Intergenerational progress and socioeconomic attainment among children of Norwegian immigrants

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ABSTRACT

Using Norwegian registry data, I study patterns of intergenerational mobility and socioeconomic attainment among children of immigrants. I compare how children of immigrants' educational attainment and adult earnings compare to those of their immigrant parents and to children of native-born parents (N = 395,748). Results show that children of immigrants experience upward educational and earnings mobility compared to their parents. This finding applies to both immigrant-background children born in Norway and those who arrived during childhood. Furthermore, children of immigrants experience similar levels of educational attainment and adult earnings relative to children of natives after taking residential segregation and family background into account. These findings offer an optimistic perspective on the intergenerational dynamics of structural assimilation within immigrant populations.

INTRODUCTION

For most European countries, large inflows of immigrant populations have been a major source of demographic change over the past few decades. Unlike countries such as the United States, Australia, or Canada, European immigration was historically unprecedented and unfolded in societal contexts marked by higher degrees of ethnic homogeneity (Parsons and Smeeding 2006; Dustmann and Frattini 2013). While these newcomer immigrants constitute heterogeneous populations, they are often low skilled and tend to be disproportionally channelled into the lower rungs of the socioeconomic ladder of their host societies (van Tubergen, Maas and Flap 2004; Heath and Cheung 2007). Thus, the arrival of large numbers of immigrants has introduced new and salient dimensions of ethnic stratification in these societies. In the long run, however, the fate of the immigrant generation may not be the issue of most fundamental bearing on the persistence of inequalities between native and immigrant populations over time. Rather, the degree to which the children of immigrant parents experience intergenerational social mobility and equal opportunities to get ahead in life is often seen as the ultimate benchmark of immigrant assimilation (Card 2005; Heath, Rothon and Kilpi 2008).

In this article, patterns of intergenerational social mobility in education and earnings between immigrant parents and their children in Norway are examined. Second, immigrant-background children's educational attainment and adult earnings are compared to those of their counterparts with native-born parents who shared similar parental socioeconomic resources and residential contexts while growing up. Before moving to the empirical part, I briefly present theoretical perspectives, prior research and the Norwegian welfare state context of immigration.

BACKGROUND LITERATURE

Several theoretical perspectives may shed light on patterns of intergenerational mobility and socioeconomic incorporation among children of immigrants. To begin with, neo-assimilation theory present an optimistic perspective on the future by assuming that all children of contemporary immigrants of are likely to experience upward social mobility (Alba and Nee 2003, see also Perlmann and Waldinger 1997). As Alba and Nee (2003, p. 11) define it, assimilation is "the decline of an ethnic distinction and its corollary cultural and social differences." In a desire to improve their material conditions, immigrants and their offspring will adopt the linguistic and cultural practices that make them more alike the native population. Over time, this will lead immigrant minorities to converge educationally, economically, and residentially as they enter the economic mainstream, which is described as "that part of the society *within* which ethnic and racial origins have at most minor impacts on life chances or opportunities" (Alba and Nee 2003, p. 12). Neo-assimilation theory shares with classic theories of assimilation, the assumption that convergence will eventually happen for all groups although the pace and the degree of convergence will differ across ethnic minorities and social domains.[1]Declining institutional discrimination and economic opportunities created by demographic process where post-war birth cohorts leave the working population, these shifts should provide ample opportunities for upward intergenerational mobility among the offspring of contemporary immigrants in both Europe and North America (Alba 2008).

Furthermore, socioeconomic progress may reflect immigrant parents' high aspirations on behalf of their children and a view of permanent settlement in a new country as an

[1] Unlike classic theories of assimilation, however, the neo-assimilationist perspective does not take ethno-racial boundaries as given, but instead emphasizes their changing character and stresses the potential for boundary shifts. That is, processes by which ethnic markers lose their significance as determinants of life chances and whereby whole segments of previous immigrant populations over time blend into an increasingly multi-ethnic mainstream.

intergenerational investment, where the costs of emigrating are being shouldered by the perceived benefits in the next generation (Dustmann 2008; Heath, Rothon and Kilpi 2008, pp. 223-224). In addition, patterns of selective immigration may further contribute to relative mobility advantages among the children of the foreign-born. Recent work from Europe (Levels, Dronkers and Kraaykamp 2008; Ichou 2014) and the United States (Feliciano 2005a; Luthra and Perlmann 2013) focus on the relative position of immigrants compared to their peers in the communities they left behind and the intergenerational consequences of this selectivity for their children's socioeconomic outcomes. To the extent that immigrants arrive with higher average levels of schooling (Feliciano 2005b), better health (Akresh and Frank 2008), or generally unobserved characteristics such as ambition (Chiswick 1999) than the average resident of their native country, assuming equal distributions of the relative mobility characteristics across countries, we should expect higher rates of mobility among children of immigrants than among the children of the native-born.

In contrast, segmented assimilation theory predicts considerable variation both in the degree and the direction of intergenerational mobility that children of immigrants may experience (Portes and Zhou 1993; Portes and Rumbaut 2001, see also Gans 1992). Portes and Zhou (1993:82) argue that "[i]nstead of a relatively uniform mainstream whose mores and prejudices dictate a common path of integration, we observe today several distinct forms of adaptation" and outline three trajectories: first, traditional straight-line assimilation into the middle class accompanied by gradual acculturation to host-country norms and values among the children of high-skilled immigrants; second, the experience of upward mobility achieved by selective acculturation, where mobilisation of values and solidarity within cohesive immigrant communities helps children excel while maintaining strong bonds to their ethnic origins; third, a path characterised by 'downward assimilation' into poverty and marginalized positions at the bottom of socioeconomic hierarchy is likely occur among descendants of

disadvantaged low-wage immigrants. Except for mobility through selective acculturation, children are expected to assimilate into different segments of the host country based on where in the social structure their immigrant parents got incorporated. Specifically, intergenerational persistence should apply to groups characterised by visible minority status (e.g. skin colour and religion) and few resources in the parental generation, be they in the form of traditional human capital or social capital embedded in strong ethnic communities.[2] The possibility of 'downward assimilation' among offspring of disadvantaged immigrants makes the theory noteworthy, because it offers a pessimistic alternative to the universal prediction of upward mobility trajectories presented by neo-assimilation theory.

Stressing the role of social context, Borjas (1992; 1995) argue that 'human capital externalities' may delay the process of intergenerational catch-up within disadvantaged immigrant communities. This may, for example, reflect minority children's inability to reap the benefits of connections, information, and role models by mobilization of the 'ethnic capital' available to them within the group as a whole. Furthermore, growing up in residential areas characterised by relative social deprivation, less social control and low-quality schools may impede the human capital accumulation of children in both immigrant and native families (Coleman 1988; Jencks and Mayer 1990). Neighbourhood-level characteristics might also affect children's unequal access to job-relevant networks and matching processes in in the labour market (Granovetter 1995; Ioannides and Loury 2004). Beyond parental socioeconomic resources, it is therefore important to take residential segregation during childhood into account when gauging how immigrant-background children fare relative to peers in the native population with similar starting points in the social structure.

[2] For these children, post-industrial economies offer few routes to upward mobility if they fail to acquire the skills and formal qualifications necessary to enter into high-skill, professional occupations, according to this perspective.

Previous empirical studies tend to find improvement in educational attainment and labour market position between immigrant parents and their children, but they also reveal substantial heterogeneity in these intergenerational catch-up rates across different origin groups (see e.g. Card, DiNardo and Estes 2000; Borjas 2006; Aydemir, Chen and Corak 2009; Park and Myers 2010; Luthra and Perlmann 2013). However, the literature on intergenerational social mobility within immigrant population in Europe is more limited. To large degree this reflects the young age structure of this group in European host societies. In these countries, children of immigrants usually face substantial educational disadvantages relative to their peers in the native population, although a large part of these gaps are often attributable to parental characteristics such as education and labor market position (Heath, Rothon and Kilpi 2008). Moreover, second-generation immigrants in Europe still seem to face substantial labor market disadvantages relative to natives with similar educational credentials, although these relative gaps are narrower those experienced by immigrants who arrived as adults (Heath and Cheung 2007; Algan et al. 2010).[3]

Only a few studies address the intergenerational dynamics of educational and labor market attainment explicitly by looking at the relationship between parents' statuses and those attained by their children when they reach adulthood (Gang and Zimmermann 2000; Hammarstedt and Palme 2006; Bauer and Riphahn 2007). In Norway, existing research shows that adult immigrants experience substantial disadvantages in the Norwegian labour market (Bratsberg, Raaum and Røed 2010). However, although children of immigrants lag behind their counterparts with native-born parents with respect to educational attainment, these gaps can largely be explained by differences in family background and they have also narrowed over time (Birkelund and Mastekaasa 2009; Støren and Helland 2010; Bratsberg, Raaum and

[3] In Scandinavia, previous studies find that parental socioeconomic characteristics and residential context while growing up matters for labor market differentials between children of immigrants and natives (Nielsen et al. 2003; Jonsson 2007; Hällsten and Szulkin 2009).

Røed 2011). Upon entering the labour market second-generation immigrants seem to experience equal opportunities to access advantaged occupational positions, but the evidence is mixed with respect to employment penalties (Hermansen 2013; Brekke 2014).

To my knowledge, the present article is the first study to look at intergenerational social mobility within the Norwegian immigrant population. In the following analyses, I start by using information on educational attainment and adult earnings of immigrant parents and their children to estimate the intergenerational elasticity in each outcome. I then turn to the relative gaps in socioeconomic attainment between children of immigrants and the children of the native-born, by analysing to what degree differences in parental socioeconomic characteristics and residential segregation during childhood can explain these.

THE NORWEGIAN CONTEXT OF IMMIGRATION

The Norwegian welfare state context offers an interesting case due to combination of a strong, generous welfare state and a large and diverse immigrant population. On the one hand, Norway is representative of affluent Western European host societies that have experienced large-scale inflows of refugees and low-skilled labor migrants and their families over the past decades (Brochmann and Kjeldstadli 2008; OECD 2013). On the other hand, Norwegian society is marked by low levels of economic inequality, high levels of social mobility, and universal welfare policies and high quality basic services offered to all residents (OECD 2008).

Norwegian society is characterized by a strong welfare state and high-quality basic services, such as comprehensive health care and schooling, are publicly provided for (Esping-Andersen 1999). In comparative perspective, economic inequalities in Norway are small and

the prevalence of child poverty is very low (UNICEF 2007; OECD 2008). Norway has also consistently been ranked in the very top of the United Nations Development Program's (UNDP) Human Development Index over the past decades (UNDP 2011). Earnings mobility is also significantly higher in Norway than in the United Kingdom and the United States (Bratsberg et al. 2007).

Over the past few decades, Norway has, however, become increasingly multiethnic and diverse in the wake of large-scale immigration from less-developed countries. In Norway, the beginning of large-scale era immigration coincided with a period of economic growth in late 1960s and a subsequent influx of unskilled labor migrants from countries in Asia, the Middle East, and North Africa (Brochmann and Kjeldstadli 2008). On February 1, 1975, in the wake of the international oil crisis, a moratorium on unskilled labor immigration from outside the Nordic countries was introduced. Later adopted as a permanent measure in 1981, the moratorium ended unskilled labor immigration but allowed for immigration according to three main principles: demand for specific skilled labor, family reunifications, and refugees and political asylums. Inflows from the migrant workers' origin countries continued, however, but consisted mainly of family members and spouses of the initial arrivals. From the late 1970s and throughout the 1990s, the number of refugees and asylum seekers arriving from countries in conflict areas, such as Vietnam, Chile, Iran, Somalia, and Former Yugoslavia, grew substantially.

In 2014, immigrants and their native-born children constituted approximately 14.9 percent of the population in Norway—approximately 760,000 individuals—as opposed to 1.5 percent in 1970 (Statistics Norway 2014). Currently, the relative size of the immigrant population in Norway is on par with countries in Western Europe and North America, such as the United Kingdom, France, Germany, Sweden and the United States, where foreign-born populations currently hover around a 10─15 percent share of the population (OECD 2013).

DATA AND METHODS

Empirical Approach

I report results from two sets of empirical analysis below. To answer the first research question—what are the patterns of intergenerational transmission of educational attainment and earnings between immigrant parents and their children—I follow previous work by estimating intergenerational associations where children's outcomes are regressed on their parents' outcomes (Solon 1999; Black and Devereux 2011). Using OLS regression, these models are as follows:

$$Y_i = \alpha + \beta X_{i-1} + \varepsilon \qquad (1)$$

where Y_i refers to completed years of education or adult earnings of child *i*, while X_{i-1} refers to the corresponding outcome of the parents when the child was in his or her adolescence. The larger the coefficient of β, the higher the degree of intergenerational transmission, and the close the outcomes of the child reproduce the outcomes of the parents. Conversely, a smaller coefficient of β implies a greater degree of mobility and regression to the population mean in the child's generation.

For adult earnings, I measure the association in earnings ranks between parents and their children (see e.g. Dahl and DeLeire 2008; Chetty et al. 2014).[4] I rank children based on their earnings relative to other children in the same birth cohort, including those with zero earnings. I rank parents of these children based on their earnings relative to other parents with children in these birth cohorts. This strategy overcomes the problem of omitting zero incomes

[4] By relying on measure of relative earnings ranks, this approach is comparable to the related literature on intergenerational status attainment where children's ordered ranking in occupational status prestige is regressed on their parent's occupational ranking (Blau and Duncan 1967).

in the more standard log-log specification in the intergenerational mobility literature.[5] This is important because immigrants parents are much more likely to have low labour market earnings and be registered with zero incomes, dropping these observations will bias mobility estimates.

A further advantage of the longitudinal data used here, is the enabling of linkage between immigrant children and their actual parents. Most studies employ a cohort approach, where cross-sectional data where children of immigrants are compared to first-generation immigrants one generation earlier (e.g. Card, DiNardo and Estes 2000; Borjas 2006; Aydemir, Chen and Corak 2009; Luthra and Perlmann 2013). However, cohort strategies are vulnerable to biases if some of the immigrants measured in the earlier generation did not have children or left the country. Immigrants who left or did not have children may be very different from those who stayed and raised families.

To answer the second research question—how children of immigrants' educational attainment and adult earnings compare to those of their peers with native-born parents—I rely on a 'premarket' design (Neal and Johnson 1996) where all explanatory variables are measured in terms of social origin (i.e., characteristics of their parents and neighbourhoods while growing up) rather than characteristics of the children themselves, in order to avoid endogeneity in the explanatory variables. In sum, the empirical models are similar to the classic status attainment models (Blau and Duncan 1967), although excluding mediating variables in order to avoid endogeneous covariates. In order to achieve a robust estimate of the immigrant—native differentials, I aim to include the most exhaustive set of control variables possible; that is, I sequentially control for parents' economic resources and educational qualifications, as well as family demography and neighbourhood context during

[5] Future analyses will also evaluate the robustness of these results using the log-log specification of intergenerational associations, both omitting and recoding observations with zero earnings.

childhood. For adult earnings, children's educational attainment is included in the final model specification.

Norwegian Registry Data

I use data emanating from several administrative registries collected by Statistics Norway, covering the full population of residents in Norway. Specifically, I use information individuals with either two native-born or two foreign-born parents born between 1973 and 1980 (N = 395,748). I include information on children's education and labour market earnings, and through unique multigenerational identifiers information on parents' education, earnings and several family demographic characteristics are also added. Furthermore, the dataset includes detailed information on each child's neighbourhood of residence during adolescence.

Table 1 shows summary statistics on the variables used in the analyses by children's immigrant origin

Variables

Generational status is used to compare differences in intergenerational mobility and socioeconomic attainment between children of immigrants and the children of native-born parents. Children are grouped into three different generational categories: first, children born in Norway with two foreign-born parents are referred to as second-generation immigrants; second, foreign-born children with two foreign-born parents who immigrated before

adolescence are referred to as the '1.5 generation' (Rumbaut 2004);[6] third, the native population reference group consists of children born in Norway with two Norwegian-born parents. Children of immigrants' **countries of origin** are identified with information on the mother's country of birth.

Children's educational attainment is measured using information on the highest level of educational qualification at age thirty using the Norwegian version of the International Standard Classification of Education, ISCED-97; see Statistics Norway (2001). In models where educational attainment is the outcomes of interest, I recode educational attainment level into years of completed education.

Children's adult earnings is based on information on annual earnings and public income transfers are derived from annual tax files that include annual net income subject to taxation in various forms. This information captures individual earnings and income, in fixed prices, from different sources with high accuracy. For the analyses, the incomes in Norwegian kroner (NOK) are inflated to 2010 levels using the Norwegian consumer price index (CPI) and converted to U.S. dollars using the purchasing power parity exchange rate for 2010—9.01 NOK per U.S. dollar in 2010—obtained from the OECD. Annual earnings include wages and income from self-employment. For each child, adult earnings are measured at ages 30 to 34. Then, I rank children based on their earnings relative to other children in the same birth cohort, including those with zero earnings.

Parents' education is measured using information on the parents' highest level of education at the child's age 16. This variable is recoded into years of education using ISCED-97 and lacking information on parents' education is treated as the lowest level of educational

[6] In order to create a sample of individuals who had been exposed to Norwegian society during childhood, the group is limited to children who immigrated before adolescence (i.e., they were aged between zero and 12 years when they arrived).

attainment. I perform sensitivity analyses testing how estimates are sensitive to different handling of the observations with no registered information on parents' education, since immigrant students are overrepresented in this category.

To measure **parents' earnings**, I use information on annual wage earnings and income from self employment. I compute this measure of parents' earnings by averaging each parent's annual earnings over the years the child was aged 13 to 16 years. I summarize the mother's and the father's average earnings in this period and finally take the natural logarithm of this sum. I then rank the parents' earnings positions based on their earnings relative to other parents with children in their child's birth cohort.

In the socioeconomic attainment analysis, I include several additional control variables. **Family demography** characteristics includes information on whether the child was the first born child of his or her mother, the number of siblings and the mother's age at birth. For neighbourhoods, I use detailed information on the neighbourhood of residency in childhood. To avoid endogenous geographical sorting, our analysis is based on recorded address at the child's age 16.[7] **Neighbourhoods** are measured on the basis of Statistics Norway's detailed 'basic statistical unit' classification.[8] This information is used as a fixed effect, which captures both observed and, more importantly, unobserved aspects of the neighbourhood environment. These neighbourhood dummies capture all potential variation that is constant within neighbourhoods; that is, it enables the statistical comparison of children who grew up in the same neighbourhood.

[7] If information on neighborhood was missing at age 16, I used information on neighborhood from adjacent years (i.e. age 15 or 17). The small number of individuals with no information on residential location in any of these three years was dropped from the analytic sample.

[8] Basic statistical units are designed to resemble genuine neighborhoods, and contain residences that are homogeneous with respect to location and type of housing (for more information, see Statistics Norway 1999). There are 13,700 basic statistical units in Norway, each populated by around 350 individuals on average.

RESULTS

Table 1 shows summary statistics on the variables used in the analysis by children's nativity. We see that children of immigrant parents, those born abroad more so than those born in Norway, lag behind the children of native-born parents in educational attainment and adult earnings. If we, however, compare the parents' length of education and relative positions the full earnings distribution of parents to children in each birth cohort, we clearly see that the gaps children of immigrants experienced relative to their counterparts with native-born parents while growing are substantially reduced when they themselves reach adulthood. Thus, while the overall gap relative to natives is larger within the foreign-born 1.5 generation than among the native-born children in the second generation, both groups experience substantial improvement relative to their parents. This finding shows that there is a high degree of absolute upward social mobility between immigrant parents and their children.

< Table 1 about here >

In Table 2, children's and their parents' country-specific mean years of completed education and percentile earnings rank is listed for the major origin countries in the sample. While the table reveals substantial heterogeneity in the relative socioeconomic positions of both children and parents across immigrant groups, children in almost all origin groups experience substantial improvements relative to their parents.

< Table 2 about here >

Table 3 summarizes the estimated intergenerational associations in earnings ranks and educational attainment between parents and their children in the immigrant and native population. The table shows that the level of intergenerational mobility in educational attainment is substantially higher among children of immigrants compared to children of

native-born parents. This pattern holds for both male and female children of immigrants, as well as those born abroad and in Norway. Turning to the earnings rank-rank associations, we see that the relative rates of mobility are much more similar among children of immigrants and children of natives. This pattern is comparable for the native-born and the foreign-born children of immigrants. However, the estimates reveal heterogeneity between men and children in both the native and immigrant population. There is a slightly weaker association between male children of immigrants' earnings rank and their parents' rank relative their male counterparts with native-born parents. For female children of immigrants, however, this pattern is reversed, for them the intergenerational associations are stronger than among the natives. Note, however, that these results do not stand in contrast to the fact that children of immigrants experience a high degree of absolute upward educational and earnings mobility relative to their parents.

< Table 3 about here >

Figures 1 reveal heterogeneity in the level of intergenerational mobility between different national-origin groups within the immigrant population (see also Table 2). In both panels, the diagonal line indicates equal status among children and parents. The center of each circle shows the average years of education and earnings rank among parents relative to the child's educational attainment and earnings rank, by country of origin. The size of each circle is weighted by the size of the group. For both completed schooling and economic position, attainments tend to be higher among children of immigrants born in Norway compared to their parents. We also see that this improvement is particularly high for groups with low levels of parental schooling and economic resources, which indicates that the arrival in a new environment enhanced the opportunities for their offspring even though they do not reach full equality in attainments relative to children of native-born parents.

-- Figure 1 about here --

Turning to the comparison of children of immigrants' socioeconomic attainment relative to children of native-born parents, Tables 4 and 5 present results for educational attainment and earnings rank, respectively. We see that there are substantial gaps between children of immigrants and their native peers, and that these substantively larger for the immigrant children who were born abroad. However, these gaps are largely closed when adjusting for parents' earnings, educational attainment and family demographic characteristics, as well as patterns of residential segregation during childhood. After these adjustments, children of immigrants actually fare similarly or slightly better than their native peers from similar social origins and who grew up in the same neighborhoods. Furthermore, Table 5 shows that the relative earnings advantages of native-born children of immigrants is explained by their educational attainment levels, while foreign-born immigrant children experience a significant earnings disadvantage once educational attainment is controlled for. Note, however, that foreign-born children of immigrants systematically have lower educational attainment and earnings ranks relative to native-born children of immigrants across all model specifications. To sum up, it appears that even though children of immigrants complete less formal schooling and experience labor market disadvantages relative to natives, this inequality in socioeconomic attainment can be explained by parents' resources and neighborhood segregation.

< Table 4 about here >

< Table 5 about here >

SUMMARY AND DISCUSSION

Children of immigrants a are coming of age, moving through the educational system and entering the workforce in growing numbers. Unlike North American countries these host-countries had very small immigrant populations before the 1960s. Questions related to whether these children will move ahead in adulthood have sparked considerable debate on both sides of the Atlantic. The central question is whether the new dimensions of ethnic stratification introduced by immigration to Western Europe is further entrenched or show signs of dissipation as children of immigrants from low-status starting points make their transitions to adulthood.

I have studied patterns of intergenerational social mobility and socioeconomic attainment among children of immigrants in Norwegian society. Drawing on data from administrative registries, there are two main findings in this study. To begin with, I find high levels of intergenerational mobility in socioeconomic attainment between immigrant parents and their children. The patterns of intergenerational progress documented here provide an optimistic view on the long-term prospects for structural assimilation in Norway and challenges the "second generation decline" hypothesis.

The second finding is that immigrant children tend to have higher levels or completed schooling and adult earnings when compared to the children of natives who grew in the same residential environments and with comparable parental resources. Children of immigrants do not seem to be at a disadvantage in adult attainments relative to their native counterparts who shared similar social origins and residential contexts during childhood. However, it should be noted that substantial immigrant—native gaps in socioeconomic attainment remain for immigrant children within both the first and the second generation. Ethnic stratification is still a reality in the lives of these individuals, but the findings reported here calls for comparisons

both across generation and relative to native peers in order to gain a more refined understanding of the intergenerational dynamics of ethnic stratification within Europe's new ethnic minorities.

With respect the theoretical perspectives on assimilation and social mobility across immigrant generation, the results presented here provide limited support for downward assimilation among children in disadvantaged immigrant groups, as suggested by segmented assimilation theory. In fact, the results indicate higher levels of upward intergenerational social mobility within these groups.

In late versions of this paper, I will expand the empirical analyses and the refine discussion of the implications that the reported results have on theoretical perspectives and social policy.

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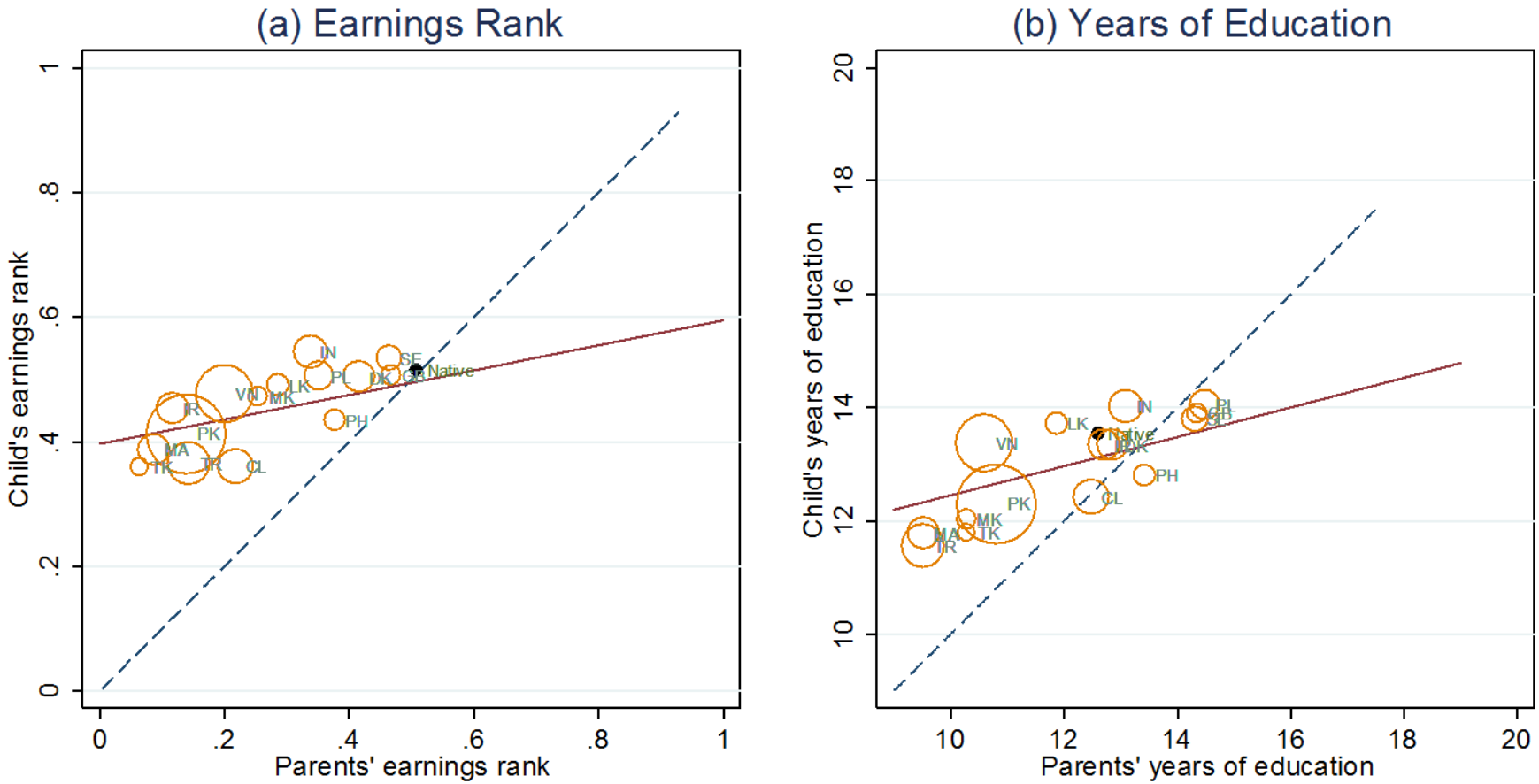

Figure 1. Scatter plot of relationship between immigrant parents' and children's earnings rank and years of completed education by country of origin. Fitted line refers to estimated slope for all children of immigrants (N = 9,116).

Notes: Panel A shows relationship between the child's relative earnings rank in adulthood within birth cohorts and the parents' relative earnings rank relative to parents with children in the same birth cohort, when the child was aged 13-16 years. Panel B shows the relationship between the child's years of completed education at age 30 relative to the year of completed education of the parent with the highest educational attainment when the child was aged 16 years. Size of scatter point is proportional to cell size; only cells for the 15 largest origin countries ($N > 120$) are shown. Native mean is shown as black dot. Labels refer to the 15 largest origin groups: Native = Children of native-born parents; PK = Pakistan; VN = Vietnam; TR = Turkey; CL = Chile; IN =India; DK = Denmark; IR = Iran; MA = Morocco; PL = Poland; SE = Sweden; PH = Philippines; LK = Sri Lanka; GB = Great Britain; MK = Macedonia; TH = Thailand.

Table 1. Summary statistics of variables used in analyses by immigrant background.

	Children of native-born parents		Children of immigrants					
			All		Born in Norway (second generation)		Born abroad (1.5 generation)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Children's characteristics								
Annual earnings (2010 USD)	39,055	23,957	33,985	5,386	36,189	26,035	32,804	24,953
Earnings rank	0.515	0.284	0.441	0.305	0.467	0.310	0.427	0.301
Years of education	13.55	2.42	12.85	2.55	13.10	2.60	12.72	2.52
Female (%)	48.9 %		47.2 %		48.2 %		46.7 %	
First-born child of mother (%)	42.8 %		42.3 %		39.3 %		43.9 %	
Number of siblings	1.51	1.03	2.23	1.64	2.21	1.52	2.24	1.70
Birth cohort	1976.35	2.31	1977.26	2.18	1977.46	2.03	1977.16	2.25
Parents' characteristics								
Parents' years of education	12.59	2.61	11.60	3.12	11.73	3.10	11.53	3.13
Fraction missing education (%)	0.2 %		12.8 %		8.6 %		15.0 %	
Parental earnings (2010 USD)	54,806	27,845	29,526	26,076	33,103	27,286	27,608	25,198
Parental earnings rank	0.507	0.286	0.229	0.261	0.266	0.278	0.209	0.249
Mother's age at birth	26.20	5.02	26.18	5.40	26.74	5.04	25.86	5.57
Major countries of origin (%)								
Pakistan			24.5 %		42.6 %		14.9 %	
Vietnam			13.4 %		3.3 %		18.8 %	
Turkey			7.5 %		6.4 %		8.1 %	
Chile			4.7 %		1.6 %		6.4 %	
India			4.5 %		7.8 %		2.8 %	
Denmark			3.9 %		3.8 %		3.9 %	
Iran			3.8 %		0.9 %		5.8 %	
Morocco			3.7 %		4.2 %		3.5 %	
Poland			3.3 %		1.4 %		4.4 %	
Sweden			2.4 %		1.8 %		2.7 %	
Observations	386,632		9,116		3,182		5,934	

Source: Author's calculations based on Norwegian administrative registry data from Statistics Norway.

Notes: Standard deviations in parentheses. Standard deviations are not presented for discrete variables, as the full distribution of responses is shown.

Table 2. Intergenerational Mobility in the 15 Largest Countries of Origin.

	Earnings rank		Years of education		
Country of origin	Mean child rank	Mean parent rank	Mean child rank	Mean parent rank	Number of obs.
(1)	(2)	(3)	(4)	(5)	(6)
Pakistan	0.412	0.139	12.299	10.800	2,335
	(0.314)	(0.166)	(2.466)	(2.695)	
Vietnam	0.477	0.201	13.369	10.601	1,232
	(0.299)	(0.225)	(2.538)	(2.564)	
Turkey	0.365	0.143	11.562	9.515	713
	(0.286)	(0.153)	(2.175)	(1.572)	
Chile	0.360	0.217	12.414	12.470	447
	(0.261)	(0.203)	(2.162)	(2.976)	
India	0.544	0.337	14.027	13.087	414
	(0.323)	(0.280)	(2.730)	(3.235)	
Denmark	0.503	0.414	13.335	12.856	361
	(0.298)	(0.307)	(2.436)	(3.247)	
Iran	0.453	0.117	13.338	12.710	358
	(0.320)	(0.159)	(2.628)	(3.193)	
Morocco	0.387	0.086	11.788	9.518	353
	(0.289)	(0.140)	(2.091)	(1.284)	
Poland	0.505	0.352	14.050	14.475	303
	(0.324)	(0.313)	(2.584)	(3.037)	
Sweden	0.534	0.464	13.793	14.302	232
	(0.300)	(0.379)	(2.674)	(3.298)	

Notes: Each cell shows children's and parents' mean earnings rank and years of eduction within the ten largest countries of origin in samp

Table 3: Intergenerational mobility estimates for children of immigrants and the children of native-born parents in Norway.

Child outcome	Parent's outcome def.	Children of immigrants					Children of native-born parents		
		All	Male	Female	Native-born	Foreign-born	All	Male	Female
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Individual earnings rank	Family earnings rank	0.201***	0.159***	0.242***	0.190***	0.198***	0.192***	0.178***	0.209***
		(0.012)	(0.017)	(0.016)	(0.020)	(0.016)	(0.002)	(0.002)	(0.002)
Years of education	Years of education	0.259***	0.248***	0.274***	0.271***	0.250***	0.359***	0.361***	0.359***
		(0.008)	(0.011)	(0.012)	(0.014)	(0.010)	(0.001)	(0.002)	(0.002)
Years of education (excluding missing)	Years of education	0.252***	0.239***	0.271***	0.259***	0.248***	0.360***	0.362***	0.360***
		(0.009)	(0.012)	(0.013)	(0.015)	(0.011)	(0.001)	(0.002)	(0.002)
Max. number of observations		9,116	4,812	4,304	3,182	5,934	386,632	197,646	188,986

Note: Each cell in this table reports the coefficient from a OLS regression of the variable for children (listed in the first column) on the variable for parents (listed in the second column) controlling only for birth cohort dummies for the corresponding sample (listed in columns 1-8). Huber-White standard errors are robust to within-family clustering and heteroskedasticity.

† $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$ (two-tailed tests).

Table 4. OLS Regressions of Children of Immigrants' Earnings Rank Relative to Children of Native-Born Parents.

					Men	Women
	(1)	(2)	(3)	(4)	(5)	(6)
Children of immigrants						
Native-born (second generation)	-0.489***	0.048	0.093†	0.598***	0.533***	0.651***
	(0.059)	(0.053)	(0.048)	(0.049)	(0.072)	(0.067)
Foreign-born (1.5 generation)	-0.841***	-0.183***	-0.114**	0.290***	0.230***	0.339***
	(0.047)	(0.043)	(0.039)	(0.038)	(0.050)	(0.057)
Female	0.699***	0.694***	0.706***	0.704***		
	(0.008)	(0.008)	(0.008)	(0.008)		
Parental earnings quintile (ref. = lowest)						
2		0.545***	0.405***	0.370***	0.336***	0.402***
		(0.012)	(0.011)	(0.012)	(0.016)	(0.018)
3		0.892***	0.616***	0.588***	0.550***	0.626***
		(0.012)	(0.012)	(0.012)	(0.017)	(0.018)
4		1.344***	0.758***	0.764***	0.719***	0.805***
		(0.013)	(0.012)	(0.013)	(0.018)	(0.019)
5 (highest)		2.077***	0.996***	1.029***	1.023***	1.028***
		(0.014)	(0.014)	(0.014)	(0.020)	(0.021)
Parents' years of education			0.275***	0.260***	0.255***	0.263***
			(0.002)	(0.002)	(0.002)	(0.003)
Mother's age at birth			0.060***	0.059***	0.055***	0.064***
			(0.001)	(0.001)	(0.001)	(0.001)
First-born child of mother			0.438***	0.439***	0.412***	0.467***
			(0.008)	(0.008)	(0.012)	(0.013)
Number of siblings			-0.043***	-0.068***	-0.046***	-0.089***
			(0.004)	(0.005)	(0.006)	(0.007)
Intercept	13.047***	12.070***	7.431***	7.674***	7.951***	8.099***
	(0.014)	(0.014)	(0.030)	(0.031)	(0.043)	(0.045)
Neighbourhood fixed effects	No	No	No	Yes	Yes	Yes
R^2	0.024	0.107	0.199	0.242	0.249	0.257
Number of observations	395,748	395,748	395,748	395,748	202,458	193,290

Notes: All models control for birth cohort fixed effects.

Table 5. OLS Regressions of Children of Immigrants' Earnings Rank Relative to Children of Native-Born Parents.

						Men		Women	
	(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Children of immigrants									
Native-born (second generation)	-0.049***	-0.003	-0.002	0.027***	0.003	0.023*	0.004	0.028***	-0.000
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.009)	(0.009)	(0.008)	(0.008)
Foreign-born (1.5 generation)	-0.092***	-0.035***	-0.033***	-0.006	-0.017***	-0.021**	-0.029***	0.010†	-0.005
	(0.004)	(0.004)	(0.004)	(0.005)	(0.004)	(0.007)	(0.006)	(0.006)	(0.005)
Female	-0.195***	-0.195***	-0.195***	-0.194***	-0.223***				
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)				
Parental earnings quintile (ref. = lowest)									
2		0.061***	0.057***	0.052***	0.037***	0.064***	0.052***	0.038***	0.020***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
3		0.090***	0.082***	0.076***	0.053***	0.091***	0.072***	0.060***	0.032***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
4		0.118***	0.101***	0.096***	0.065***	0.110***	0.085***	0.080***	0.044***
		(0.001)	(0.001)	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
5 (highest)		0.161***	0.128***	0.123***	0.082***	0.130***	0.094***	0.114***	0.069***
		(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.002)
Parents' years of education			0.008***	0.008***	-0.002***	0.005***	-0.004***	0.012***	0.000
			(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Mother's age at birth			0.003***	0.003***	0.000	0.001***	-0.000**	0.001***	0.004***
			(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
First-born child of mother			0.020***	0.019***	0.001	0.012***	-0.002	0.026***	0.005***
			(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)
Number of siblings			-0.001*	-0.004***	-0.002**	-0.001	0.001	-0.008***	-0.004***
			(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Child's years of education					0.040***		0.036***		0.044***
					(0.000)		(0.000)		(0.000)
Intercept	0.611***	0.525***	0.364***	0.372***	0.065***	0.442***	0.158***	0.107***	-0.253***
	(0.001)	(0.002)	(0.004)	(0.004)	(0.004)	(0.006)	(0.006)	(0.005)	(0.005)
Neighbourhood fixed effects	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.119	0.154	0.161	0.199	0.288	0.124	0.190	0.150	0.292
Number of observations	395,748	395,748	395,748	395,748	395,748	202,458	202,458	193,290	193,290

Notes: All models control for birth cohort fixed effects.