033 (0.066)	0.105 + (0.054)	0.052 * (0.023)	0.144 ** (0.054)	0.055 (0.058)	0.031 (0.055)	0.087 (0.065)
Father's assimilation: Swiss passport (0/1)	0.017 (0.026)	0.003 (0.008)	-0.021 (0.014)	0.009 (0.01)	0.012 (0.016)	0.001 (0.017)	-0.003 (0.026)	-0.021 (0.028)	0.048 (0.043)	0.018 (0.036)	0.028 (0.051)	-0.025 (0.02)	-0.013 (0.04)	0.088 + (0.05)	0.008 (0.051)	-0.024 (0.059)
Mother's assimilation: Swiss passport (0/1)	-0.015 (0.056)	-0.026 * (0.011)	0.015 (0.015)	-0.041 * (0.017)	0.008 (0.016)	-0.065 ** (0.022)	0.000 (0.051)	-0.088 (0.063)	0.055 (0.047)	0.026 (0.067)	-0.047 (0.037)	0.033 (0.032)	-0.142 ** (0.05)	0.015 (0.059)	0.065 (0.052)	-0.072 (0.072)
Share of highly educated coethnics (0/1)	- (0.056)	0.087 ** (0.011)	0.120 ** (0.015)	0.097 ** (0.017)	0.075 + (0.016)	0.180 (0.022)	-0.027 (0.051)	0.092 (0.063)	0.141 (0.047)	0.174 (0.067)	0.235 (0.037)	0.029 (0.032)	0.616 ** (0.05)	0.031 (0.059)	-0.098 (0.052)	0.260 + (0.072)
	- (0.056)	0.087 ** (0.011)	0.120 ** (0.015)	0.097 ** (0.017)	0.075 + (0.016)	0.180 (0.022)	-0.027 (0.051)	0.092 (0.063)	0.141 (0.047)	0.174 (0.067)	0.235 (0.037)	0.029 (0.032)	0.616 ** (0.05)	0.031 (0.059)	-0.098 (0.052)	0.260 + (0.072)
Language region: 3 fixed effects	yes	yes **	yes **	yes **	yes **	yes **	yes **	yes **	yes **	yes *	yes *	yes **	yes	yes **	yes	yes **
Urbanity: 7 fixed effects	yes	yes **	yes *	yes **	yes	yes	yes	yes **	yes	yes	yes	yes *	yes +	yes	yes	yes
Pr(High education)	0.218	0.229	0.147	0.291	0.064	0.217	0.380	0.380	0.341	0.415	0.124	0.080	0.253	0.403	0.265	0.439
Pseudo R2	0.080	0.120	0.114	0.098	0.092	0.106	0.075	0.099	0.115	0.101	0.210	0.101	0.080	0.123	0.139	0.095
McKelvey and Zavoina's R2:	0.168	0.267	0.257	0.220	0.199	0.227	0.178	0.236	0.274	0.231	0.210	0.224	0.186	0.289	0.312	0.218
No. Obs	47391	22362	8516	13846	4782	4188	2287	1921	1417	1357	1308	1243	1162	1008	860	829

Notes: **, *, and + represent statistical significance of the marginal effect at the 1, 5, and 10 percent level, respectively. Standard errors in parentheses.

Table 3 A Mean Prediction of Probabilities: Without Covariates

All observations by country of origin

	Natives	All immigrants	Balkan	Italy	Europe	Germany	Asia	France	Portugal	Turkey	Spain	Africa	S. America	E. Europe
(1) Pr (high parents low)	9.0%	12.6%	4.9%	14.6%	19.1%	17.4%	22.1%	15.3%	12.9%	7.9%	20.7%	19.9%	12.7%	17.6%
	(0.003)	(0.003)	(0.004)	(0.008)	(0.032)	(0.035)	(0.021)	(0.028)	(0.011)	(0.009)	(0.016)	(0.03)	(0.029)	(0.036)
(2) Pr (high parents middle)	23.9%	32.4%	19.1%	31.0%	34.0%	31.5%	36.3%	37.9%	22.6%	23.8%	34.1%	40.4%	34.1%	35.1%
	(0.003)	(0.006)	(0.013)	(0.012)	(0.015)	(0.015)	(0.025)	(0.021)	(0.035)	(0.041)	(0.027)	(0.027)	(0.028)	(0.03)
(3) Pr (high parents high)	74.8%	64.1%	24.2%	81.6%	64.9%	73.3%	70.0%	78.9%	80.0%	68.2%	69.6%	73.2%	62.0%	69.2%
	(0.009)	(0.01)	(0.021)	(0.028)	(0.022)	(0.024)	(0.028)	(0.026)	(0.071)	(0.076)	(0.063)	(0.032)	(0.04)	(0.03)
	47391	22362	4782	4188	2287	1921	1417	1357	1308	1243	1162	1008	860	829

First Generation Immigrants

(4) Pr (high parents low)	-	9.8%	4.1%	12.6%	25.3%	19.3%	17.9%	20.5%	11.0%	8.6%	16.5%	11.7%	7.3%	17.3%
	-	(0.004)	(0.004)	(0.019)	(0.074)	(0.078)	(0.025)	(0.069)	(0.011)	(0.015)	(0.028)	(0.033)	(0.03)	(0.088)
(5) Pr (high parents middle)	-	26.7%	15.3%	33.2%	44.6%	32.1%	31.3%	51.1%	17.5%	41.3%	47.3%	25.1%	26.2%	40.8%
	-	(0.011)	(0.015)	(0.061)	(0.042)	(0.04)	(0.042)	(0.062)	(0.039)	(0.117)	(0.104)	(0.046)	(0.045)	(0.087)
(6) Pr (high parents high)	-	54.0%	20.7%	93.6%	64.9%	73.8%	54.3%	87.2%	78.3%	64.2%	61.7%	55.4%	52.3%	68.6%
	-	(0.016)	(0.023)	(0.037)	(0.037)	(0.04)	(0.05)	(0.042)	(0.102)	(0.161)	(0.143)	(0.067)	(0.064)	(0.057)
	-	8516	3690	426	504	418	602	273	962	454	251	348	405	183

Second generation Immigrants

(7) Pr (high parents low)	-	16.7%	9.2%	15.1%	17.5%	16.8%	30.0%	14.2%	20.5%	7.4%	22.1%	28.0%	19.7%	17.1%
	-	(0.005)	(0.012)	(0.008)	(0.035)	(0.039)	(0.038)	(0.03)	(0.029)	(0.011)	(0.02)	(0.049)	(0.053)	(0.04)
(8) Pr (high parents middle)	-	31.8%	23.6%	30.6%	30.5%	30.8%	35.3%	35.4%	25.4%	18.1%	32.8%	44.1%	34.9%	33.1%
	-	(0.006)	(0.024)	(0.013)	(0.016)	(0.016)	(0.03)	(0.022)	(0.059)	(0.04)	(0.028)	(0.032)	(0.036)	(0.032)
(9) Pr (high parents high)	-	71.0%	33.7%	78.5%	68.6%	74.0%	78.6%	76.1%	78.9%	71.6%	70.3%	79.4%	68.3%	70.5%
	-	(0.011)	(0.05)	(0.034)	(0.028)	(0.03)	(0.031)	(0.032)	(0.111)	(0.084)	(0.071)	(0.035)	(0.051)	(0.034)
	-	13846	1092	3762	1783	1503	815	1084	346	789	911	660	455	646

Ratios

(10) All Imm: Ratio (3) / (1)	8.35	5.09	4.97	5.58	3.39	4.21	3.17	5.14	6.20	8.67	3.36	3.68	4.87	3.93
(11) 1. Gen: Ratio (6) / (4)	-	5.50	5.06	7.40	2.57	3.83	3.02	4.26	7.14	7.51	3.74	4.73	7.15	3.97
(12) 2. Gen: Ratio (9) / (7)	-	4.24	3.68	5.20	3.91	4.41	2.62	5.38	3.85	9.70	3.17	2.83	3.47	4.11

Notes: Standard errors in parentheses.

Table 3 B Mean Prediction of Probabilities: With Covariates

	Natives	All immigrants	Balkan	Italy	Europe	Germany	Asia	France	Portugal	Turkey	Spain	Africa	S. America	E. Europe
(13) Pr (high parents low)	8.3%	15.4%	5.6%	15.5%	18.8%	22.9%	26.1%	17.7%	14.1%	7.9%	21.1%	21.2%	14.5%	16.6%
	(0.007)	(0.01)	(0.011)	(0.023)	(0.049)	(0.062)	(0.058)	(0.058)	(0.045)	(0.026)	(0.054)	(0.062)	(0.058)	(0.068)
(14) Pr (high parents middle)	22.2%	26.4%	13.9%	28.7%	32.8%	36.2%	29.5%	38.2%	18.2%	17.1%	31.6%	33.4%	25.6%	32.8%
	(0.012)	(0.014)	(0.022)	(0.033)	(0.051)	(0.056)	(0.06)	(0.072)	(0.061)	(0.055)	(0.069)	(0.073)	(0.074)	(0.091)
(15) Pr (high parents high)	66.1%	54.4%	19.2%	68.3%	62.8%	73.2%	63.1%	72.9%	70.7%	52.3%	62.2%	64.0%	48.2%	62.0%
	(0.022)	(0.02)	(0.03)	(0.051)	(0.059)	(0.05)	(0.073)	(0.069)	(0.109)	(0.114)	(0.101)	(0.088)	(0.103)	(0.103)
	47391	22362	4782	4188	2287	1921	1417	1357	1308	1243	1162	1008	860	829
First Generation Immigrants														
(16) Pr (high parents low)	-	11.2%	4.6%	13.1%	25.2%	31.0%	18.4%	23.9%	11.5%	9.5%	15.9%	10.7%	6.0%	12.8%
	-	(0.014)	(0.011)	(0.059)	(0.116)	(0.146)	(0.069)	(0.17)	(0.047)	(0.054)	(0.081)	(0.067)	(0.041)	(0.134)
(17) Pr (high parents middle)	-	21.8%	12.5%	29.4%	41.3%	44.2%	21.8%	55.3%	15.4%	33.8%	41.2%	15.6%	15.4%	33.6%
	-	(0.023)	(0.025)	(0.101)	(0.12)	(0.123)	(0.08)	(0.191)	(0.068)	(0.151)	(0.17)	(0.086)	(0.077)	(0.228)
(18) Pr (high parents high)	-	45.3%	17.3%	84.9%	70.7%	76.9%	42.6%	86.6%	73.4%	50.5%	56.1%	48.2%	28.0%	60.6%
	-	(0.033)	(0.033)	(0.087)	(0.103)	(0.085)	(0.114)	(0.106)	(0.139)	(0.208)	(0.218)	(0.164)	(0.12)	(0.252)
	-	8516	3690	426	504	418	602	273	962	454	251	348	405	183
Second generation Immigrants														
(19) Pr (high parents low)	-	18.9%	10.3%	16.2%	17.8%	22.8%	34.7%	16.8%	28.9%	7.2%	22.0%	27.2%	21.2%	16.5%
	-	(0.016)	(0.034)	(0.025)	(0.055)	(0.069)	(0.091)	(0.061)	(0.115)	(0.029)	(0.062)	(0.095)	(0.11)	(0.073)
(20) Pr (high parents middle)	-	30.3%	19.5%	28.8%	31.3%	35.8%	34.3%	35.4%	32.1%	12.4%	31.2%	42.3%	31.9%	30.7%
	-	(0.019)	(0.054)	(0.035)	(0.057)	(0.061)	(0.085)	(0.076)	(0.132)	(0.051)	(0.076)	(0.1)	(0.118)	(0.094)
(21) Pr (high parents high)	-	62.7%	25.3%	64.6%	62.2%	73.0%	77.2%	68.4%	79.7%	54.5%	63.1%	72.2%	64.6%	61.7%
	-	(0.025)	(0.073)	(0.057)	(0.069)	(0.057)	(0.075)	(0.082)	(0.12)	(0.135)	(0.113)	(0.1)	(0.139)	(0.115)
	-	13846	1092	3762	1783	1503	815	1084	346	789	911	660	455	646
Ratios														
(22) All Imm: Ratio (15)/(13)	7.98	3.53	3.40	4.40	3.34	3.19	2.42	4.13	5.01	6.65	2.94	3.02	3.32	3.73
(23) 1. Gen: Ratio (18)/(16)	-	4.05	3.78	6.46	2.80	2.48	2.32	3.63	6.40	5.29	3.53	4.49	4.64	4.73
(24) 2. Gen: Ratio (21)/(19)	-	3.33	2.45	3.99	3.48	3.20	2.22	4.06	2.75	7.51	2.87	2.66	3.05	3.74
Remaining explanatory power of parental education														
(25) All Imm: Ratio (22)/(10)	0.96	0.69	0.69	0.79	0.98	0.76	0.76	0.80	0.81	0.77	0.88	0.82	0.68	0.95
(26) 1. Gen: Ratio (23)/(11)	-	0.74	0.75	0.87	1.09	0.65	0.77	0.85	0.90	0.70	0.94	0.95	0.65	1.19
(27) 2. Gen: Ratio (24)/(12)	-	0.78	0.67	0.77	0.89	0.73	0.85	0.76	0.72	0.77	0.90	0.94	0.88	0.91

Notes: Standard errors in parentheses.

Table 4 Ordered Probit Estimates of the Determinants of High Educational Outcomes for Children of Low Educated Parents - Marginal Effects

	Natives	All immigrants	FGI	SGI	Balkan	Italy	Portugal	Turkey	Rest of the World	Spain	Europe	E. Europe
Father missing (0/1)	-0.034 (0.03)	0.062 * (0.031)	0.014 (0.028)	-0.004 (0.044)	0.028 (0.034)	-0.010 (0.067)	-0.046 (0.08)	0.065 (0.081)	0.022 (0.083)	-0.121 (0.099)	0.056 (0.142)	-0.163 (0.136)
Mother missing (0/1)	0.133 (0.094)	-0.007 (0.023)	-0.047 ** (0.009)	0.121 + (0.068)	-0.027 ** (0.006)	0.163 (0.116)	-0.043 (0.07)	-0.037 (0.03)	0.009 (0.091)	0.138 (0.2)	0.489 * (0.239)	0.060 (0.357)
Female (0/1)	0.010 * (0.004)	0.017 ** (0.004)	0.011 ** (0.004)	0.027 ** (0.008)	-0.002 (0.003)	0.041 ** (0.011)	0.027 + (0.014)	0.004 (0.01)	0.027 + (0.016)	0.047 + (0.025)	0.062 ** (0.024)	0.035 (0.045)
Father's age	0.001 (0.001)	0.002 ** (0)	0.001 (0.001)	0.001 (0.001)	0.001 (0)	0.001 (0.001)	0.000 (0.002)	0.002 + (0.001)	0.003 (0.002)	-0.002 (0.003)	0.002 (0.003)	-0.003 (0.006)
Mother's age	0.002 ** (0.001)	0.001 * (0.001)	-0.001 (0.001)	0.003 ** (0.001)	-0.001 (0)	0.004 ** (0.001)	0.001 (0.002)	0.000 (0.001)	0.002 (0.002)	0.005 + (0.003)	0.005 * (0.003)	0.001 (0.005)
Number of siblings	0.005 * (0.002)	-0.017 ** (0.002)	-0.010 ** (0.002)	-0.013 ** (0.004)	-0.007 ** (0.001)	0.004 (0.007)	-0.015 + (0.009)	-0.001 (0.004)	-0.011 (0.007)	-0.015 (0.017)	-0.010 (0.011)	-0.005 (0.032)
Language region: French (0/1)	0.061 ** (0.011)	0.084 ** (0.011)	0.065 ** (0.012)	0.123 ** (0.022)	0.050 ** (0.014)	0.135 ** (0.037)	0.073 ** (0.024)	0.061 + (0.035)	0.120 ** (0.044)	0.098 + (0.055)	0.029 (0.048)	0.077 (0.155)
Language region: Italian (0/1)	0.141 ** (0.036)	0.183 ** (0.023)	0.160 ** (0.03)	0.223 ** (0.036)	0.189 ** (0.044)	0.209 ** (0.047)	0.035 (0.063)	0.169 * (0.074)	0.268 ** (0.098)	0.244 + (0.138)	0.110 (0.123)	0.314 (0.329)
Youth unemployment rate	-0.011 * (0.005)	-0.004 (0.005)	-0.003 (0.005)	-0.007 (0.01)	-0.009 * (0.004)	-0.009 (0.016)	0.012 (0.016)	-0.012 (0.012)	-0.018 (0.023)	0.007 (0.032)	0.007 (0.028)	-0.024 (0.055)
Main language differs from municipal language (0/1)	0.019 (0.023)	-0.048 ** (0.004)	-0.036 ** (0.004)	-0.011 (0.011)	-0.027 ** (0.004)	0.011 (0.015)	-0.084 ** (0.013)	-0.031 ** (0.01)	-0.055 ** (0.017)	-0.061 * (0.029)	-0.055 (0.042)	0.035 (0.086)
Swiss passport (0/1)	0.033 (0.024)	0.082 ** (0.011)	0.074 ** (0.019)	0.070 ** (0.016)	0.047 * (0.021)	0.079 ** (0.022)	0.076 (0.056)	0.048 * (0.024)	0.087 ** (0.03)	0.219 ** (0.078)	-0.018 (0.057)	0.057 (0.063)
Father's assim.: Swiss passport (0/1)	-0.033 (0.026)	-0.014 + (0.008)	-0.017 (0.011)	-0.016 (0.013)	-0.010 (0.01)	0.000 (0.022)	-0.002 (0.072)	-0.034 * (0.016)	-0.054 * (0.025)	0.011 (0.072)	-0.014 (0.035)	-0.020 (0.066)
Mother's assim.: Swiss passport (0/1)	0.042 + (0.022)	-0.012 (0.009)	0.013 (0.014)	-0.033 * (0.015)	0.022 (0.02)	-0.038 + (0.02)	-0.007 (0.051)	0.065 (0.042)	0.031 (0.029)	-0.163 ** (0.036)	0.064 (0.047)	-0.077 (0.071)
Share of highly educated coethnics (0/1)	- (0.025)	0.001 (0.025)	-0.021 (0.03)	0.097 * (0.044)	0.032 (0.04)	0.191 (0.128)	0.476 (0.312)	0.051 (0.098)	0.010 (0.099)	0.908 ** (0.254)	0.036 (0.121)	0.341 (0.259)
Urbanity: 7 fixed effects	yes	yes *	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Pr(high education)	0.070	0.091	0.059	0.134	0.031	0.130	0.111	0.063	0.131	0.184	0.136	0.097
Pseudo R2	0.026	0.069	0.056	0.052	0.060	0.062	0.067	0.044	0.073	0.072	0.053	0.097
McKelvey and Zavoina's R2:	0.062	0.153	0.125	0.116	0.129	0.144	0.164	0.111	0.177	0.181	0.153	0.204
No. Obs	6033	9169	4647	4522	2757	2231	1033	967	925	663	490	103

Notes: **, *, and + represent statistical significance of the marginal effect at the 1, 5, and 10 percent level, respectively. Standard errors in parentheses