Catching Up? Intergenerational Mobility and Children of Immigrants



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Foreword

Social mobility is an important policy objective to foster inclusive economies and societies. It may not be surprising that many immigrants face specific difficulties to progress along the income ladder: they often have to overcome greater barriers to mobility linked among others to the fact that they have been raised and educated in a different environment and education system, and that they may not have the same command of the host language as natives. However, one would hope that, at least for children of immigrants who are native-born, these barriers would disappear and they could enjoy the same opportunity for social mobility as their peers. Yet, evidence suggests that native-born children of immigrants tend to still lag behind their peers with native-born parents in many OECD countries, especially in Europe. This is particularly worrying since these are a large and growing group, and their integration is vital for social cohesion and economic prosperity.

Against this backdrop, the OECD, with the support of the European Union, has analysed the links between parental disadvantage for immigrants and the educational and labour market outcomes of their children across EU and OECD countries, in comparison with native-born parents and their children. This report presents the results of this work which builds on the rich, ongoing joint EU and OECD work on integration. It entails some important findings and lessons for policy-making. Its main message is that helping immigrant parents to be fully and autonomously functional in the host country society is not only important for the immigrants themselves but is also an important precondition for better outcomes of their children.

The good news is that the often large gaps in education and labour market outcomes observed between immigrant and native-born parents are reduced for their children. What is more, some groups of children of immigrants – including children of EU mobile citizens in Europe and many groups in North America such as those with parents from Asia – have higher upward mobility than children of native-born. At the same time, there are persisting obstacles that often seem to prevent a similar success story for children with non-EU-born parents in Europe, who have less upward mobility than their native-born peers with native-born parents and otherwise similar socio-economic background. This large divide in the opportunity of different groups of children from foreign-born parents requires close policy attention, and we therefore believe that further policy action and new policy initiatives are necessary.

Investing in the integration of immigrant parents is important for their successful integration and entails intergenerational pay-offs. Integration of immigrants should be seen as a long-term investment; it allows tapping into the potential of the immigrants themselves and their children. A key role here is played by immigrant mothers, who are currently often neglected in integration efforts, particularly if they arrived as family migrants.

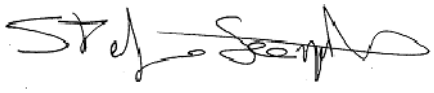
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Executive summary

- Natives with immigrant parents have lower educational attainment and weaker learning outcomes than their peers with native-born parents in most European OECD countries, especially in those countries which experienced large-scale immigration of low-educated immigrants in the past.
- Native-born persons with two foreign-born parents are a growing group virtually everywhere. In the European Union, they account for 9% of all youth aged 15-34, but already for 11% of all children below the age of 15.
- The amount of years immigrant parents have spent in the host country positively affects the educational outcomes of their children, mostly due to the parents' language skills improving over time. More generally, there is evidence that good language skills of parents positively impact their children's educational outcomes, particularly when they are young.
- Educational aspirations are generally high among migrant families. However, while educational aspirations may support educational upward mobility, by itself they are not sufficient, particularly when support structures and knowledge on how to attain these goals is lacking.
- Early childhood education – given that it is widely accessible, of good quality and non-segregated – can strongly increase educational mobility.
- Natives with parents born outside the EU are 4 percentage points less likely to choose an academic higher education stream than their peers with native-born parents and similar education levels.
- In many European countries, natives with low-educated immigrant parents have a lower probability of completing medium-level or higher education, as compared to natives with equally low-educated native-born parents.
- Nevertheless, there is a convergence of educational attainment across generations. On average across European OECD countries, natives with immigrant parents have on average 1.3 years more schooling than their parents, while their peers with native-born parents have 0.7 years. Among parents, the difference in educational attainment between native-born and immigrants is roughly 1.2 years of schooling, while among the offspring generation this difference is reduced to roughly 0.7 years of schooling.
- Schooling systems that produce more resilient students among the children of natives (defined as children who perform well in school despite their disadvantaged background, also described as children who are "succeeding against the odds") also increase the likelihood that the children of immigrants will become more resilient.

- Intergenerational upward mobility among children of EU is exceptionally high. Across all levels of parental education, adult children with EU parents have higher employment rates than both adult children of native parents and of parents born outside the EU.
- In Europe, higher parental education translates less into higher labour market chances for the children of immigrants than for the children of natives. The native-born with low-educated parents of non-EU origin have roughly the same employment probability as their peers with low-educated native-born parents. However, having parents educated at a medium level increases the employment rate for natives with native-born parents by 10 percentage points, while the rate increases only by 5 percentage points for peers with non-EU parents. The picture is broadly the same for those with highly-educated parents.
- In Europe, the employment gap between native-born children of non-EU immigrants and children of native-born decreases with the level of educational attainment, suggesting that a person's own education is a stronger driver for labour market integration among children of non-EU immigrants than among children of natives. Low-educated natives with low-educated parents born outside the EU have an almost 8 percentage points lower employment rate than their peers with native parents, while the gap is only about half that for higher levels of education.
- A full 15% of natives with non-EU parents have a mother with no completed formal education at all, which is five times the share in the other groups. The overrepresentation of mothers with no education among natives with non-EU origins indicates that they have a more challenging "starting point" which could partly explain their weaker performance on the labour market.
- Immigrant mothers' labour market participation seems to have an important impact on the outcomes of their children, more than for their peers with native-born parents. While this is observed for both genders, the association is particularly strong for women.
- Natives with parents born outside the EU experience less occupational upward mobility than their peers with EU origins or with native-born parents. About a third of natives in the latter two categories manage to move upward on the occupational ladder. For natives with parents born outside the EU, only 1 in 5 manages to find work in an occupation requiring a higher skill level than his/her father needed in his occupation.
- Intergenerational mobility patterns in the transmission of financial vulnerability do not differ across groups of natives. The financial situation in childhood is a significant predictor of poverty and deprivation, but this association disappears once educational attainment is accounted for. That suggests that the financial situation of the household during childhood mainly impacts future life chances through its impact on the child's chances of receiving higher educational attainment.
- About a dozen of OECD countries have policies in place to promote the employment of children of immigrants in the public sector. There is a wide range of tools, from information and advertisement campaigns to broad-based policies specifically targeted at children of immigrants which oblige public employers to make particular recruitment efforts with respect to this group.

Chapter 1.

Intergenerational mobility of natives with immigrant parents: An overview

This chapter provides an overview of the key findings of an OECD project – funded by the European Commission - that analysed the links between parental disadvantage for immigrants and the outcomes of their children across EU and OECD countries, in comparison with native-born parents and their children.

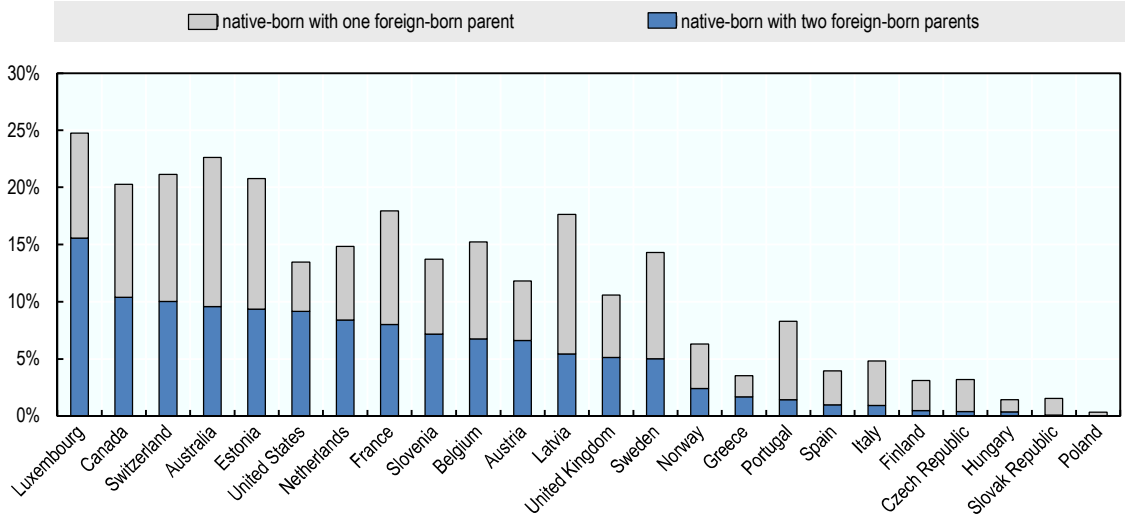
Introduction

Ensuring equal opportunities and promoting upward social mobility for all are crucial policy objectives for inclusive societies. A group that deserves specific attention in this context are immigrants and their children, as they face multiple disadvantage and constitute an important and growing part of the EU and OECD population. Understanding the intergenerational transmission of disadvantages of migrants, in absolute and relative terms, and the conditions under which native-born children of immigrants may be resilient, is critical for evidence-based policies aiming at promoting economic growth and social cohesion. In the EU context, it is also crucial for attaining EU targets with respect to reducing school drop-out and enhancing employment rates. The present report is aiming at addressing these questions, building on new empirical, internationally-comparative analyses.

This overview chapter of the report summarises findings from the work presented in greater detail in Chapter 3 (with respect to education) and 4 (regarding the labour market), together with an extensive survey of the existing literature (Chapter 2). It also incorporates findings from background reports on specific countries and groups of children of immigrants, which will be the subject of a forthcoming OECD publication.

Native-born persons with two foreign-born parents – the focus group of this report - are a growing group. In the European Union, they account for 9% of all youth aged 15-34 (see Figure 1.1), but already for 11% of all children below the age of 15.[1]

Figure 1.1. Distribution of youth by place of birth and parents' place of birth in selected OECD countries, 15-34, 2014

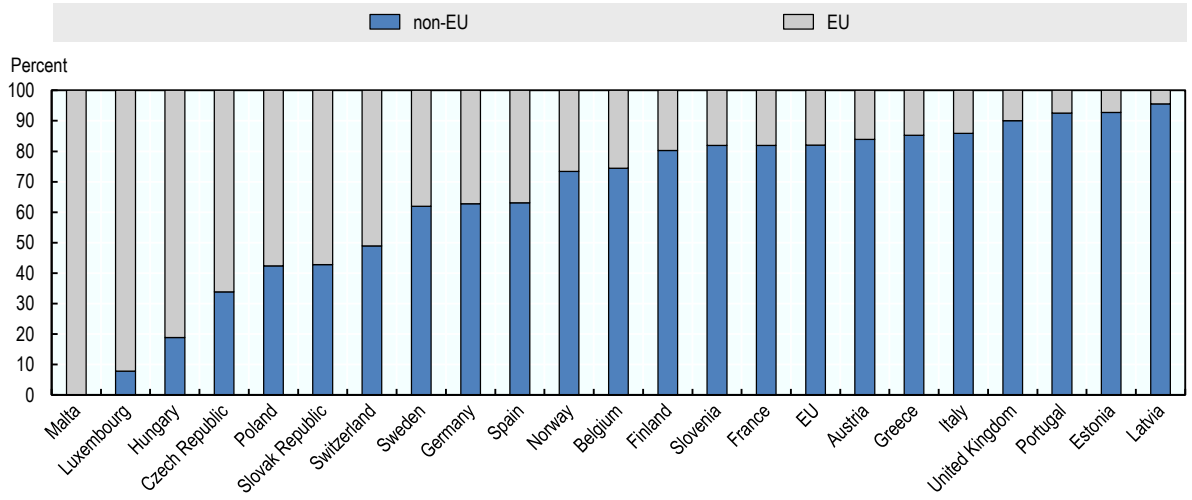


Source: OECD Secretariat calculations with data from national labour force surveys. See OECD and EU (forthcoming), *Indicators of Immigrant Integration 2018: Settling In*.

As far as EU countries are concerned, a key distinction is between those whose parents were born in another EU country and those whose parents were born in a country outside the EU, as the two groups differ in their characteristics and integration prospects.[2] Indeed, there are the marked differences among the outcomes of the children of the two groups. Moreover, the distribution of these groups among all natives with foreign-born parents

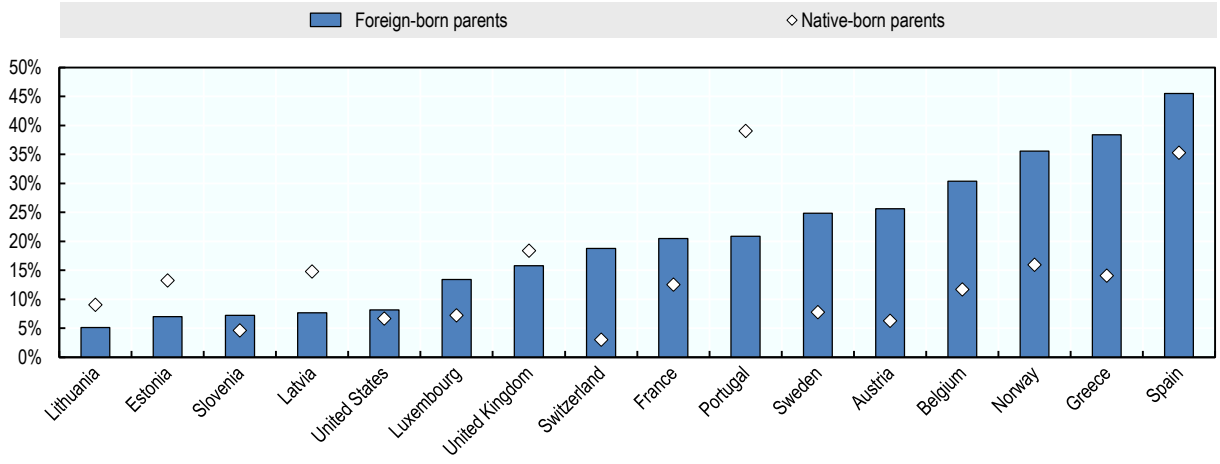
varies widely across EU countries, from more than 90% with parents born outside the EU in the United Kingdom and in Portugal to less than 10% in Luxemburg (Figure 1.2). As will be seen in greater detail below, children of immigrants from non-EU countries often face much greater challenges with respect to intergenerational mobility and to socio-economic outcomes than their peers with EU-born parents.

Figure 1.2. Native-born youth with immigrant parents, by parental origin, 15-34, European OECD countries, 2014



Source: OECD Secretariat calculations with data from national labour force surveys. See OECD and EU (forthcoming), *Indicators of Immigrant Integration 2018: Settling In.*

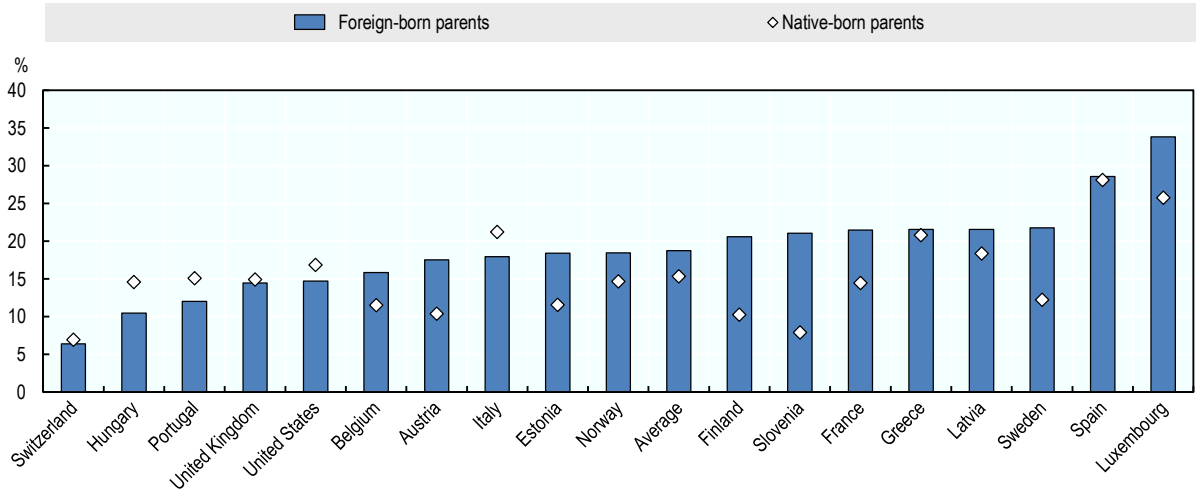
Figure 1.3. Share of low-educated native-born persons aged 25 to 34, by country of birth of parents, percentages, 2014



Source: European countries: EU Labour Force Survey Ad-hoc module 2014. United States: Current Population Survey.

At the same time, previous work has shown that natives with immigrant parents[3] remain at a disadvantage (OECD, 2010; OECD and EU, 2015). In particular, they have lower educational attainment and labour market outcomes than their peers with native-born parents in most European OECD countries (Figure 1.3), especially in those countries which experienced large-scale immigration of low-educated immigrants in the past. There are a few exceptions; however, these mainly concern countries with small populations of native-born children of immigrants and where the parents are highly-educated expatriates. A similar picture emerges with respect to the percentages of those youth who are not in employment, education or training (NEET) (Figure 1.4), which is a key indicator for youth.

Figure 1.4. NEET rates of youth aged 15 to 24, by parents' place of birth, percentages, 2014



Source: European countries: EU Labour Force Survey Ad-hoc module 2014. United States: Current Population Survey.

To what degree are these difficulties linked with the disadvantage faced by the immigrant parents? What can one say about social progress over time for immigrant groups? There has indeed been little research on progresses over time – that is, comparing the outcomes of immigrants' children to the outcomes of their parents – and even less on analysing the intergenerational social and economic mobility of natives with immigrant parents as compared to their peers with native-born parents. Yet the fact is that better understanding of these linkages is crucial for the design of policy instruments aimed at addressing the poorer outcomes of children of immigrants.

Intergenerational mobility refers to the link between the socio-economic status of parents on the one hand and the status their children will attain as adults on the other. Fair intergenerational mobility can be taken as a marker of equity by mitigating the widening of economic inequality across generations. It also contributes to promoting social justice, and to achieving more social cohesion.

The overview attempts to answer the following three questions:

1. Are natives with immigrant parents more or less socially mobile than natives with native-born parents?
2. What drives or hinders the intergenerational mobility of natives with immigrant parents?
3. Which policy instruments can promote the intergenerational social and economic mobility of natives with immigrant parents?

Key questions on the intergenerational mobility of natives with immigrant parents

Parents influence the success and life chances of their children through many channels. They transmit a multitude of resources to their children, and specificities in these transmission channels are the core reason for varying social mobility between the children of natives and those of immigrants. In particular, parents invest in their children by financing their education, or simply by spending time with them in enriching activities that are important predictors of children's success (Waldfogel and Washbrook, 2011; Price, 2008). Parents may also transmit wealth (financial and material) through bequests or gifts. Beyond what parents invest and transmit, the future life chances of children depend on their social capital. Wealthier parents provide a different social capital to their children because of the peers that children interact with in school, and the wider network of family acquaintances and friends. Parents with a great deal of social capital can help their children in case they need support in school or need contacts in professional networks to find employment. In addition, the quality of the neighbourhood where one grows up is a key factor influencing later outcomes (see Chapter 2). Finally, parental aspirations, beliefs and attitudes may also affect family and the work outcomes of children when they are adults.

OECD work has shown that overall intergenerational social mobility is considerable: with the global expansion of educational opportunities seen in the past few decades, many individuals have achieved a higher educational level than their parents. Globally, about half of non-student adults (25-64 year-olds) have had a different level of education than their parents, with upward mobility almost four times more common than downward mobility (OECD, forthcoming b).[4]

1. Are natives with immigrant parents more or less mobile than natives with native-born parents?

The degree to which parents transmit their educational and social capital has been widely argued to be a key factor affecting people's educational achievement later in life. While parental human capital is generally correlated with their children's success (usually defined as educational attainment, income, or occupational status), immigrant parents are often at disadvantage compared to the native-born because of lack of host-country language skills, social networks, among others.

In most countries, immigrants have lower socio-economic outcomes than natives, and this impacts on the outcomes of their children.

In most EU and OECD countries, immigrants are overrepresented at the lower educational and occupational strata, with the overrepresentation strongest at the lowest levels, especially in European OECD countries. In the EU, a full 15% of natives with non-EU parents have a mother with no completed formal education, which is five times

the share in the other groups. That particular overrepresentation indicates that natives with non-EU origins have a more challenging "starting point", which could partly explain their weaker performance on the labour market.

It would thus not be surprising a priori that natives with immigrant parents have lower educational outcomes on average than natives with native-born parents. To the degree that chances in the labour market are associated with education, one would also expect this to translate into somewhat lower overall labour market outcomes. Indeed, there is ample evidence that natives with immigrant parents, and especially those with parents born outside the EU, have lower education and labour market outcomes than their peers with native-born parents.[5] (See for example Ammermüller, 2005; Crul and Schneider, 2009; Heath, Rothon and Kilpi, 2008; Marks, 2005; Schnepf, 2004; van de Werfhorst and van Tubergen, 2007.) Most studies explain the gap in educational outcomes by pointing to differences in socio-economic background, especially parental education. Once similar individuals are compared in terms of socio-economic background, part – but far from all – of the gaps observed disappear. In the Netherlands, Crul (2017, forthcoming) finds for instance that the difference in educational outcomes is reduced by half for the children of Turkish immigrants and three-quarters for the children of Moroccan immigrants when accounting for the educational level of their parents. In Germany, the occupational status of native-born children of immigrants from the former Yugoslavia no longer differs from that of native-born children of German natives in a statistically significant way. However, small differences remain for the children of Turkish immigrants (Diehl and Granato, 2017).

While it is widely accepted that the socio-economic characteristics of immigrant parents play an important role in the under-performance of many of their native children, research suggests that the transmission of socio-economic status does not operate in the same way for immigrants as it does for majority populations (Heath et al., 2008; Nauck, Diefenback and Petri, 1998).[6]

Global convergence in outcomes across groups over generations

In most countries analysed, there is a convergence of educational attainment across generations. Progress is clearly visible when comparing differences across generations for both groups. On average across European OECD countries, natives with immigrant parents have on average 1.3 years' more schooling than their parents, while their peers with native-born parents have 0.7 years. Among parents, the difference in educational attainment between native-born and immigrants is roughly 1.2 years of schooling, while among the offspring generation this difference is reduced to roughly 0.7 years of schooling. It emerges from this picture that the educational gap within the child cohort is smaller than the one observed among their parents. On average, the gap has almost halved within one generation. To sum up, there is a clear convergence in educational attainment between natives with immigrant parents and natives with native parents.

A much lower threshold to pass for children of immigrants

Not only are migrant parents overrepresented at the bottom of the educational strata, but also they are more likely to be without a job and when employed, find themselves more often in lesser-skilled occupations (OECD and EU, 2015). At the same time, intergenerational mobility is more likely for those whose parents are at the bottom end with respect to these characteristics.

It is thus not surprising that children of immigrants are on average more mobile at first sight, given that the threshold they have to pass is much lower. To shed more light on the intergenerational mobility patterns of natives with immigrant parents compared to that of their peers with native-born parents, it is crucial to compare individuals with the same starting point, i.e. with the same parental educational level. As data from the OECD Programme for International Student Assessment show, the increase in educational outcomes with higher parental education levels is less pronounced for children of immigrants than for children of native-born (Chapter 3).

In sum, while there is convergence between the two groups across generations, this is driven by general educational progress from which immigrants benefit disproportionately, since they have on average a lower starting point and are thus more likely to experience upward mobility.

Intergenerational transmission of disadvantage: stronger for immigrants

What is worrying is that in many European countries, natives with low-educated immigrant parents have a lower probability of completing medium-level or higher education, as compared to natives with equally low-educated native-born parents. It is true, though, that this effect is weaker for younger generations (under age 40), indicating an improvement in upward mobility in the recent past.

Also worrying however is that in Europe, higher parental education translates less into higher labour market chances for the children of immigrants than for the children of natives. The native born with low-educated parents of non-EU origin have roughly the same employment probability as their peers with low-educated native-born parents. However, having parents educated at a medium level increases the employment rate for natives with native-born parents by 10 percentage points, while the rate increases only by 5 percentage points for peers with non-EU parents. The picture is broadly the same for those with highly educated parents.

Natives with immigrant parents less likely to enrol in tertiary education

Generally, for both the offspring of immigrants and offspring of the native born, children whose parents are not highly educated have limited chances of enrolling in tertiary education. While children whose parents did not attain upper secondary education have only a 15% chance of having tertiary education, on average across OECD countries they would have been four times more likely to go to university if at least one parent had attended tertiary education. Differentiating within tertiary educational attainment and looking only at the highest levels yields even more striking results. The likelihood of having at least a master's degree when parents have lower secondary education or less is as low as 3%. That likelihood is multiplied by four if parents have upper secondary education, and multiplied by seven if parents have already had tertiary education.

At the same time, there little chance of downward mobility for those with more highly educated parents. Children from more educated families are six times less likely to drop out from school at lower secondary level or before than students whose parents have a lower educational background.

An interesting finding is that natives with immigrant parents who do enrol in post-secondary education are less likely to do so in the academic tracks, but rather enrol in vocational education and training (Chapter 3). This holds even after controlling for the parents' education.

A gap in employment rates that decreases with the level of educational attainment

The findings from the literature and from Chapter 4 clearly show that even when individuals have similar parental educational levels – that is, after controlling for parental educational attainment – still it is the natives with non-EU parents who experience weaker labour market outcomes and more difficulties in obtaining good jobs requiring high levels of skills. However, there are large variations among immigrant groups and between genders. For example, in France (Beauchemin, forthcoming), the unemployment rate of sons of Algerian immigrants is almost twice as high compared to that of the male mainstream population seven years after the end of their initial studies (27% and 14%, respectively). This gap is even larger between the daughters of Turkish immigrants and women with native-born parents, with unemployment rates of 44% and 16%, respectively. Multivariate analyses show that part of these gaps remain after controlling for individual and family characteristics, especially among those of non-European origin. This indicates that there are potentially other factors that natives with non-EU origins in particular need to overcome, and that could in turn partly explain their (weaker) performance on the labour market. Such unexplained differences may be due to institutional differences in a given context, selective screening by employers, or other factor such as fewer networks and knowledge about labour market functioning.

Chapter 4 also shows that natives with non-EU origins who complete higher education have a much lower employment gap in comparison with natives with native-born parents than those with lower educational attainment. Low-educated natives with parents born outside the EU have a 12 percentage points lower probability of being in employment than their peers with native-born parents. This employment gap reduces to 10 percentage points for those with medium-level education and to 6 percentage points for those who completed higher education. While a person's own education is a big driver for labour market outcomes generally, it has an even stronger impact on the labour market outcomes of children with immigrant parents.

The ongoing greater difficulty in achieving upward mobility towards a high-skilled job

Natives with parents born outside the EU experience less occupational upward mobility than their peers with EU origins or with native-born parents. About a third of natives in the latter two categories manage to move upward on the occupational ladder; for natives with parents born outside the EU, only 1 in 5 manages to find work in an occupation requiring a higher skill level than his/her father needed in his occupation. Moreover, evidence from the country reports (OECD, forthcoming) clearly shows that having a high education level translates less often into high-skilled occupations for children of immigrants. These findings indicate that the top end of the labour market is the most difficult to reach for the children of immigrants.

The stronger negative effect having low-educated parents on the labour market performance of natives with immigrant parents

Comparing individuals with similar parental education levels reveals that having low-educated parents is associated with less upward mobility for natives with immigrant parents than for their peers with native-born parents. Having low-educated parents also has a stronger negative effect on the labour market chances of natives with immigrant parents than for their peers with native-born parents, especially for those with parents born outside the EU. To be more precise, natives with low-educated parents born outside

the EU have a lower probability of being in employment than their peers with the same age, education and gender but native-born parents, with some heterogeneity by country. In Austria, Switzerland, Spain, France, Norway and the United Kingdom, their employment gap ranges between 5 and 10 percentage points. In Belgium, natives with low-educated parents born outside the EU have an 18 percentage points lower probability of being in employment compared to natives with native-born parents.

There are several possible explanations for this. First, within the group of low-educated immigrant parents, immigrant parents find themselves disproportionately often among the very low educated. Also, low-educated immigrant parents have lower income than their native peers (OECD and EU, 2015). They may thus be less able to invest in their children's human capital. Poverty risks, joblessness and a lack of basic education are therefore likely to accumulate and result in a larger share of individuals at higher risk of social exclusion. Language obstacles further exacerbate the issue. Finally, as Chapters 2 and 3 show, there is compelling evidence of a detrimental effect of the observed high concentration of children with low-educated immigrant parents in schools on overall education outcomes.

Highly educated immigrant parents less likely to transmit their advantage to their children

At the same time, highly educated immigrants often are not able to transmit their high "status" to their children. This phenomenon, known as perverse social mobility, is prevalent in many countries (see Heath, forthcoming). There are several possible reasons for this. First, there is ample evidence that the qualifications of immigrants themselves are largely discounted on the labour market of host countries, especially if these have been acquired abroad. Thus, highly educated immigrant parents are less likely to be in high-skilled jobs. But, even when foreign-born parents are employed in high-skilled jobs, they are less likely to transmit this advantage to their children than native-born parents. This results in a higher likelihood of downward occupational mobility for individuals with foreign-born parents that were occupied in high-skill jobs.

The children of immigrants' own education: a strong driver for labour market advancement

While overall there is a weaker link between parental education and labour market outcomes of their children for immigrants from non-EU countries at given education levels of the children, the children's own education level matters greatly: the higher the education level, the lower the gap in employment rates between those with and without immigrant parents. In other words, education is a stronger driver for the labour market integration of children of immigrants than for the children of the native born.

The strong association of immigrant mothers' labour market status with the outcomes of their children, especially for the daughters

Immigrant mothers' labour market participation seems to have an important impact on the outcomes of their children, more than for the latter's peers with native-born parents. While this is observed for both genders, the association is particularly strong for women whose parents came from non-EU countries. Having had a working mother at age 14 (as opposed to a mother staying at home) increases the employment probability for natives with non-EU parents by 9 percentage points, more than twice the number for their peers with native parents at 4 percentage points.

The strong likelihood of low-educated mothers with immigrant parents staying out of the labour force

Not only do native-born women with immigrant parents have overall lower employment rates, but evidence from several countries (OECD, forthcoming) also shows that these women are more likely to quit a paid job upon the birth of their first child than women with native parents. An important factor in their decision seems to be the cost of child care – the more expensive it is, the more likely that the woman's (expected) salary amounts to less than the cost.

The strong performance of children of EU mobile citizens

An interesting and robust finding, that holds for both education and labour market outcomes, is that native-born children of mobile citizens (i.e. those with EU-born parents) often perform better than their peers with native-born parents. This is particular noteworthy since the issues faced by their parents are often similar to those faced by immigrants from non-EU parents – including a low education level of many parents. The stark contrast in the intergenerational mobility patterns between the two groups merits further investigation.

Averages hiding significant heterogeneity between genders and across parental origin groups

Country reports prepared in the context of this project (OECD, forthcoming) looked into specific groups, and these revealed interesting group and gender aspects. In particular, daughters of immigrant parents appear to fare well in the education systems and thus show generally high levels of educational mobility. They often attain a higher level of education than their brothers and indeed the highest level of education in their families. In both Sweden and the Netherlands, the daughters of Moroccan immigrants stand out as displaying exceptionally high levels of upward mobility. This shows that low average levels of human capital in the respective parental communities – as has been the case for the Moroccans – have not *per se* impeded educational advancement. In Canada and the United States, children of immigrants from Asian countries outperform their peers with native-born parents in the education system, while this is not the case for children of immigrants from South America.

Yet, as discussed above, success in school does not always translate into success in the labour market, especially among girls. An even wider gender gap appears among the low educated, where low educational attainment among women frequently leads to inactivity on the labour market. In the Netherlands for example, among those with low educational attainment, men with Turkish and with Moroccan origins have participation rates that are twice those of their peers who are women.

Even among the group of men with relatively low-educated non-EU parents, there are important differences. In particular, native-born men with parents from the former Yugoslavia have performed relatively well in terms of both education and labour market outcomes. On the one hand, this suggests that resilience is possible; at the same time, it shows that the outcomes for other groups are worryingly poor. An important question for further investigation is the degree to which the more favourable results of groups like those with parents from the former Yugoslavia may be linked with parental educational attainment and reason for migration. .

Scant evidence regarding those with immigrant grandparents suggesting the issues are persisting

There is very limited information on those whose grandparents have immigrated. Only two countries have both register data that allow for the identification of this group, and sufficiently large numbers to be able to study them in detail. They are Sweden and Belgium, and in both countries the evidence suggests that while the gap continues to close, some disadvantage is persisting across generations. In Belgium, the 2017 socio-economic monitoring (SPF Emploi, Travail et Concertation sociale and UNIA, 20175), has yielded some basic figures on the integration of native-born youth with two parents with Belgian nationality at birth and at least one grandparent with a foreign nationality at birth, on the basis of linked register data. These show, for example, that the unemployment rate among those native-born who have at least one parent holding a non-EU nationality at birth is about three times higher than for those with two Belgian parents and four grandparents that were born with Belgian nationality. For those with at least one grandparent with a non-EU nationality at birth, the rate is about twice as high. In Sweden, Hammarsted (2009) studied the earnings of immigrants, their native-born children, and their grandchildren relative to their peers without an immigration background. He finds that the earnings of the grandparent immigrants – who came mainly as labour migrants from other European countries – exceeded those of native Swedes. At the same time, he finds this situation reversed in the next generation, and that a gap persisted further among the grandchildren.

2. What drives or hinders the intergenerational mobility of natives with immigrant parents?

Early childhood education, later streaming, and teacher support

Early childhood education – provided that it is widely accessible, of good quality, and not segregated –can increase intergenerational mobility, and children of immigrants often benefit disproportionately. Children of immigrants who do not speak the language of the host-country at home and children with low-educated parents especially benefit from participating in early childhood education and care which provides an early immersion in the language of instruction and support that may be lacking at home (Schnepf, 2004). Immigrant parents themselves can also benefit from ECEC institutions, which often provide additional services such as health monitoring and helping parents access other available social support services. However, children of immigrants are often underrepresented in ECEC, especially at the critical period between two and four years.

Among children of immigrants at age 15, data from the 2015 OECD Programme for International Student Assessment (PISA) show that OED-wide, 41% speak a language at home that is different from that of the country in which they live. These students also underperform *vis-à-vis* their peers in terms of PISA reading scores. Research further indicates that streaming into less prestigious tracks is often linked not only with the students' skills but also with their socio-economic background, and this disproportionally affects children of immigrants. Lastly, teacher skills and attitudes towards children of immigrants matter.

Parental aspirations, language skills and system knowledge

Parental support is key for children to succeed in school and beyond, and yet many parents are not sufficiently engaged in their children's schooling. While this may be

primarily a socio-economic and not an immigrant issue *per se*, immigrant parents often face additional challenges such as language barriers and lack of knowledge about the functioning of the education system and the labour market. In addition, again because of language barriers, they may be more hesitant in interacting with teachers and thus less able to intervene on time when their child needs support at school. Especially parents with a low level of educational attainment may be less able to assist their children at home, or may feel uncomfortable when interacting with teaching staff in school settings (see Chapter 2).

Evidence further suggests that the greater number of years that parents have spent in the host country prior to giving birth positively affects educational outcomes of their children, mostly due to parents' better language skills (Worswick, 2004; Nielsen and Schindler Rangvid, 2012; Smith, Helgertz and Scott, 2016). When parents speak the language of the host country on a good level, this is likely to positively impact their children's educational attainment, and even more so when their children are still young. Parents' familiarity with the education system is likely to have an impact on how well they can support and guide their children through an educational career, particularly when parents can choose their children's schools or have to make decisions regarding school streams early on. Thus, a lack of such knowledge can become a mechanism that reinforces the association between parents' and children's attainment.

Educational aspirations among immigrant parents and their children are generally found to be high (see e.g. Beauchemin, forthcoming). Results from the OECD PISA also reveal that most immigrant students and their parents have ambitions for the child's success that often exceed the aspirations of native families. For example, parents of immigrant students in several countries are more likely to expect that their children will earn a university-level degree than the parents of students without an immigrant background. When comparing students of similar socio-economic status, the difference between those with and without a migration background in terms of their parents' educational expectations for them grows even larger. This is important, as students who hold ambitious yet realistic expectations about their educational prospects are more likely to put effort into their learning and make better use of the opportunities available to them to achieve their goals. High educational aspirations are an important prerequisite for overcoming initial disadvantage and thus for resilience. However, high aspirations need to be coupled with hands-on knowledge to turn these goals into tangible outcomes.

Concentration of disadvantage in neighbourhoods and schools

There is ample evidence that growing up in a poor neighbourhood has negative effects on labour market outcomes. Less is known about the extent to which a high concentration of immigrants in a given neighbourhood impacts the mobility of natives with immigrant parents. Literature that has aimed at capturing immigration-specific factors of residential segregation shows that its impact strongly depends on the – often group-specific – economic and social resources of immigrant communities.

Likewise, findings from the OECD PISA suggest that children of immigrants are everywhere highly concentrated in a small number of schools. Interestingly, it is not the concentration of children of immigrants *per se* in schools that seems to matter, but rather the interaction of such concentrations with the low education of parents. In Europe the two often coincide (i.e. there is a high concentration in schools of low-educated immigrant families); this is less the case in OECD countries that were settled by immigration, such as Canada (Lemaître, 2012).

Networks

The transition from school to work has been highlighted in the literature as a critical point for natives with immigrant parents, who are often less successful in finding employment. In most countries, these differences are not explained by differences in educational attainment. Fewer networks may be a factor that limits school-to-work transitions for natives with immigrant parents, particularly if their parents cannot provide them with useful contacts. Indeed, especially for the first foothold in the labour market, parental support and networks are often crucial.

Concentrations of both immigrants and their children in certain occupations and sectors may also hinder social mobility in the labour market. Detailed analysis of how the children of immigrants are distributed across occupations, and the extent to which this links with their parents' occupations, is still limited.

Discrimination

Discrimination is an often underestimated obstacle for intergenerational mobility. Testing studies using fake CVs show that it is not uncommon for native-born persons with a foreign sounding-name to write three to four times as many applications as otherwise similar persons with a "host-country" name to be invited to a job interview. Native-born youth with immigrant parents are more highly aware of, and less likely to accept, such discrimination than their immigrant parents, at least in European OECD countries (Heath, Liebig and Simon, 2013). This may hamper their identification and engagement with the host country, with negative implications not only for social mobility but also for wider social cohesion. It is also worth noting that children of immigrants seem to react at least in part to discrimination by sending more CVs than their peers with native-born parents.

3. What role for policy?

While policy measures aimed at improving the situation of youth in general will also reach out to and support natives with immigrant parents, targeted policy measures may be necessary to address some of their specific challenges. For example, natives with immigrant parents have often grown up in an environment where parents have less information about labour market functioning in the host country or access to networks that may help in finding a first job. In addition, evidence from a number of OECD countries suggests that active labour market policies often have different effects on immigrants than on the native born (OECD, 2014). The degree to which this extends to their native-born children is, however, unclear. While wage subsidies have proved to be quite effective for immigrants' access to regular employment in several countries, instruments like apprenticeship subsidies could play a similar role for disfavoured children of immigrants.

That said, few countries have specifically targeted policies for native-born youth with immigrant parents. Indeed, such specifically targeted labour market measures may risk increasing stereotypes. However, some indirect targeting – for example, for disadvantaged youth in general – can disproportionately benefit native-born youth with immigrant parents, because they are often overrepresented among this group. Enhancing transparency and making sure that all children have the relevant information are important prerequisites for such programmes to work.

Policy lessons

Notwithstanding the caveats just mentioned, there emerge a number of policy lessons to address the challenges for upward social mobility for the children of immigrants that have been discussed in the previous section.

Supporting the integration of immigrant parents

A first clear policy implication concerns measures to help integrate immigrant parents, by providing education and training where appropriate and more generally by supporting labour market integration. This will have an important spill over effect on the outcomes of their children, which will be particularly strong in the case of women. Involving and supporting immigrant parents – especially mothers, who are often a blind spot in the integration offers of OECD and EU countries (OECD, 2017) – is thus a necessary and important first step towards achieving upward mobility for their children. At the same time, immigrant parents need to be encouraged and empowered to better follow the educational advancement of their children. In this context, the issue of access to and participation in ECEC for children with low-educated immigrant mothers should receive particular attention.

Upward mobility through early intervention and promoting excellence

Increasing access to early childhood education with a specific focus on disfavoured children with language obstacles not only would allow the mothers to enter the labour market, but also would likely provide high returns for the children themselves – as demonstrated by evidence from a number of OECD countries. Many OECD countries have specific policies in place to help children of immigrants with language obstacles, often based on systematic language screening in pre-school coupled with follow-up remedial training (see the policy overview at www.oecd.org/els/mig/Policies-to-foster-the-integration-of-young-people-with-a-migrant-background.pdf).

Fostering intergenerational mobility for children of immigrants also means promoting excellence. Higher education is a turning point to ensure equal opportunities in working lives. Improving access to top schools remains important because the institutions and courses attended are determinants of success. Elite schools are biased against low-income students, mostly because of costs in some countries but also because they often require specific preparation. With little information and few resources, some youth prefer to attend shorter post-secondary courses or go to less demanding schools because of the quicker path to entry-level jobs, even if they offer lower labour market prospects. Policies aimed at addressing this include so-called "contextual admission" by universities, which avoids situations where high-potential candidates with a disfavoured background do not pass the initial screening (see e.g. Mountford-Zimdars, Moore and Graham, 2014). For example, students who are flagged through contextual admissions are given additional consideration and will not be rejected solely on the basis of their predicted or actual grades, or will be guaranteed an interview or similar additional opportunity depending on the discipline.

Initiatives in OECD countries in this respect include the French programme "Pourquoi Pas Moi", initiated by ESSEC Business School and now available in several other top universities (Cordées de la Réussite). This is a mentoring programme for high school students and workshops. Some 90% of participating students pursue tertiary education compared with the average of 75%, and members are twice as likely to attend a top

school (Accenture, 2012). A similar initiative in the United States, the College Coach Program (CCP) implemented in twelve Chicago public high schools, helped students go through the college application process. Participants were 13% more likely than those without coaches to enrol in college and were 24% more likely to attend a non-selective four-year college than a two-year college (Stephan and Rosenbaum, 2015). While both initiatives do not target children of immigrants specifically, they do target children from disadvantaged backgrounds, among which children of immigrants are often overrepresented.

Overall, for individuals who were born in a given country, the education system has the potential to mitigate socio-economic disadvantages and its intergenerational transmission. Well-functioning schools, quality teachers, and targeted support all contribute to a better school environment (OECD, 2015). Educational attainment is an important outcome to be considered, but the issues that students from disadvantaged backgrounds face, that begin long before education is about to be completed, are likely to have long-term consequences. In other words, countries unable to mitigate the impact of socio-economic background during compulsory education and before may face greater challenges in ensuring equal opportunities for all once students enter the labour market. Since children of immigrants often end up in the lower streams of the education system and have less parental guidance and fewer role models, it is particularly important to have sufficient upward permeability in the educational system that allows students to move into more prestigious streams of secondary education or to access higher education.

Combating discrimination and promoting diversity

Most OECD countries have taken measures to combat discriminatory hiring practices, although the scale and scope of the measures vary widely. The most common measure to combat discrimination is legal remedy. Many OECD countries have, for example, implemented non-discrimination legislation and established agencies responsible for monitoring its application. In the OECD countries that were settled by migration, such as Australia, Canada and the United States, such legislation dates back several decades. In the European Union, an important impetus has come from Racial Equality Directive 2000/43/EC.

Several OECD countries have also tested equal employment and affirmative action policies. Such policies go beyond imposing penalties on discriminatory acts and have attempted to "level the playing field" by removing barriers that hamper access to the labour market and professional upward mobility. Often they are based on targets, although hard quotas are rare. Some countries, such as Finland, France, Germany and Norway, have tested anonymous CVs. Evidence suggests that these tools, if carefully designed and monitored, can be effective in tackling discriminatory hiring practices (Heath, Liebig and Simon, 2013).

A growing number of OECD countries have adopted diversity policy instruments. France, for example, provides companies with the possibility of passing an audit as to whether or not they use fair hiring and promotion practices. If enterprises satisfy six criteria, they can obtain a diversity label (*label diversité*) from the French Government. The criteria include: a formal commitment by the enterprise to diversity; an active role of the social partners within the enterprise; equitable human resource procedures; communication by the enterprise on the question of diversity; concrete public measures in favour of diversity; and procedures to evaluate actual practices. Along similar lines, Belgium grants specific diversity awards to employers with diversity-friendly company structures, and

Canada helps employers meet the challenges of a diversified workforce by providing diversity training and support in developing inclusive hiring practices and retaining newcomers. At the EU level, a growing number of countries have introduced "diversity charters" in which signatories commit themselves to pro-diversity recruitment and career management practices. Likewise, there is the recent EU initiative "Employers together for integration". However, there tends to be an element of self-selection with already committed enterprises being more likely to sign (Heath, Liebig and Simon, 2013; OECD, 2008; OECD, 2007).

In general, a considerable part of the effect of policy measures stems from raising awareness about the issue rather than through the direct influence of a particular policy on reducing discrimination or promoting equal opportunities. This is particularly relevant where legal constraints are concerned. Evidence shows that discriminatory behaviour does not always stem from individual preferences; it often arises from negative stereotypes about immigrants and their children, suggesting that a balanced public discourse on immigrants and their integration outcomes is conducive to combating discrimination (Heath, Liebig and Simon 2013). Moreover, immigrants can signal to employers their willingness to integrate through voluntary activities or other initiatives highlighting their social commitment to the host country society. Evidence from a fictitious job application study in Belgium, for example, finds that pro-social engagement not only lowers but also eradicates hiring discrimination against immigrant candidates. While non-volunteering native candidates received more than twice as many job interview invitations as non-volunteering immigrants, no unequal treatment was found between natives and immigrants when they revealed volunteering activities (Baert and Vuljic, 2016).

The promotion of diversity also implies tackling the issue of segregation in neighbourhoods and schools. While there does not seem to be a silver bullet here, a mix of policy interventions including both housing and education policy instruments that aim at avoiding concentration of disadvantage is certainly needed.

Counselling and mentorship

As mentioned, individuals with immigrant parents tend to have fewer networks and knowledge about labour market functioning. Policy can help to overcome this, for example through better counselling. Mentorship programmes have been highly effective in a number of countries and increasingly so with respect to recent arrivals, but they could also be used to overcome such obstacles for the children of immigrants who face similar issues, even for those who are native born. Such measures could also have the important side effect of promoting social cohesion at large.

The public sector as a role model

While the public sector, and in particular the public administration – due to the nature of the jobs – is often not an option for adult immigrants, it can play an important role in integration and in supporting intergenerational mobility for their children. This not only extends their career options but also generates a range of additional benefits. First, the presence of public servants with migration background enhances diversity within public institutions and contributes to a better understanding of the needs of immigrants and their children. Second, the ways in which the wider public perceives children of immigrants depend on their 'visibility' in public life and the contexts in which they become 'visible'. Where civil servants with a migrant background act as teachers, police officers, or public

administrators they demonstrate that immigrants are an integral part of society, and act as role models to other native-born youth with immigrant parents. Finally, by pro-actively employing children of immigrants, the public sector serves as a role model to private sector employers.

Indeed, this is an area where countries have been particularly and increasingly active, and about a dozen of OECD countries have policies in place to promote the employment of children of immigrants in the public sector (see the policy overview at www.oecd.org/els/mig/Policies-to-foster-the-integration-of-young-people-with-a-migrant-background.pdf). There is a wide range of tools targeted at children of immigrants, ranging from information and advertisement campaigns such as in Germany, to broad-based policies in the Scandinavian policies which oblige public employers to make particular recruitment efforts with respect to this group. Other countries, such as the United Kingdom and the United States, have long-standing affirmative action policies which target disadvantaged youth in general.

Conclusion

A better future for their children is a key goal of many individuals deciding to migrate to a different country. Immigrants themselves face many obstacles in the labour market that are linked to the fact that they lack certain host country-specific skills, networks and knowledge. They are often willing to accept the resulting disadvantage in the labour market that is manifest in many indicators, with the hope of a brighter future for their children who should not face the same issues since they are raised and educated in the host country. Indeed, the degree to which native-born children of immigrants enjoy upward social mobility and have outcomes similar to their peers with native-born parents is rightly considered to be the litmus test of the long-term success of integration policy.

The good news in this respect is that clearly, native-born children of immigrants face lower gaps *vis-à-vis* their peers than their parent's generation, with respect to both the education system and the labour market. What is worrying however is the fact that this is driven by the overall intergenerational social mobility of those with low-educated parents, and this is a group where immigrants are often strongly overrepresented. At similar starting points, children of immigrants from non-EU countries experience lower upward mobility than their peers with native-born parents. A puzzling result is that the reverse is the case for those with EU-born parents. For these, integration is a clear success story from an intergenerational perspective – which is good news for the integrated European labour market and for EU mobility at large.

The fact that there are persisting obstacles that seem to prevent a similar success story for those with non-EU-born parents – in spite of evidence of high motivation – merits particular policy attention, not least because this is a growing group virtually everywhere. At the same time, there is significant heterogeneity. In most EU and OECD countries, female children of immigrants outperform their male peers in the education system, while the reverse is the case in the labour market. And the children of immigrants from certain regions of origin seem to face more difficulties than others – a pattern that holds both across countries in Europe and in North America, in spite of very different contexts and groups concerned. While this points to the fact that the obstacles can be overcome, it also shows that for some groups the situation is even worse than what the average suggests, especially among men for whom intergenerational mobility in the education system is particularly low. Worrying also is the scant evidence that suggests that for those whose grandparents have immigrated, some of the disadvantage seems to persist among the

grandchildren (that is, they have lower outcomes than their peers with native-born grandparents) even if the situation clearly improves across generations. However, more research on this question is clearly needed. Part of the answer seems to lie in addressing the issue of discrimination, including that of the institutional kind, which is an underestimated problem in both education and the labour market. Tackling the concentration of disadvantage in neighbourhoods and schools with strong immigrant presence is another line of action, although these issues are often particularly difficult and costly to address.

Ultimately – and this is the perhaps most important finding of the study – investing upfront in the integration of immigrant parents entails intergenerational payoffs. It can thus be a long-term investment, not only with respect to better tapping into the potential of children of immigrants, but also with respect to social cohesion. A key role here is played by immigrant mothers, who are often neglected in integration efforts. Helping both parents to be fully and autonomously functional in the host country society is an important precondition for better outcomes of their children, who are after all a growing part of the future of OECD and EU societies.

Notes

1. Due to lack of data for non-European OECD countries, many empirical findings focus on EU and European OECD countries.
2. Children who have one parent born in the EU and one parent born in a non-EU country are classified as having EU-born parents.
3. This report avoids the widely used term "second generation migrant" as this term suggests that immigrant status is perpetuated across generations. It is also factually wrong, since the persons concerned are not immigrants but native-born. In OECD settlement countries such as Canada and Australia, this population is generally referred to as "second generation Canadian/Australian". The report uses the neutral term "natives with immigrant parents".
4. The macroeconomic context is important for intergenerational upward mobility. Economic growth fuels mobility because productivity growth is a fundamental factor that drives wages and living standards. Over time, improvements in overall productivity and in wage levels tend on average to make children better off than their parents.
5. See for example: Ammermuller, 2005; Crul and Schneider, 2009; Heath et al., 2008; Marks, 2005; Schnepf, 2004; Van de Wefhorst and Van Tubergen, 2007.
6. Many authors, such as Heath et al. (2008), refer to this as "ethnic penalty".

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Chapter 2.

Intergenerational mobility among young natives with immigrant parents: A review of the literature

Taking an intergenerational perspective, this literature review seeks to identify key factors that affect the transmission of socio-economic status from immigrant parents to their children. It begins by exploring family characteristics: how intergenerational mobility is impacted by the number of siblings, the parents' length of stay in the host country, parental language skills and educational aspirations. It then looks at the relationship between growing up in a disadvantaged neighbourhood and intergenerational mobility. Next, it presents an overview of different factors at the school level: going to school with high shares of students with a migration background, institutional aspects such as early childhood education and streaming mechanisms in secondary school, as well as parents' familiarity with the school system and teachers' expectations and behaviours. Finally, the chapter explores three factors besides education that impact mobility in the labour market: school-to-work transition of natives with a migration background, sorting into occupational fields, and discrimination at the hiring stage and during employment.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Main findings

Family characteristics

- The literature shows somewhat inconclusive results on how the number of siblings can impact educational attainment, but mostly family size is not a particularly strong explanatory factor. Older siblings may also function as a resource to younger family members, yet little is known whether this improves educational outcomes.
- The amount of years parents have spent in the host country appears to positively affect the educational outcomes of their children, mostly due to the parents' language skills improving over time. More generally, there is some evidence that good language skills of parents positively impact their children's educational outcomes, particularly when they are young.
- Research shows that educational aspirations are generally high among migrant families. However, while educational aspirations may be a pre-requisite for educational upward mobility, by itself they are not sufficient, particularly when support structures and knowledge on how to attain these goals is lacking.

Growing up in disadvantaged neighbourhoods

- There is strong evidence from quasi-experimental research that growing up in poor neighbourhoods has a long-term impact on labour market outcomes in adulthood. Although these studies generally do not make a distinction according to migration background, these insights are particularly relevant for natives with migrant parents, as in many OECD countries, considerable shares grow up in disadvantaged neighbourhoods.
- There are often strong assumptions that the residential segregation of immigrant communities in and of itself presents an obstacle to mobility, yet the evidence on its impact on education and employment outcomes is not that clear-cut. Higher shares of co-ethnics may be advantageous when these contacts can provide job opportunities or knowledge about vacancies; however, when ethnic groups do not possess such collective resources, labour market outcomes may be poorer. Thus, the impact of residential segregation of immigrant communities strongly depends on group-specific social capital.

Determinants on a school level

- The often-observed negative relationship between educational outcomes and high shares of students with immigrant parents is largely driven by socio-economic disadvantage, often mirroring socio-economic disadvantage at the neighbourhood level.
- There is strong evidence that early childhood education – given that it is widely accessible and of good quality – can increase educational mobility.
- Although this depends on a number of contextual factors, the majority of research indicates that overall, school systems that stream students only at a later age, e.g. around the age of 15, reduce the importance of parental socio-economic background.

- There is evidence that parents' familiarity with the education system is particularly important when parents can choose their children's schools or have to make decisions regarding school streams early on. A lack of such strategic knowledge can thus become an obstacle to educational mobility, yet there is little evidence on how immigrant parents' knowledge concretely influences decision making.
- A number of studies have sought to assess the extent to which teachers' expectations and attitudes towards students with a migration background impact their educational trajectories. However, results are highly mixed and most studies cannot disentangle to what extent expectations are informed by attitudes towards ethnicity/migration status or (assumed) social class.

Pathways and obstacles for intergenerational mobility in the labour market

- Research has clearly demonstrated the importance of networks and personal contacts for finding employment. Fewer networks may be a factor that limits school-to-work transitions for natives with a migration background, particularly if their parents cannot provide them with useful contacts.
- Vocational education and training (VET) systems can, under certain circumstances, facilitate school-to-work transition and present a pathway for upward mobility. However, in countries with well-established VET systems, natives with a migration background tend to be under-represented.
- There is evidence, mostly from English-speaking countries, that some ethnic minorities are concentrated in low-paying occupations and also tend to receive lower wages than equally qualified white workers.
- Field experiments show that natives with a migration background and ethnic minorities experience discrimination in the hiring process due to their ethnicity, religion and/or gender. Quantitative evidence on discrimination during employment, e.g. with regard to wages, promotions and layoffs, is still sparse.

Introduction

When children of immigrants succeed in school and in the labour market – particularly if their parents have low educational attainment or earn less than native-born parents – it is an indication that initial disadvantage can be overcome and that effective support structures are in place to help young people with immigrant parents climb up the social ladder. Intergenerational mobility among children of immigrants can therefore in a way be regarded as the litmus test for equality of opportunity and successful integration.

The socio-economic outcomes of children and young people with a migration background have attracted considerable attention among policy circles and the broader public. This interest might partly stem from the realisation that population shares of people with a migration background have strongly increased in many EU and OECD countries. By 2013, in 22 OECD countries with available data, almost 20% of young people aged 15 to 34 had immigrant parents or had themselves immigrated (OECD/European Union, 2015). At the same time, a large body of research has developed that compares educational and labour market outcomes of children of immigrants to those of their peers without a migration background (Damas de Matos, 2010; Liebig and Widmaier, 2010). It shows that an "achievement gap" remains in many OECD countries between these groups,

which decreases but rarely fully disappears when accounting for parental socio-economic characteristics.

The aim of this review is to synthesise the literature that goes beyond comparing children of immigrants to children of natives. Instead, the review takes an intergenerational perspective and seeks to identify the key channels affecting the transmission of socio-economic status from immigrant parents to their children. For example, when parents' occupational status or educational levels are low, their children can make substantial progress compared to their parents' generation, but may still have less favourable outcomes than those with native-born parents. This shows that integration and socio-economic mobility are related but different concepts of measuring how children with a migration background fare in the education system and the labour market.

There is currently little research available on what factors impact actual mobility patterns across generations of migrant families. Therefore, this chapter takes a broader approach and also includes studies without an explicit mobility focus – e.g. literature on determinants of educational outcomes of migrant children – to assess which factors are likely to determine intergenerational mobility.

The main focus of the literature review is on people whose parents immigrated but who themselves are native-born.[1] The rather common terminology of "second-generation immigrants" will be avoided as counterproductive, as it may tend to inculcate the idea that they are still immigrants rather than natives with a family history of migration. Instead, the report will use the expression of natives with a migration background when referring to the group of native-born with two foreign-born parents.[2] Understanding the drivers of intergenerational mobility for this group is crucial, as theoretically they should have experienced the same access to education and jobs as their peers with native-born parents. However, in some cases, the literature review also includes studies on ethnic minority groups, particularly in the Anglo-Saxon context, given the often limited evidence on natives with a migration background.

The educational and economic mobility of children with immigrant parents varies not only across OECD and EU countries, but also between different immigrant groups. In addition, some minority groups have experienced significant upward mobility in some countries, but not in others. Such differences across countries and immigrant communities already point towards the importance of parental human capital and selection effects (Borjas, 1995; Solon, 2014; Becker et al., 2015), but also indicate that institutional factors such as school systems (Bauer and Riphahn, 2013; Schnell, 2014) and meso-level structures, e.g. immigrant networks (Beine, 2015), as well as discrimination can shape the mobility of children of immigrants.

The following discusses how to measure intergenerational mobility and then provides an overview of different factors that impact intergenerational mobility among natives with migrant parents, focussing on family characteristics, the impact of growing up in disadvantaged neighbourhoods, determinants on a school level and pathways and obstacles related to school-to-work transition. The final sections provide conclusions and highlight avenues for future research.

Measuring intergenerational mobility among immigrant parents and their children

Intergenerational mobility, i.e. comparing a person's social position to that of their parents, can be measured in absolute or in relative terms. *Absolute mobility* refers to a general societal shift that impacts socio-economic outcomes or living standards in

absolute terms, e.g. higher shares of university graduates or overall higher wages from one generation to the next. *Relative mobility* indicates how much family background matters. In other words, in a society where relative mobility is high, people from (dis)advantaged families have a comparatively higher chance of climbing up or descending the social ladder than in societies where relative mobility is low.

In the context of intergenerational mobility among natives with a migration background, it is often assumed a priori that high relative mobility, i.e. a weak association between parental background characteristics and their own educational and labour market outcomes, is a desirable outcome or policy aim. While this is indeed the case if parents are less educated, it is an issue if highly educated or qualified immigrant parents are not able to transmit this advantage to their children, who then in turn experience downward mobility. Hout (1984) has described this phenomenon as a form of "perverse openness" – finding that class origins are a less important driver for occupational outcomes among African Americans than among white Americans. Therefore, it is crucial to go beyond assessing the overall strength of association between parents' and children's socio-economic outcomes, and to take a closer look at the *direction* of relative mobility rates.

The literature largely compares three different socio-economic outcomes to measure intergenerational mobility between parents and their children: educational attainment, occupation or class, and income. Not accounting for migration background, international comparisons indicate that earnings mobility is generally higher in the Scandinavian countries, Australia and Canada than in the United States, United Kingdom, France or southern European countries (see d'Addio, 2007; Black and Devreux, 2011). International comparisons on educational mobility across generations also find strong differences across countries; Latin American countries show the strongest associations between parents' and children's schooling, whereas Scandinavian countries demonstrate the weakest associations (Hertz et al., 2007).

While this gives an indication of overall levels of equality of opportunity, similarly broad country comparisons are more difficult to make for natives with a migration background, as educational and economic mobility tends to differ across immigrant groups (see for instance Hammarsted and Palme, 2012; Bauer and Riphahn, 2013; Luthra and Soehl, 2015). In addition, when measuring intergenerational mobility between immigrant parents and their children, a number of caveats, outlined in the following paragraphs, should be kept in mind.

Educational mobility can be measured in comparing parents and their children in terms of years of schooling or highest degree obtained. While these are usually straightforward and intuitive measures of a person's educational background, the educational attainment of immigrant parents and children may not be comparable when school quality differs between the parents' origin country and the host country. Moreover, access to education can be limited in low-income countries. Hence, in such cases parental education might not be a suitable indicator of ambition or cognitive ability, as low education might rather reflect limited or unequal access to education in the parents' country of birth (Luthra, 2010). Therefore, it is also questionable whether immigrant parents with very little formal schooling are easily comparable to natives with similarly low educational attainment.

Occupational and class mobility – Occupation can be regarded as a useful shorthand revealing information about a person's social standing, cultural capital, economic resources and social network. Indices that rank occupations by taking into account average income and education within a given occupation have been used to measure relative mobility and as a classification system that ranks occupations according to class categories (Erikson, Goldthorpe and Portocarrero, 1979; Erikson and Goldthorpe, 2002).

If, however, immigrant parents are overqualified for the job they have in the settlement country, their occupation neither reflects their skills nor their previous social standing in the country of origin. A number of papers have addressed this issue by also taking into account parents' socio-economic status before migrating (Feliciano, 2005; Ichou, 2014; Feliciano and Lanuza, 2017). However, this also complicates the interpretation of outcomes. If for instance someone whose university-educated immigrant parents work in low-skilled jobs in the host country attains a medium-skilled profession, it is debatable whether this constitutes upward or downward mobility.

Income mobility is mostly measured by estimating intergenerational wage correlations or by calculating elasticities. If, for instance, elasticities lie around 0.4, children whose parents have a wage that is 10% above the mean can expect to be 4% above the mean themselves. In other words, the closer elasticities are to zero, the less children's outcomes are connected to their parents' background. While elasticities are a useful measure to summarise mobility in a single parameter, they do not reveal whether intergenerational mobility differs across the income distribution. However, there is evidence that mobility also depends on a person's position in the income distribution (e.g. Mazumder, 2005 for the United States; Corak and Heisz, 1999 for Canada; Bratsberg et al., 2007 for the United States, United Kingdom and Nordic countries). Moreover, elasticities do not show whether intergenerational mobility is upward or downward (see for instance Bhattacharya and Mazumder, 2011 who measure income mobility across generations by creating a measure of directional rank mobility). Since elasticities are not a standardised measure, they can also reflect changes in income inequality across time. To avoid this issue altogether, studies have also looked at intergenerational correlation coefficients that provide a standardised measure of how strongly parents' and children's incomes are associated with each other. Thus, if there have been no changes in income inequality across generations, correlation coefficients and elasticities are identical. However, both approaches usually exclude the unemployed. This can give a somewhat misleading picture of the overall labour market opportunities for children of immigrants when parental unemployment levels are high – which in a number of OECD countries is the case for immigrant parents.

Providing a comprehensive and comparable overview of the intergenerational mobility of children of immigrants in the OECD countries is difficult, as studies have looked at different outcome variables, used a variety of methodological approaches, and often are not clear as to whether mobility is upward or downward.

Furthermore, findings often differ between immigrant groups; to some extent this points to the importance of positive selection among immigrant parents. Feliciano (2005) takes into account this selectivity by looking at the relative educational position of immigrant parents in the country of origin compared to those who did not move. She shows for the United States that positive selectivity partly explains differences in the educational attainment in the children's generation, also when controlling for parents' socio-economic status in the settlement country. For instance, higher college attendance rates among young people with Asian parents is partly due to the fact that their parents occupied a higher educational position in their origin country compared to those who did not move. This positive selection is less prevalent among parents from Europe, the Caribbean and Latin America. High selectivity may also partially explain the comparatively good outcomes of children of immigrants in Canada (Hou and Bonikowska, 2016). Similar findings are available for France, where immigrant parents' relative position in the educational distribution in their country of origin has an impact on their children's educational outcomes above and beyond other measures of socio-economic background in France (Ichou, 2014).

Box 2.1. Mothers' education and fathers' wages

A large number of studies have only looked at father-son pairs, thereby factoring out the intergenerational mobility of women. This focus is partially due to previous data limitations, lower labour market participation among women and the assumption that fathers' socio-economic profile adequately represents family resources (Korupp, Ganzeboom and van der Lippe, 2002). However, a focus on paternal characteristics alone 1) ignores the fact that the socio-economic status of mothers can have an important impact regardless of employment status, and 2) indeed might have become an increasingly poor proxy for family characteristics, as more and more women have entered the labour market and are increasingly highly educated.

Evidence confirms the significant impact of mothers' socio-economic status on their children's mobility. For the United States, the mobility of sons and daughters is found to be overestimated when excluding the socio-economic status of mothers, both for working and stay-at-home mothers (Beller, 2009). Moreover, there is some evidence that working mothers make the labour market participation of their daughters more likely (Farré and Vella, 2013; McGinn, Lingo and Castro, 2015).

Whether the two parents' characteristics are equally important for intergenerational transmission, and whether their impact also depends on the gender of the child, remain unclear – findings strongly vary by national context as well as by the outcome of interest (transmission of education, income or occupation). Using data from the Netherlands, west Germany and the United States, Korupp, Ganzeboom and van der Lippe (2002) test a number of models and conclude that only considering the father's background yields the worst fit with the data, whereas a model including both parents but giving more weight to the parent with the higher status is the best predictor of parental influence on educational attainment. Similar results are found for the Netherlands (Buis, 2013). As long as both parents work, it is not the gender of the parent that matters, but instead which parent is more highly educated. However, if highly educated mothers do not work, their impact on their background on their children's educational attainment becomes more important than the impact of a working father.

Despite these difficulties in comparing generational changes across countries, a number of stylised facts emerge regarding the intergenerational mobility of children of immigrants:

- Many studies present an overall strength of association between the educational outcomes of immigrant parents and their children, rather than assessing how this strength varies among less and highly educated parents. The majority of studies find that natives with immigrant parents do experience upward educational mobility, yet in many OECD countries this is the case because on average immigrant parents from non-OECD countries are relatively less educated (see chapter 3 and Zuccotti, Ganzeboom and Guveli, 2015).
- Comparing the educational mobility rates of children with less-educated native and less-educated foreign parents currently yields a highly varied picture. For instance, evidence for Canada shows that overall, natives with less-educated immigrant fathers have higher chances of experiencing upward educational mobility than their peers with less-educated Canadian-born fathers (Aydemir,

Chen and Corak, 2013). In Germany, children of immigrants also appear to be more resilient to lower socio-economic status than children with German-born parents and less affected by low parental education (Luthra, 2010). In Norway, upward mobility is similarly likely for disadvantaged Norwegian-born children with native- and foreign-born parents (Hermansen, 2016). In contrast, intergenerational persistence of low educational attainment in Austria is much stronger among families with immigrant parents (Altzinger et al., 2013). These outcomes, however, are also likely to be influenced by large unobserved heterogeneity between less-educated native-born and foreign-born parents. As discussed above, less-educated parents from OECD countries may differ from less-educated parents from non-OECD countries in a number of unobservable characteristics.

- The evidence on income mobility is mixed. For a number of countries there is evidence that intergenerational income mobility is lower for natives with immigrant parents than for those without a migration background (e.g. in Switzerland: Bauer, 2006; and Germany: Yuksel, 2009), whereas for countries such as Canada, income mobility is found to be similar (Aydemir, Chen and Corak, 2009).
- Furthermore, there is evidence for European OECD countries that employment probabilities remain lower across generations for natives with non-EU parents. Comparing natives whose parents are low-educated and from non-EU countries with their peers who have native-born low-educated parents shows that employment probabilities for the first group are lower, even when controlling for their own educational attainment. Employment gaps range between 5 to 10 percentage points in Austria, Switzerland, Spain, France, Norway and the United Kingdom, and increase to an 18 percentage points lower probability for Belgium (see chapter 4).
- In the EU, upward occupational mobility appears to be less likely for natives with non-EU parents compared to those with native-born or EU-parents. Only around one person in five works in occupations that require a higher skill level than their father's occupation, compared to one in three for the latter group (see chapter 4). When controlling for their own educational attainment, natives with non-EU origins are between 13 and 21 percentage points less likely to experience upward occupational mobility than natives in Austria, Norway, Spain and Belgium, and around 4 to 6 percentage points less likely in the United Kingdom, France and Switzerland.

The literature suggests a number of factors that may impact educational and labour market outcomes of natives with migrant parents, limiting or facilitating their upward mobility in relation to their parents' generation. These factors will be discussed in the remainder of the chapter.

Family characteristics and their impact on social mobility

A number of family characteristics have been highlighted in the literature as potential drivers for the intergenerational mobility of natives with a migration background. The following section will therefore synthesise research on how the number of siblings, parents' length of stay in the host country, their language skills and educational aspirations impact intergenerational mobility.

Number of siblings and birth order

Extensive literature has argued that parents may face a quantity-quality trade-off with regard to the investments they make in their children, as their resources, in terms of money and time, are limited. Thus, having multiple siblings could negatively impact a child's educational outcomes (Becker and Tomes, 1976). Growing up in a large family would therefore decrease intergenerational mobility, and even more so for children from low-income families who have fewer resources to invest. Some studies have found such a negative correlation between number of siblings and educational attainment (Sieben, Huinink and de Graaf, 2001), even when taking into account that family size might capture the impact of unfavourable socio-economic characteristics of large families, such as limited financial resources (Meier Jæger, 2008). Overall, however, the evidence is mixed and strongly depends on the statistical model that is used (Angrist, Lavy and Schlosser, 2006). Furthermore, birth order may be an important factor. For Norway, the impact of family size becomes insignificant once birth order is taken into account (Black, Devereux and Salvanes, 2005) and similar results are found for the United States and the Netherlands (de Haan, 2005).

Literature on the intergenerational impact of family size and birth order that focuses on immigrant families is sparse, despite the fact that in most countries young people with non-EU parents have more siblings than those with native-born parents.[3] In addition, young people in the EU and OECD areas with a migration background are more likely to grow up in poor households, meaning that their parents have more limited capacities to invest in their children. Studies focusing on the impact of siblings on children of immigrants present rather mixed evidence.

The number of siblings does not significantly affect secondary school outcomes in Germany (Kristen and Granato, 2007; Luthra, 2010). Similar results are found for Norway, where the number of siblings has only a very small effect on the educational attainment of natives with immigrant parents. Being the first-born child, however, increases educational attainment on average by about 0.4 years both for men and women (Hermansen, 2016). For France, compared to other family characteristics, relatively small negative effects are found of numbers of siblings on natives with a migration background (Domingues Dos Santos and Wolff, 2011).

In contrast, Bauer and Riphahn (2007) show that as the number of siblings increases, children born in Switzerland with at least one foreign-born parent are significantly less likely to be highly educated. Controlling for a number of family background characteristics, they find a negative impact of family size for young people with a migration background. Having less-educated parents and three or more siblings instead of none or one reduces the likelihood of being highly educated by 6 percentage points (from 21% to 15%). Similarly, for France and Germany there is evidence that the impact of family size depends on the number of siblings, with sibling size having a strong effect on educational outcomes only if students have three siblings or more (Meurs, Puhani and von Haaren, 2015). However, natives with migrant parents are less affected by family size (in Germany the impact is insignificant) than immigrant students and those with native-born parents.

However, family size could also impact educational attainment in the opposite way, as older siblings could have a positive impact on the educational outcomes of their younger siblings. Particularly in families with immigrant parents who have little knowledge of the schooling system or limited capacities to support their children, older siblings could partly take on this role by helping their siblings navigate the

schooling system. Evidence that points to the importance of older siblings is still sparse and largely qualitative. Those studies, largely based on in-depth interviews, show that older siblings are often an important resource of help for younger children (see for instance Moguérou and Santelli, 2015).

Looking at native-born students with Turkish parents in Austria, France and Sweden, Schnell (2014) finds as the family size grows, the amount of school support provided by older siblings, such as helping with homework, increases. This might indicate that with a higher number of siblings, more responsibility is shifted from parents to older siblings. Furthermore, in Austria, support from older siblings decreases the likelihood of being an early school leaver and increases the likelihood of attaining post-secondary education. This correlation remains significant after controlling for parental education and involvement. In France and Sweden, however, the support of older siblings has no significant effect. The author argues that these findings are likely to reflect differences in the education system; whereas education is full time in France and Sweden, most schools in Austria operate on a half-day system, which renders the family a more important resource for school and homework support.

Overall, evidence on the impact of family size for children of immigrants remains inconclusive. Although there seems to be some evidence that growing up in a particularly large family can be disadvantageous for educational attainment, in most studies family size is not a particularly strong explanatory factor. Therefore, it appears that it is not family size *per se* that has an impact, but rather other factors that are associated with growing up in a large family, such as limited economic resources. Therefore, institutional factors such as differences in education costs or school systems are likely to play into the impact of family size on intergenerational mobility. Moreover, little is known at this point about the extent to which older siblings can be resource for their younger siblings, and whether this translates into higher mobility rates for the younger siblings.

Parents' length of stay in the host country

A wide sampling of the literature shows that both immigrants' age of arrival and the years spent in the settlement country since migration strongly affect their own integration trajectories. Generally speaking, arriving at a young age and spending considerable time in the settlement country has a positive impact on indicators of integration, such as employment and language skills (Schaafsma and Sweetman, 2001; Böhlmark, 2008; OECD/European Union, 2015). Yet, very few studies assess the intergenerational effects of immigrant parents' length of residence. This is somewhat surprising, considering that with more time spent in the country, parents may have better language skills, higher employment rates, more knowledge about the education system or more extensive networks than recently arrived immigrants, which in turn could render them better equipped to support their children.

In Canada, parental length of stay only modestly impacts their children's vocabulary scores at the end of kindergarten, and has mostly insignificant effects on maths and reading scores at age 7 (Worswick, 2004). This may indicate that parental length of stay is mainly important for the transmission of language skills. The negative impact on vocabulary scores is slightly larger for parents who are neither English nor French native speakers and for children who scored among the bottom 10% in the vocabulary test.

Nielsen and Schindler Rangvid (2012) find for Denmark that parents' years since migration have a positive impact on their children's academic achievement. Mothers' years since migration have a positive impact on exam scores in Danish language –and particularly so for their sons – whereas fathers' years since migration do not affect Danish scores, but are found to positively impact math grades and decrease drop-outs.

A study of Sweden finds that parents' length of residence in that country positively affects their children's grades in Swedish and standardised language test scores, but has no significant impact on math scores. Assessing intergenerational effects according to the parents' country of origin, the association appears to be somewhat stronger for parents whose origins are outside western countries (Smith, Helgertz and Scott, 2016).

Overall, it seems that the years parents spend in the country of settlement has a positive but mostly small impact on their native-born children. Furthermore, it appears that the advantage of longer parental residence mostly works through language skills transmission. Given that very few papers have assessed the intergenerational impact of length of residence and have only considered three countries (Canada, Denmark and Sweden), the evidence should be treated as tentative. Furthermore, there is currently no evidence whether parental naturalisation – which becomes more likely with more years spent in the country – may impact their children's outcomes or how their initial motive for migration may affect their children's mobility pattern.

Parental language skills

Although schooling and interaction with peers strongly impact language learning, there is evidence that children's language proficiency remains associated with their parents' language skills, as an important part of language learning takes place at home. Thus, parental language skills can be an important factor to explain why or why not natives with a migrant background do well in school and experience upward educational mobility.

Research has shown that language proficiency of one family member strongly correlates with the proficiency of other family members (Chiswick, Lee and Miller, 2005). However, language skills entail more than speaking a language correctly in day-to-day situations. Instead, students need to be able to read, understand and write texts to do well in school and the labour market later on. A number of studies have shown that children with less-educated parents – regardless whether foreign- or native-born – are more likely to have a smaller vocabulary and more difficulties in using academic language (Pan, Spier and Tamis-Lemonda, 2004; Becker, 2011), which can cause difficulties in reading comprehension, text production and ultimately, higher educational attainment. Therefore, studies that investigate how language skills are transmitted from immigrant parents to their children also need to take into consideration the impact of socio-economic background factors, so as to not confound immigrant-specific factors with lower socio-economic standing.

However, studies that examine how language skills are transmitted from immigrant parents to their children suffer from a number of limitations. The large majority of studies have to resort to rather imprecise measures of parental language skills, such as years spent in the country or self-reported fluency, which is found to be systematically biased for some origin groups (Edele et al., 2015 for Germany). Moreover, many studies look at the impact of language spoken at home and largely

find that not speaking the country's majority language at home negatively affects educational outcomes (Schnepf, 2007; Dustmann, Frattini and Lanzara, 2012; Sweetman and van Ours, 2015). Such findings do not reveal their children's actual language skills or the language skills of the parents, and are therefore not a measure of language transmission across generations. Furthermore, language acquisition may be easier and faster for some immigrant parents, for instance when they are highly educated or speak a language that is linguistically close to the language of the host country (for an overview of the impact of linguistic distance on language learning, see Chiswick and Miller, 2005 and Isphording and Otten, 2013). Lastly, host-country language skills are not only transmitted from parents to children, but also vice versa. Children who improve their language skills at school may then in turn positively impact their parents' language skills. At the same time, having children may also decrease parents' language skills when it lowers their likelihood to work (Chiswick, Lee and Miller, 2005). Keeping these caveats in mind, a number of studies nevertheless indicate that limited language proficiency among parents negatively impacts the language acquisition and educational trajectories of their children.

In the United States, self-reported language proficiency of US-born children is positively impacted by parental language proficiency, yet this effect declines with the child's age and reaches zero when children are in middle school (Bleakley and Chin, 2008).

Casey and Dustmann (2008) investigate how "language capital" is transmitted from immigrant parents to their children in Germany. Controlling for parental background characteristics such as education, income and years since migration, they find that parents' language skills – here measured as self-reported fluency – remain associated with their children's fluency. If parental language skills – coded from 0 (very bad) to 1 (very good) – increase by 0.1, their children's language skills increase by about 2.5% when they are born in Germany and 3% when they are born abroad but arrived before the age of 10.

For France, Domingues Dos Santos and Wolff (2011) investigate whether immigrant parents' self-reported language skills impact their ability to transmit their educational background to their native-born children. They find that parents' proficiency in French has a strong, positive impact on the educational outcomes of their children. By introducing an interaction term between parental years of schooling and proficiency in French into the equation, they further show that returns to parental education on their children's education are lower when parents report facing difficulties in speaking French.

Concluding, transmission of language skills is difficult to assess when there are only imprecise proxies for them. Moreover, language skills are not only transmitted from parents to children, but also from children to parents. Despite these caveats there is some evidence that parents' good language skills positively impact their children's language skills and educational attainment, and more so when children are still young.

Educational aspirations and expectations

A growing body of literature documents that immigrant parents frequently have aspirations for their children's educational outcomes equal to or higher than those of native-born parents (Hagelskamp, Suárez-Orozco and Hughes, 2010; Gresch et al.,

2012; Brinbaum and Cebolla-Boado, 2007). In Belgium, Germany and Hungary, immigrant parents are found to be more likely to state that they expect their children to go to university compared to parents without an immigration background. This difference increases further when controlling for socio-economic status (OECD, 2015; for the United States, see Raleigh and Kao, 2010).

Moreover, pupils with a migration background themselves tend to view their future educational trajectories optimistically. When comparing pupils who have similar PISA scores and socio-economic backgrounds but native-born and immigrant parents, the pupils with immigrant parents are more likely to expect that they will complete tertiary education in all 14 countries surveyed[4] (OECD, 2010).

Generally speaking, this optimistic attitude among parents is important for their children's educational trajectories, as parents are often able to transmit this appreciation of education to their children (Sewell and Hauser, 1972; Morgan, 1998; Modood, 2004). High aspirations can therefore be seen as a form of intergenerational social capital, and could have the potential to facilitate upward social mobility for children of immigrants (Raleigh and Kao, 2010).

Yet in many EU and OECD countries, high aspirations of immigrant parents and their children stand in contrast to their children's actual educational trajectories. This phenomenon – sometimes called the "aspiration achievement paradox" has been widely discussed in the literature. The ambition to move up the social ladder may be particularly prevalent among parents who left their country of origin to improve their family's well-being (Kao and Tienda, 1995; Hagelskamp, Suárez-Orozco and Hughes, 2010), or motivated by the view of higher education as offering protection against perceived or real discrimination (Vallet and Caille, 1999). These aspirations of the immigrant parents could however reflect little familiarity with the education system and unrealistic expectations while their children continue to struggle in the educational system (Gresch et al., 2012). Thus, the difficulty might be a lack of knowledge of how to turn relatively abstract aspirations into concrete and attainable outcomes. Others have argued that it is unrealistic to expect that high aspirations – or in other words, individual beliefs – are necessarily in line with students' behaviour, or that high aspirations alone could counteract broader structural problems in the education system (Cummings et al., 2012).

Only a few studies go beyond documenting such differences in aspirations among families with and without migration background and also assess whether high aspirations among parents and children can counteract the transmission of disadvantage across generations. Moreover, it is important to keep in mind that none of these studies can fully rule out the possibility of reverse causality – it remains unclear whether higher aspirations give rise to better educational outcomes or if, in contrast, doing well in school leads to higher educational aspirations.

A study in the United States looks at the impact of parents' expectations on their children's educational attainment, and shows that immigrant parents more likely to expect their children to pursue post-secondary education than US-born parents (Glick and White, 2004). It demonstrates that immigrant parents' expectations and students' own expectations partly explain higher enrolment rates of their children in post-secondary education when controlling for socio-economic background characteristics. Glick and White also examine whether students with and without migration background are affected differently by parental expectations, but find no significant interaction between immigrant status and parental expectations.

In Australia, Le (2009) finds somewhat inconclusive evidence with regard to the role aspirations play in university entrance exams.[5] Parental aspirations – here operationalised as the assumption that their children will continue schooling after secondary school – have a significant and positive impact on the test scores of children born abroad (+5 percentage points higher test scores), less impact on those who were born in Australia (+2 percentage points) and no significant impact on students without a migration background. However, students' own aspirations are found to have a significant impact on their test scores only for students with native-born parents (+5 percentage points), but not among students with a migration background.

Vallet and Caille (1999) observe that immigrant parents in France have high educational aspirations for their children, which mediate the effect of low socio-economic background and appear to positively influence their children's educational trajectories in lower and upper secondary school.

Cummings et al. (2012), however, argue that there is no reliable evidence on whether educational attainment is in fact influenced by a change in aspirations, feelings of self-efficacy or values with regard to schooling. In a meta-analysis of 30 intervention programmes that aimed to change aspirations and attitudes among pupils and parents from disadvantaged households in the United Kingdom and United States, they find that the impact of these programmes on educational attainment was often marginal. Moreover, for the majority of programmes, it remained unclear whether higher educational attainment was a result of changing attitudes or rather a consequence of these interventions, such as mentoring projects or parental involvement programmes, directly influencing behaviours and skills themselves. Furthermore, St. Clair, Kintrea and Houston (2013) remark that in many disadvantaged schools, aspirations among students and their parents are high, but the knowledge of how to render educational aspirations concrete and attainable is lacking. Thus it appears that high aspirations are often necessary, but not sufficient for higher educational attainment and upward mobility.

Box 2.2. Access to university education

Having a university degree is increasingly a prerequisite for occupational mobility; in order to successfully enter the labour market, it is arguably more important for young people today than for their parents' generation. Despite discussions of whether higher shares of tertiary educated are truly a sign of increased social mobility in later life (see for instance Bol, 2015; Bukodi and Goldthorpe, 2016), there is nevertheless evidence that tertiary education still "pays off" with regard to labour market outcomes (Machin, 2012). The question remains, however, whether natives with migrant parents face specific obstacles entering university.

Research indicates that natives with a migration background and ethnic minority students who have finished upper secondary education are more likely to attend university than their peers with comparable socio-economic status (e.g. Kristen, Reimer and Kogan, 2008 for Germany; Turcotte, 2011 for Canada; Chowdry et al., 2008 for the United Kingdom; Jackson, Jonsson and Rudolphi, 2012 for the United Kingdom and Sweden). Considering that many countries have streaming mechanisms in upper secondary school that seek to sort students according to their academic ability, this may also reflect a positive selection effect, as students with a migration background often face more barriers in this process. Nevertheless, it demonstrates that the issue is rather the underrepresentation of natives with migrant parents in upper secondary education than a reluctance to enrol in university.

In countries for which there is evidence available, it appears that students with immigrant parents and ethnic minority students prefer universities over polytechnic colleges or universities of applied sciences compared to their peers with native-born/ethnic majority parents (Chowdry et al., 2008; Kristen, Reimer and Kogan, 2008; Tolsma, Need and de Jong, 2010).

Furthermore, in countries where the quality and/or reputation of higher education institutions differ considerably, natives with a migration background may show similar enrolment rates as those with native-born parents, yet could still be overrepresented in less renowned universities. In the United Kingdom, for instance, ethnic minority students cluster in relatively newly established universities in Greater London and are underrepresented in more prestigious, traditional universities (Connor et al., 2004). Furthermore, there is evidence for the United Kingdom that admission offices at prestigious universities are less likely to make an offer to ethnic minority applicants than to equally qualified white students (Boliver, 2013).

Lastly, whether students with immigrant parents or ethnic minority students are equally likely to finish tertiary education seems to differ across countries, yet relatively little evidence exists to date that controls for their socio-economic background characteristics. Whereas ethnic minority students in the United Kingdom are found to be less likely to drop out of university education (Vignoles and Powdthavee, 2009), the opposite is found for children of immigrants in the Netherlands (Zorlu, 2011) and in France for some ethnic groups (Brinbaum and Guégnard, 2013).

Table 2.1. The intergenerational impact of family characteristics on the educational outcomes of children of immigrants

Family characteristic	Effect	Example
Number of siblings	**(Negative)**	Small or insignificant in: • Germany: Kristen and Granato, 2007 • France: Domingues Dos Santos and Wolff, 2011 • Norway: Hermansen, 2016 Larger, significant effects in: • Switzerland: Bauer and Riphahn, 2007 • For large families in France and Germany: Meurs, Puhani and von Haaren, 2015
	(Positive) (Older siblings providing school/homework support)	Significant in: • Austria: Schnell, 2014 Insignificant in: • France and Sweden: Schnell, 2014
Parental length of stay	**(Positive)**	For math scores: small and mostly insignificant For language scores: small and mostly significant in: • Canada: Worswick, 2004 • Denmark: Nielsen and Schindler Rangvid, 2012 • Sweden: Smith, Helgertz and Scott, 2016
Familiarity with the school system	**(Positive)** • Precise impact unclear; qualitative studies point to the importance of parental "know-how" • Policies that foster parental involvement generally found to have a positive effect	• United States: Deil-Amen and Rosenbaum, 2003 • United Kingdom: Brooks, 2008 • United States: Jeynes, 2003 • United States and United Kingdom: Schofield, 2006
Parental language skills	**Positive**	• Germany: Casey and Dustmann, 2008 • United States: only during early childhood (Bleakley and Chin, 2008) • France: Domingues Dos Santos and Wolff, 2011
Educational aspirations and expectations	**(Positive)** Unclear, may be a prerequisite, but not sufficient in themselves	• United States and United Kingdom: Cummings et al., 2012 • Germany: Gresch et al., 2012 • United Kingdom: St. Clair, Kintrea and Houston, 2013

Note: Educational outcomes include both attainment (i.e. highest degree earned) and performance, such as grades or performance in standardised tests. The +/- sign shows the relationship between the family characteristic and the outcome, e.g. a higher number of siblings can affect educational attainment both negatively and positively. Signs in parentheses indicate that the impact is significant only for some of the studies considered in the table.

Links between growing up in disadvantaged neighbourhoods and intergenerational mobility

Residential segregation, which describes the clustering and separation of different social groups within a certain area, is not only a very visible manifestation of inequality, but also a mechanism reinforcing social differences, as it can limit access to quality education and jobs (for a discussion on how to measure segregation, see Peach, 2009). Such neighbourhood effects can also increase opportunities for already advantaged groups, for instance for high-income earners clustering in more affluent neighbourhoods.

Comparing residential segregation of immigrant families across countries is not an easy task, partly because geographic units and data are not easily comparable (Sleutjes and de Valk, 2015; Östh, Clark and Malmberg, 2014). However, studies indicate that residential segregation along ethnic lines is more pronounced in US cities than in EU cities (Musterd and van Kempen, 2009). Looking at segregation patterns in six cities in Italy, Spain and Portugal, Arbaci and Malheiros (2010) find that immigrants who arrived in the 1990s and early 2000s are concentrated in the urban periphery, as opposed to Central and Northern European cities where they appear to be more likely to live in urban neighbourhoods. Furthermore, there is some evidence that living in a disadvantaged neighbourhood is persistent across generations. When young adults from low-income neighbourhoods move out of their parents' homes, they are likely to live in other low-income neighbourhoods and this link appears to be stronger for children of immigrants and ethnic minorities (van Ham et al., 2014 for Stockholm; Vartanian, Walker Buck and Gleason, 2007 for the United States).

However, although there are often strong assumptions that ethnic segregation presents an obstacle to employment, educational outcomes or language abilities, evidence on the impact of segregation on the integration of children of immigrants is not as clear-cut (Bolt, Özüekren and Phillips, 2010) and closely intertwined with socio-economic deprivation of the given neighbourhood, parental background characteristics, and the social capital of an immigrant community.

Most of the literature on the impact of neighbourhood disadvantage on children of immigrants has aimed to capture immigration-specific factors by assessing how the overall educational attainment or labour market participation of a respective ethnic group influences the socio-economic outcomes of an individual group member. The concept of "ethnic capital" was introduced by Borjas (1992), who argued that the "ethnic environment" plays a role in explaining intergenerational transmission of disadvantage. He defines ethnic capital as the average skill level of an ethnic group in the father's generation, which can be measured by assessing the group's mean educational level, occupational prestige scores or wages. However, this approach is not free from criticism. Borjas remarks that ethnic capital is supposed to capture the "quality of ethnic environments", which not only comprise economic measures, but also social and cultural components. The latter two, however, are not actually measured and can therefore quickly lead to a lack of clarity what ethnic capital is in fact supposed to comprise.

Furthermore, as Niknami (2010) remarks, it is difficult to interpret the impact of ethnic capital, as it does not indicate whether ethnic groups actually share similar neighbourhoods. If, for instance, immigrant groups are small or relatively evenly dispersed across the country, there may be no regular interaction among group members and therefore little reason to assume that natives with a migration background are affected by the overall skill level of their parents' generation. Studies on the impact of a migrant

community's collective capital are ideally focused on a local level and on areas where many immigrant families settle.

Borjas (1995) addressed this issue, focusing on the neighbourhood level in the United States based on census data from 1970. He finds not only that residential segregation persists from the immigrant parents' generation to their US-born children, but also that native men with a migration background who grow up in neighbourhoods where the mean earnings of their ethnic group is high fare better in the labour market than sons of immigrants whose fathers earn less on average. This "ethnic effect" is considerably reduced but persists when controlling for overall neighbourhood effects, such as mean income of the whole neighbourhood.

The majority of studies in Europe find only weak or no evidence that ethnic capital matters for intergenerational mobility. In Switzerland, both at the national and regional levels, the effect of highly educated co-ethnics on natives with a migration background is small and in inverse proportion, as the ethnic capital hypothesis would suggest: independently of their parents' educational attainment, the likelihood of those with low ethnic capital obtaining higher education is higher than for groups where ethnic capital is higher (Bauer and Riphahn, 2007). Similarly, studies find little or no evidence for the importance of ethnic capital for natives with a migration background in Germany (Yaman, 2014) and Denmark (Hammarstedt and Palme, 2012). For Sweden, the share of co-ethnics living in a given municipality has no impact on the likelihood of natives with a migration background to graduate from high school, but they are found less likely to graduate from university. There is some evidence that higher shares of co-ethnics reduce the likelihood of not working, but no effects on earnings are found (Grönqvist, 2006).

However, growing up in urban neighbourhoods in Sweden with high shares of immigrant adults who obtained post-secondary education but receive unemployment benefits is associated with a reduced likelihood of young people with a migration background finishing secondary education, perhaps because their immediate surroundings give them the impression that education does not pay off (Gustafsson, Katz and Österberg, 2016).

Thus, rather than the *de facto* average human capital of a given group, it may be the availability of employment opportunities or lack thereof that impacts educational attainment of natives with a migration background.

A study of ethnic minorities in England and Wales shows that it is important to nuance how ethnic concentration impacts labour market outcomes (Zuccotti and Platt, 2016). Whereas the labour market participation of Pakistani and Bangladeshi women decreases with higher shares of co-ethnics, occupational outcomes for Indian men improve and no significant effects are found for other groups. This clearly shows the importance of group-specific social capital as well as gender norms. Higher shares of co-ethnics may be advantageous when these contacts can provide job opportunities or knowledge about vacancies; however, when ethnic groups do not possess such collective resources, labour market outcomes may be poorer (Portes and Zhou, 1993; Portes, 1998). Certain ethnic groups doing "better" in the labour market than others can therefore also mirror positive selection effects in the parents' generation (see discussion in Section 2).

Another strand of literature has pointed to the importance of neighbourhoods more generally, showing that growing up in socio-economically deprived neighbourhoods can have long-term effects on intergenerational mobility. In recent years, a number of studies based on quasi-experimental policy interventions demonstrate these effects on long-term labour market outcomes.

Looking at long-term outcomes of the Moving to Opportunity Programme in the United States, where families living in public housing in poor neighbourhoods received vouchers to move to more affluent areas, it was found that children who moved before the age of 13 had incomes almost a third higher later in life compared to those children who did not move (Chetty, Hendren and Katz, 2016). However, for children who were already older than 13 years when moving, no increase in earnings was found. Thus, it seems that the impact of neighbourhoods on intergenerational mobility is particularly important during childhood, which also points to the importance of school quality and how this differs between more and less affluent neighbourhoods (see also Chetty and Hendren, 2016). Similarly, Rothwell and Massey (2015) find that on average neighbourhood income in the United States has approximately half the effect on children's future income as their parents' income, and becomes even larger when adjusting for regional purchasing power.

While these studies do not take into account migration background, they nevertheless demonstrate the long-term impact that high concentrations of socio-economic disadvantage on the neighbourhood level can have on labour market outcomes later in life. Seeing that in many countries the children of immigrants are likely to live in poor neighbourhoods, these findings are particularly relevant for this group.

Determinants on a school level

Cross-country variation in intergenerational mobility is to some extent due to differences in schooling – some school systems appear to be more successful than others in mitigating initial disadvantage among native students with a migration background. The following section gives an overview of how different characteristics at the school level can impact mobility, including institutional aspects such as early childhood education, streaming mechanisms in secondary school, and access to university education as well as the impact of teachers' expectations and behaviours.

Going to school with high shares of students with a migration background

If students go to a school in their neighbourhood, as is mostly the case, any concentration of disadvantage in the neighbourhood will also be present in schools. Immigrant students and natives with a migration background are often not evenly represented across schools; in the United States, United Kingdom and Canada, 60-65% of immigrant students would have to move to another school to achieve an even distribution across schools country-wide (Schnepf, 2004). This percentage is slightly lower for the Netherlands, New Zealand, Sweden, Germany, France and Australia (around 50%) and the lowest in Switzerland (40%). Moreover, schools are also split along socio-economic lines. Socio-economic segregation in secondary schools (according to parental background, but not to immigration status) is found to be particularly pronounced in Germany, Belgium and Hungary, somewhat less so in the United Kingdom and United States, and the least prevalent in Nordic countries (Jenkins, Micklewright and Schnepf, 2008).

Thus, the question is to what extent going to schools where the share of disadvantaged students is high impacts educational mobility for natives with a migrant background. The relationship between shares of disadvantaged students and educational outcomes is in fact unlikely to be a linear one. Instead, as a number of studies have argued, there may be a certain threshold or "tipping point" where a concentration of disadvantage becomes too high. Yet, it remains unclear where this threshold lies. In addition, this also depends on the capacity and preparedness of schools in responding to specific needs of students with

low-income or immigrant parents (Szulkin and Jonsson, 2007; Andersen and Thomsen, 2011).

A number of studies on the impact of a high concentration of students with immigrant parents in schools demonstrate that it is not immigrant status *per se,* but rather a concentration of socio-economic disadvantage that has a negative effect on educational outcomes (Rumberger and Palardy, 2005; van der Slik, Driessen and de Bot, 2006; Lemaitre, 2012). The average socio-economic level of a school is therefore an important factor that mediates the intergenerational transmission of disadvantage, and as discussed below often impacts students with and without a migration background differently.

Varied literature seeks to determine the importance of peer effects in schools (for an overview, see Sacerdote, 2011). Yet, peer effects are often very difficult to measure because a large proportion of differences among student peers are an outcome of selection, such as ability grouping, parental choice or a school's freedom to choose its students (Hoxby, 2000). Most studies examine how shares of immigrant students, natives with a migration background or ethnic minorities affect educational outcomes of natives without migration background (Brunello and Rocco, 2013 for a study of 19 OECD countries). Studies that consider both foreign-born students and natives with migrant parents are somewhat less frequent and often do not make a distinction between the two groups. Moreover, few studies assess the impact of diversity, i.e. the number and size of different ethnic groups in a school (Dronkers and van der Velden, 2013). However, ethnic diversity could affect educational outcomes differently than the overall shares of students with a migration background. Students attending highly diverse schools could, for instance, have more contacts with students from other language communities and therefore speak the language of instruction more often than in schools where one minority language group dominates. However, more ethnic diversity could also decrease schooling outcomes, for instance because teachers might be able to teach less effectively (Dronkers and van der Velden, 2013).

A meta-analysis – mostly of US studies – indicates that high shares of ethnic minority students have a larger effect on students from the same ethnicity than those of the majority group or another ethnic group (van Ewijk and Sleegers, 2010). However, they find only small effects, particularly when compared to the impact of parental socio-economic background. Effects on students with native-born parents appear to be close to zero. Nevertheless, it appears that the impact is not uniform for all minority groups. In the United States, shares of disadvantaged African-American students appear to have a stronger impact on educational outcomes than shares of immigrant students.

In the European context, the evidence of how the share of students with immigrant parents affects their peers with immigrant parents seems to indicate that the negative relationship is largely driven by socio-economic and school characteristics rather than immigrant status. Shares of students with immigrant parents are found to have no significant effect on the school performance of children of immigrants in the Netherlands (Veerman, van de Werfhorst and Dronkers, 2013), Spain (Cebolla-Boado and Garrido Medina, 2011) or Denmark (Jensen and Rasmussen, 2011), when taking into account socio-economic characteristics.[6]

Among native-born young people with Turkish and Moroccan parents in Belgium, Germany and Sweden, high shares of students with immigrant parents are found to have a small protective effect in Belgium and Sweden, increasing the likelihood of continuing with tertiary education as opposed to non-academic trajectories. In Germany, in contrast, native students with Turkish parents were less likely than their peers with native parents

to attend university if shares of students with migrant parents were high (Baysu and de Valk, 2012). Fekjær and Birkelund (2007) look at schools' ethnic composition in Oslo and its effect on grades. Controlling for the school's overall socio-economic composition, they find a small positive impact on grades of students with and without a migration background. These results, however, are only applicable to upper secondary schools, and it is possible that students with a migration background in upper secondary school are a selected group that might have higher educational motivation or ability than students in other secondary streams.

Summing up, most studies find relatively minor or no effects of the share of students with immigrant parents on the educational attainment of other students with immigrant parents when controlling for socio-economic characteristics. Thus, the often-observed negative relationship between educational outcomes and high shares of students with immigrant parents is largely driven by selection of disadvantaged students who disproportionately happen to have immigrant parents.

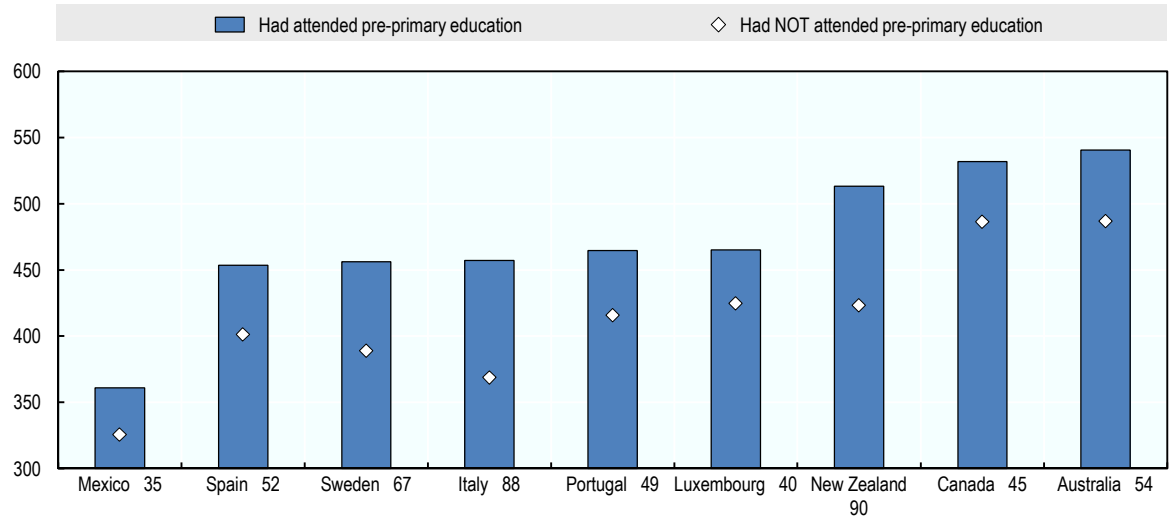
Early childhood education

Across the OECD area, 69% of foreign-born and native-born children of immigrants who are between 3 and 6 years old were enrolled in preschool education in 2012, compared to 76% of their native peers. In most EU countries, however, differences are only marginal, particularly when services are free of charge. Notable exceptions are Italy, Norway and the Czech Republic, where participation rates differ by approximately 10% (OECD/European Union, 2015).

An extensive body of literature documents that participation in early childhood education can have significant positive effects on educational and labour market outcomes, especially for children from low-income and immigrant families (Heckman, 2011; Elango et al., 2015). For children with immigrant parents, preschool education has proved an important component in fostering language skills (Bleakley and Chin, 2008; Votruba-Drzal et al., 2015) and also positively impacts school performance later on (see for instance Spiess, Büchel and Wagner, 2003 for Germany; Magnuson, Lahaie and Waldfogel, 2006 for the United States; Drange and Telle, 2010 for Oslo; Schneeweis, 2011 for Austria).

Using results from the OECD's Programme for International Student Assessment (PISA), which tests the mathematics, reading and science competencies of 15-year-olds, Figure 2.1 illustrates that attending pre-primary education has a strong impact on reading skills at age 15; a difference of 40 score-points is approximately equivalent to one year of schooling. In most countries, pre-primary education gives children of immigrants an educational advantage similar to one year of schooling when compared to their peers who also have foreign-born parents, but did not receive pre-school education. In the case of Italy and New Zealand, score differences even amount to the equivalent of more than two years of schooling.

Figure 2.1. PISA reading performance of students with immigrant parents, by attendance of pre-primary education, selected countries, 2012



Source: Adapted from OECD (2015), *OECD Reviews of Migrant Education: Immigrant Students at School – Easing the journey towards Integration*, http://dx.doi.org/10.1787/9789264249509-en.

Intergenerational mobility can therefore be increased if early childhood education manages to equalise the playing field and ensure that children with immigrant parents are similarly prepared to enter elementary school. However, it appears that enrolment rates need to exceed 60% to have an equalising effect (Schütz, Ursprung and Wößmann, 2008). If participation rates are lower, it seems that it is mostly children from high- and middle-income families who attend preschool education, thereby increasing their educational advantage. Regarding elementary school education, a Swiss study assesses how intergenerational mobility is impacted by school starting age through regional differences in Swiss cantonal policies regarding age of entry into elementary school (Bauer and Riphahn, 2009). They find that earlier school starting age significantly impacts intergenerational mobility by decreasing the relative advantage of pupils with highly educated parents.

Thus there is strong evidence that early childhood education – given that it is widely accessible and of good quality – can increase intergenerational mobility, as it 'intervenes' in the education of children from disadvantaged backgrounds early on. Particularly for children of immigrants whose parents only have limited language skills, early childhood education is highly important for increasing their language proficiency and overall school readiness.

Early streaming in secondary school

For the most part, the literature indicates that early streaming, i.e. after elementary school, heightens the significance of family background (for a general review see Betts, 2011 and Burger, 2016). A number of studies have used quasi-experimental policy reforms to assess whether delaying early streaming has a causal impact on intergenerational mobility (Pekkarinen, Uusitalo and Kerr, 2009 for Finland; Meghir and Palme, 2005 and Holmlund, 2008 for Sweden). Although such policies were accompanied by other changes in the education system, such as longer compulsory schooling, it appears that

later streaming contributed to higher intergenerational mobility independently of the other changes. However, there is considerably more controversy over whether comprehensive school systems decrease efficiency (for a discussion, see Pfeffer, 2015).

Moreover, the impact of early streaming depends on a variety of other factors, e.g. whether lower secondary education streams are (perceived as) a dead-end[7] or to what extent different school streams are permeable and make it possible to switch between tracks easily. In addition, while comprehensive school systems are less selective, this may also reduce the signalling power of secondary school degrees to employers, i.e. the amount of information that degrees convey about the skills of a job applicant (Schröder, 2010). Furthermore, a cross-national study finds that while early streaming increases the importance of parental background, this impact is likely to be overstated when not including other selection mechanisms, such as school admission policies and peer effects (Raitano and Vona, 2016). The effect of streaming is largely diminished when controlling for school admission policies and the school's social environment, yet higher socio-economic heterogeneity among students in schools is found to reduce the impact of parental background.

Relatively few studies have assessed how early tracking affects children of immigrants specifically. In Switzerland, educational mobility is found to be higher for native-born children of immigrants when streaming only occurs at a later stage in secondary school; yet the effect of early enrolment in kindergarten is still stronger than early streaming (Bauer and Riphahn, 2013).

A study covering 45 countries finds that early streaming in OECD and PISA-participating countries only negatively affects certain groups of students (Ruhose and Schwerdt, 2016). When comparing test scores in primary and secondary school, early streaming does not change test score differences over time between students with native and foreign-born parents. However, native-born students who do not speak the language of assessment at home, as well as foreign-born students who arrived only recently, are negatively affected by early streaming systems.

Another study based on PISA data, covering 11 countries,[8] demonstrates that early streaming increases educational inequality between students with and without a migration background, partly because the impact of peers in school may be stronger in streamed school systems than in comprehensive schools (Entorf and Lauk, 2008).

Thus, while the impact of early streaming in secondary school remains a rather contentious topic, the majority of research indicates that overall, school systems that stream students only at a later age, e.g. around the age of 15, reduced the importance of parental socio-economic background on children's schooling outcomes. However, there is some evidence that other factors, such as peer effects or enrolment in pre-school education, have a stronger impact on educational mobility.

Parents' familiarity with the education system

Country-specific knowledge about the education system may have an important impact on children's mobility, as little familiarity with these systems may render it more difficult for immigrant parents to support their children. For instance, parents from countries without well-established vocational education and training (VET) systems may not be aware of the potential benefits of this option for their children. In addition, in countries where parents can relatively freely choose their children's schools or have to make choices regarding secondary education early on in their children's education, children of immigrants may be

at a disadvantage if their parents lack this type of strategic knowledge. Without distinguishing by immigration status, Pfeffer (2008) finds that educational mobility is lower in countries were secondary school streaming occurs early, and argues that this is the case partly because it requires parents to guide their children through these systems and make the right choices for them. Thus, limited knowledge may become a mechanism that strengthens the association between parents' and children's attainment.

In Germany for instance, Turkish parents are found to have less knowledge of the local primary school system than native-born parents and therefore pay more attention to a single school rather than other options, which is found to increase ethnic segregation in primary schools (Kristen, 2008). Moreover, parents' familiarity with the education system is likely to matter beyond early education. Qualitative studies have demonstrated the often implicit need of "social know-how" to succeed in university, which is less available to students with parents who have not attended university themselves or obtained their university education in another country (Deil-Amen and Rosenbaum, 2003; Brooks, 2008).

Yet, how the knowledge of immigrant parents precisely impacts decision making and their children's trajectories is more difficult to measure, and it is unclear at this point to what extent such knowledge increases over time. For instance, Dag Tjaden and Hunkler (2017) find that although natives with an immigrant background are more likely to decide against vocational education and training than comparable peers with native-born parents, this decision is better explained by high parental expectations, rather than a lack of information on the VET system (see also Section 3.4).

Programmes that foster parental involvement and give schools and teachers a proactive role in reaching out to immigrant parents are often proposed as a means to increase parents' knowledge about the education system. However, policy evaluations are somewhat inconclusive, partly due to the large variety of programme content, which often also includes components to increase parenting or language skills, and because programmes often target low-income parents in general (for a review of US policy programmes targeting ethnic minority families, see Jeynes, 2003). Nevertheless, parental involvement overall appears to be positively associated with children's educational outcomes regardless of socio-economic background or ethnicity (Schofield, 2006).

Teachers' expectations

Teachers' behaviour towards students with immigrant parents can be biased. Such behaviour can be comparatively visible, e.g. giving lower grades to students with immigrant parents compared to similarly achieving students with native parents. Yet, biased behaviour can also be more implicit, for instance having lower expectations, which in turn may discourage students and turn into a self-fulfilling prophecy of students performing worse (Boser, Wilhelm and Hanna, 2014). Furthermore, if students have less-educated parents, this may further decrease teachers' expectations. In the United States for instance, a study finds that teachers treat minority students differently depending on whether their names are perceived to be typical "lower-class names", adding to the evidence that ethnic and social class-based discrimination are intertwined (Figlio, 2005). Comparing siblings with mainstream and less common names also demonstrated that teachers had lower expectations of children with African-sounding names than Asian-sounding names. Other studies confirm that teachers' expectations tend to vary for different immigrant/ethnic groups. Perceptions about groups that are seen as model minorities or problem groups appear to have an influence on why teachers tend to over- or under-assess their students' academic potential (Burgess and Greaves, 2013).

Table 2.2. The impact of neighbourhood and school characteristics on socio-economic outcomes of children of immigrants

Neighbourhood and school characteristics	Outcome variable	Effect	Example
Growing up in a disadvantaged neighbourhood (no distinction according to migration background)	Earnings in adult life	Negative	Large and significant • United States: Chetty, Hendren and Katz, 2016; Chetty and Hendren, 2016; Rothwell and Massey, 2015
Growing up in an immigrant neighbourhood	Earnings in adult life or educational outcomes	(Negative) If "ethnic capital", i.e. overall human capital of an ethnic group, is low	Significant in: • United States: Borjas, 1995 Mostly small or insignificant in: • Switzerland: Bauer and Riphahn, 2007 • Germany: Yaman, 2014 • Denmark: Hammarstedt and Palme, 2012
	Labour market participation	Effects vary according to ethnic groups and gender	Higher share of co-ethnics in the United Kingdom (Zuccotti and Platt, 2016): • Negative and significant for women with Pakistani and Bangladeshi parents • Positive and significant for men with Indian parents • Insignificant for other groups
Share of students with a migration background in school	Educational outcomes in primary or secondary school	Largely no significant effects, but only when controlling for socio-economic background	• Netherlands: Veerman, van de Werfhorst and Dronkers, 2013 • Spain: Cebolla-Boado and Garrido Medina, 2011 • Denmark: Jensen and Rasmussen, 2011 • OECD and PISA partner countries: Lemaitre, 2012
	Enrolment in tertiary education	Inconclusive	• Small and negative in Germany, small and positive in Sweden and Belgium (Baysu and Valk, 2012)
Early childhood education	School performance and/or language skills	Positive	Generally large and significant: • OECD, 2015 • Germany: Spiess, Büchel and Wagner, 2003 • United States: Magnuson, Lahaie and Waldfogel, 2006 • Norway (Oslo): Drange and Telle, 2010 • Austria: Schneeweis, 2011
Early streaming in secondary school	Educational outcomes	Negative	Negative and significant in: • Switzerland: Bauer and Riphahn, 2013 • 11 OECD countries: Entorf and Lauk, 2008
			Policy reforms that delayed streaming *(no distinction according to migration background)* Positive and significant in: • Sweden: Meghir and Palme, 2005; Holmlund, 2008 • Finland: Pekkarinen, Uusitalo and Kerr, 2009

Table 2.2. The impact of neighbourhood and school characteristics on socio-economic outcomes of children of immigrants *(Cont.)*

Neighbourhood and school characteristics	Outcome variable	Effect	Example
Teachers' expectations/bias	Teachers' likelihood to give recommendations for upper secondary school to qualified students with immigrant parents	Inconclusive	Likelihood similar to students with native-born parents, once grades and socio-economic background are taken into account in: • Germany: Lüdemann and Schwerdt, 2013 • Switzerland: Becker, Jäpel and Beck, 2013 Lower likelihood in Luxembourg: Klapproth, Glock and Martin, 2013
	Teachers' predictions of the performance of students with immigrant parents	Inconclusive	• Underestimation in the United Kingdom: Burgess and Greaves, 2013 • Overestimation in Sweden: Lindahl, 2007
	Negative grading bias towards students with migrant parents (when assessing essays of fictitious minority and majority students)	(Negative)	Small or insignificant: • Netherlands: van Ewijk, 2011 • Germany: Sprietsma, 2013

Note: The +/- sign shows the relationship between the characteristic of interest and the outcome, e.g. a higher number of siblings can affect educational attainment both negatively and positively. Signs in parentheses indicate that the impact is significant only for some of the studies considered in the table.

However, ascertaining how to best quantify these often subtle forms of low expectations and prejudice remains a challenge. A number of studies assesses whether equally qualified students with foreign- and native-born parents have the same likelihood of receiving a recommendation for upper secondary school. In Germany for instance, a study finds that natives with a migration background are less likely to receive a recommendation for the highest secondary educational stream than peers with native parents (Lüdemann and Schwerdt, 2013). These differences persist when controlling for test scores in math and reading, yet become insignificant when taking into account socio-economic background, indicating the importance of social inequalities based on class. Similar results are found for the German-speaking part of Switzerland (Becker, Jäpel and Beck, 2013), whereas differences persist when controlling for individual grades and socio-economic background in Luxembourg (Klapproth, Glock and Martin, 2013).

An alternative approach to measuring expectations compares students' grades with their performance in standardised tests, and assesses whether teachers predict their students' performance in these tests differently based on migration/ethnic background. According to German data, teachers are found to generally overestimate their students' performance, regardless of whether or not students have a migration background (Hachfeld et al., 2010). Studies that look at discrepancies between grades and standardised test scores yield somewhat inconclusive results. Teachers' individual assessments of student performance tend to underestimate ethnic minority students in the United Kingdom (Burgess and Greaves, 2013), whereas in Sweden students with immigrant parents appear to be assessed more positively than their test scores would indicate (Lindahl, 2007).

A common problem with these studies, however, is the fact that it remains unclear to what extent teachers' grading or assessments are based on personal, and possibly correct,

knowledge of the student's capabilities that are not captured in standardised testing. Therefore, a number of experimental studies seek to observe stereotype-driven behaviour of teachers towards fictitious students. But at the same time, social desirability is likely to be an issue in these studies: teachers may choose to respond in a way they perceive as more socially acceptable rather than stating their actual opinion.

Van Ewijk (2011), for instance, analysed how teachers' grading of a written essay is impacted by the assumed ethnicity of the student. Randomly assigning Dutch, Turkish and Moroccan sounding names to these essays, which were then graded by about 100 elementary school teachers, did not reveal any direct grading bias. However, teachers are found to have lower expectations and negative attitudes towards students with immigrant parents. For instance, they were less likely to expect that students will continue with upper secondary education if the name on the essay is not Dutch-sounding. Thus in practice these attitudes could still negatively affect the educational trajectories of students with immigrant parents.

Using the same study design in Germany, essays of the same quality obtained significantly lower grades if they were assigned a Turkish-sounding name (Sprietsma, 2013). However, the effect is small and appears to be driven by a small number of teachers. For fictitious students with a Turkish name, teachers were also less likely to give a recommendation for upper secondary education.

Considering that all three approaches to testing discrimination and lower expectations have their drawbacks, it is difficult to draw conclusions about the extent to which ethnicity-based discrimination in schools is an issue. First, studies show that socio-economic status and migration background as reasons for differential treatment are closely intertwined, but difficult to disentangle with any precision. Second, teachers' behaviours, such as lower expectations or differential treatment, can be unconscious and very subtle, thereby making their measurement rather complicated. Lastly, social desirability bias makes it difficult to estimate the "true" extent of discrimination in schools and their impact on educational outcomes of the children of immigrants. Therefore, overall the evidence of the impact of teachers' expectations on educational mobility remains inconclusive.

Pathways and obstacles for intergenerational mobility in the labour market

In many countries, particularly in Europe, natives with a migration background are less successful than their peers with native-born parents in the labour market (OECD/European Union, 2015). Although these difficulties are largely explained by educational attainment, in most countries it does not explain the gap fully. Therefore, the following section discusses three factors besides educational attainment that impact mobility in the labour market: school-to-work transition of natives with a migration background, sorting into occupational fields, and discrimination at the hiring stage and during employment.

School-to-work transition

The transition from school to employment has been highlighted in the literature as a critical point in young people's lives, where spells of unemployment are found to have particularly negative long-term consequences on earnings, employability and career trajectories (Scarpetta, Sonnet and Manfredi, 2010). Moreover, there is some evidence that long-term consequences on earnings are less severe for unemployed young people

with high-income parents than for young people from low-income families (Sirniö, Martikainen and Kauppinen, 2016), and that natives with a migration background are more strongly affected by high (youth) unemployment rates (Lutz, Brinbaum and Abdelhady, 2014).

In 2009, the average duration in the European Union between leaving school or university and finding employment is 10 to 13 months and comparable between natives and native-born young people with immigrant parents (OECD/European Union, 2015). By definition this only includes those who managed to find employment. Yet, in almost all OECD countries with available data, the shares of young people not in education, employment or training (NEET) are higher for natives with a migration background than for their peers without migration background (except for Australia, Canada and Israel). On average in the EU, around 20% of natives with a migration background fell into this category, compared to about 16% of those with native-born parents (OECD/European Union, 2015).

The relatively high shares of NEET natives with a migration background are partly due to their overrepresentation among the less-educated, who generally face more difficulties in finding employment. Although higher education helps to some extent in finding employment, a number of studies show that high educational outcomes do not necessarily translate into the respective jobs or higher earnings later on (Connor et al., 2004; Dustmann and Theodoropolous, 2010; Krause and Liebig, 2011). Other channels have been proposed that impact school-to-work transition, particularly for natives with migrant parents, including the importance of social networks as well as the role of vocational education and training (VET).

The effects of networks on entering the labour market

Although the importance of networks for finding employment is relatively well established, fewer studies have focused on their importance for young people's *first* entry into the labour market. In addition, it should be kept in mind that the large majority of research on social networks cannot determine a causal effect. As Mouw (2006) argues, friends and acquaintances do not form networks randomly. Since people tend to know and befriend those who are already similar to them, effects attributed to networks may in fact reflect unobserved selection effects (see also Mouw, 2003).

Nevertheless, there is a relatively firm consensus that a broad social network helps young job seekers to obtain relevant information and better opportunities to apply to and get accepted for jobs, provided their social contacts are useful and can be called upon. This shows that it is crucial to consider a network's composition and the resources accessible through these networks, rather than network size alone (Behtoui, 2015).

The definition of a social network is wide and includes essentially each social connection a person has – and that, in the context of job search, can help to find employment. As young people may not have built up their own professional network and therefore have to rely more strongly on their parents' contacts, networks can be seen as a form of social capital that enhances status transmission across generations and put those with limited resources at a disadvantage. Young people with immigrant parents can thus be at a particular disadvantage if their parents either have a limited network and/or mostly contacts that cannot help with finding employment.

Putnam (2000) famously distinguished between bridging and bonding capital – links between different networks or socio-economic groups, and within a social group. Thus,

young people with less-educated immigrant parents might be at risk of not having enough "bridging contacts" to connect them to opportunities outside their social circle. Burt (1992) also described this phenomenon as "structural holes" that mirror a person's social position with potentially strong ties within their own network, but little access to networks outside their community. Studies have argued that such networks effects partly explain the maintenance of "ethnic minority businesses" across generations, or the strong prevalence of self-employment among immigrants and their descendants (Andersson and Hammarstedt, 2010).

Research has shown that ethnic minorities and natives with a migration background have fewer "bridging" contacts to people in higher social positions (Li, Savage and Warde, 2008 for the United Kingdom); get fewer job leads (McDonald, Lin and Ao, 2009 for the United States); and receive less help from their social network when applying for apprenticeships (Beicht and Granato, 2010 for Germany).

To date there is little empirical evidence on whether limited networks put natives with a migration background at a disadvantage when searching for a first job. In Belgium, social capital – here measured as respondents' social connections to people with different occupations – is found to positively impact the likelihood to find a job after finishing vocational education and training (Verhaeghe, van der Bracht and van de Putte, 2015). Observed differences in social capital between those with Belgian- and foreign-born grandmothers from Morocco, Turkey or the Balkans are explained by socio-economic background.

Roth (2014) looks at the importance of social networks in finding an apprenticeship as part vocational training in Germany. Germany's dual vocational training combines schooling in vocational schools with on-the-job training, and requires students to apply directly to companies for their apprenticeship; for a considerable proportion of young people, this represents the first transition into the labour market. Young people with Turkish parents are less likely to report that their network was able to help them during the apprenticeship search than those with native parents. After controlling for background factors and grades, they are also less likely to find an apprenticeship. Furthermore, only mothers' networks – as opposed to young people's own contacts – had a positive effect on finding apprenticeship, indicating the importance of parental networks for young people. Whereas the ethnic composition of mothers' networks does not appear to have an impact, only those contacts working in low- to medium-skilled professions had a positive impact, which highlights that the usefulness of social capital is context-specific.

Vocational education as a means of facilitating school-to-work transition

In some OECD countries – notably the Netherlands, Germany, Switzerland and Austria – apprenticeships have been found to facilitate school-to-work transition and even more so for children of immigrants (OECD, 2012). However, in a number of countries, such as Switzerland, Austria and Denmark, children of immigrants are also at a higher risk of dropping out of apprenticeships compared to young people with native-born parents (OECD, 2012; Schindler Rangvid, 2012). There is also evidence that qualified young people with a migration background encounter difficulties in finding apprenticeship places, often reflecting a complex interaction between limited social networks, discrimination in the hiring process, and competition in the sector to which they applied (Helland and Støren, 2006 for Norway; Schneider, Yemane and Weinmann, 2014 for Germany).

In countries where VET programmes are generally less appreciated by employers and often perceived as a "dead end", children of immigrants tend to be overrepresented in vocational streams. In the French community of Belgium, for instance, students with foreign-born parents are overrepresented in the vocational track – in 2004/05, more than 30% of students enrolled in the vocational track had a foreign nationality (OECD, 2008).

Furthermore, Brekke (2007) finds for Norway that natives with non-Western migrant parents are slightly less likely to secure employment after graduation than those with native parents and comparable socio-economic background (64% vs. 68% respectively), and that the likelihood for foreign-born graduates is considerably lower (57%). In Denmark, a study shows that natives with a migration background have fewer job offers after finishing vocational education and higher layoff rates than comparable peers with native-born parents (Datta Gupta and Kromann, 2014).

In addition, in some countries children of immigrants tend to be overrepresented in VET pathways that lead to comparatively low-skilled and low-paid jobs. In Canada, Crocker et al. (2010) find that immigrant and minority women – while being underrepresented in VET in general – largely take up apprenticeships in the areas of hairstyling and food production. A survey on students with foreign-born parents in Germany also found that they are strongly underrepresented in those job areas that have the highest satisfaction rate among respondents (Haggenmiller, 2015).

Hence, whether VET promotes school-to-work transition among natives with a migration background appears to vary across countries. The literature has sought to explain why in some countries VET systems are more successful than elsewhere in facilitating entry into the labour market for natives with immigrant parents. Generally, schemes that combine part-time schooling with firm-based training are generally found to be particularly successful in facilitating school-to-work transition compared to VET systems that are based on full-time schooling (Wolter and Ryan, 2011). A strong work-based component may help to signal applicants' practical skills to future employers and provide first work experience. This could particularly help applicants with immigrant parents if they do not have large networks or face the risk of discrimination (Schröder, 2010).

Box 2.3. The importance of internships for school-to-work transition

Internships, particularly for entering more competitive sectors, have become increasingly important to increase young people's employability, and may therefore have an important impact on successful school-to-work transition. A number of surveys show that employers highly value internship experience, in some cases even more than grade point averages (GPA) (The Chronicle of Higher Education, 2012). However, the prevalence of unpaid or poorly paid internships – often even after the completion of studies – can pose a problem for the intergenerational mobility for young people from low-income families. This has also increasingly become a policy concern in a number of countries (see for instance Panel on Fair Access to the Professions, 2009). As natives with a migration background are more likely to grow up in low-income households, this development is likely to affect them particularly strongly. However, to date there are no studies that assess the extent to which children of immigrants are less likely to obtain internships, or are less likely to apply because they cannot afford low- or unpaid internships.

Sorting into occupations and wage gaps within occupations

There is strong evidence that natives with migrant parents and ethnic minorities are disadvantaged in the labour market, and that these differences cannot be explained by age or educational attainment. Furthermore, in most European OECD countries with available data, natives with immigrant parents are slightly more likely to be overqualified for the type work they are doing than those with native-born parents (OECD/European Union, 2015). However, these "ethnic penalties" (Heath and Cheung, 2006) differ across ethnic groups as well as countries.

Why this is the case is more difficult to determine. Whereas immigrants are likely to have foreign qualifications that employers may value less, natives with a migration background went through the same schooling systems as their peers without a migration background, and should therefore be equally able to benefit from their education as their peers with native-born parents. There are a number of explanations why earnings tend to be lower for natives with a migration background compared to similarly educated workers with native-born parents: natives with a migration background may work in lower-paying occupations or sectors, but they may also be paid less within a given occupation than workers with native-born parents (Altonji and Blank, 1999). If these wage gaps persist when controlling not only for education but also for factors such as work experience, age and location, discrimination may be a factor. Moreover, discrimination in the hiring process can also decrease representation in certain job fields, making "sorting into occupations" not an active choice, but an outcome of discriminatory practices.

Detailed analysis of how children of immigrants are distributed across occupations and to what extent pay is different within a given occupation is still limited. There has however been considerable research into what explains wage gaps between similarly qualified men and women in the same occupation. There is evidence for the United States, for instance, that within-occupation inequality for women is more pronounced in some jobs than in others and that for occupations where wage gaps are the smallest, median wages tend to be lower (Baxter, 2015). Furthermore, it has been argued that wage gaps partially reflect the fact that women are more likely to have jobs with flexible work hours, particularly

when they have children, and that more flexible hours come with high wage penalties (Goldin, 2014). However, there is also evidence that once women become more strongly represented in a given occupation, wages drop (Levanon, England and Allison, 2009).

Although it is unlikely that such mechanisms are the same for natives with a migration background, it is still plausible that some of the findings on gender wage gaps could also apply to natives with a migration background – for instance, that wages might be lower in occupations with high shares of workers with a migration background.

A study in the United Kingdom investigates why ethnic minorities (self-identified without taking into consideration country of birth) are more likely to be paid below the living wage and how this is related to occupational choices (Brynin and Longhi, 2015).[9] They find that wage gaps compared to white British workers are limited within a given occupation – except for Pakistani and Bangladeshi minorities whose wages differ from white British workers within a specific occupation – but that ethnic minorities are concentrated in low-paying occupations. This may indicate that selection of or access to occupations is an important factor in explaining wage differences. Moreover, having a university degree appears to benefit ethnic minority workers and white British workers to a similar extent, here measured in hourly wages compared to those without university education. White British workers do maintain, however, a small advantage (a 52% higher wage than those without university education compared to around 48% for other ethnic groups). Studies in the United States (Grodsky and Pager, 2001) and Canada (Hou and Colombe, 2010) also demonstrate that wage gaps between ethnic minority and white workers persist within occupations, pointing to the issue of discrimination.

Discrimination during the hiring phase and employment

While discrimination in the labour market is difficult to quantify precisely, a considerable number of studies indicate that natives with a migration background are disadvantaged in the hiring process due to their ethnicity, religion and/or gender (Heath, Liebig and Simon, 2013; Valfort, 2015; Arai, Bursell and Nekby, 2016). Different field experiments have been developed to assess the extent to which discriminatory hiring practices bar minority job applicants from accessing the labour market. These include audit studies where actors play similarly qualified minority and majority applicants and are sent to job interviews, as well as correspondence studies that measure call-back rates for fictitious CVs that are sent to employers. The latter method is generally considered to yield more reliable outcomes, as it removes personal interaction between applicant and interviewer that may impact recruitment decisions beyond observable characteristics. At the same time, correspondence studies by definition are limited to jobs that are filled through a formal, written application process. In other sectors where applications are more often made in person, it remains unclear to what extent discrimination is an issue. Moreover, they cannot yield evidence whether discrimination occurs after the interview stage, e.g. with regard to wages, promotions or layoffs.

Nevertheless, correspondence studies show that due to discrimination at the hiring stage, ethnic minorities and children of immigrants face additional hurdles in entering the labour market. A meta-analysis of 22 studies in 16 OECD countries shows that job applicants with a minority background have to send out more – in many cases, twice as many – applications before they receive a positive reply compared to equally qualified, white candidates (Heath, Liebig and Simon, 2013). Similar evidence is available for applications to apprenticeships (e.g. for Germany, Schneider, Yemane and Weinmann, 2014). A number of studies also find considerable variation in call-back rates between

ethnic groups (e.g. Booth, Leigh and Varganova, 2012 for Australia; McGinnity and Lunn, 2011 for Ireland; Wood et al., 2009 for the United Kingdom). However, an international comparison or "ranking" based on these studies is not feasible, as they apply different methodologies and consider different occupational sectors, jobs and ethnic groups.

Based on register data on name changes in Sweden, Arai and Skogman Thoursie (2009) show that annual earnings increase after individuals change their surnames from African, Asian or Slavic names to Swedish-sounding names. However, this is not the case for persons changing Finnish-sounding to Swedish sounding names, or those who changed from one non-European name to another non-European name. The authors find that a large part of the effect is due to higher chances of being employed, and conclude that discrimination in the hiring stage is an important explanatory factor for wage differences.

Furthermore, ethnic minority status often intersects with other grounds for discrimination, such as religious belief and gender, potentially leading to particularly unfavourable situations for certain subgroups. Evidence from France demonstrates that religious minorities who signal in their applications that they are practicing their religion experience considerable disadvantages in the labour market (Valfort, 2015). Practicing Catholics are 30% more likely than practicing Jews and twice as likely as practicing Muslims to receive a positive response. Furthermore, practicing Muslim men experience particularly high rates of discrimination. Whereas call-back rates among practicing Catholic women are 40% higher than among practicing Muslim women, for male practicing Catholics the call-back rate is almost four times higher than for practicing Muslim men.

It remains somewhat unclear whether ethnic minority men or women experience more discrimination and to what extent this is due to gender, ethnicity or (assumed) religiosity. In the United Kingdom, for instance, 13-16% of ethnic minority women stated they were questioned about their plans for marriage and children in job interviews compared to 6% of British white women (Equal Employment Commission, 2006).[10] In Sweden, however, it appears that women with Arabic-sounding names can "compensate" initial hiring discrimination (measured in call-back rates) when they have more work experience, which is not the case for male applicants (Arai, Bursell and Nekby, 2016). At the same time, women may also be more strongly affected by discrimination due to religious dress. In Belgium, for instance, around 44% of employers indicated that an applicant wearing a headscarf would impact their hiring decision (Lamberts and Eeman, 2011). In Germany, women with a Turkish-sounding name who wear a headscarf are found to be strongly disadvantaged in the hiring process (Weichselbaumer, 2016).[11] They received positive feedback only from 4% of the employers that were contacted in a correspondence study, compared to 14% for women with a Turkish-sounding name and 19% for women with a German-sounding name. For management roles as compared to secretary roles, differences were even more pronounced. This indicates that the prevalence of discrimination can also depend on the level of seniority of a given position. Overall, however, it is unclear whether discrimination during the hiring phase is more widespread for low- or high-skilled jobs, or how this differs across sectors and countries.

Compared to discriminatory hiring practices, there is less and mostly indirect evidence on how discrimination impacts later career trajectories, such as wages, promotions and layoffs, also because the impact of discrimination is more difficult to quantify. However, a considerable body of literature has developed that seeks to identify the magnitude of "ethnic penalties", i.e. differences in labour market outcomes that remain after controlling

for relevant background factors, such as education, age, sector or work experience (Heath and Cheung, 2006). Although these penalties cannot be linked directly to it, discrimination is still likely to be an important factor considering evidence from correspondence studies.

Regarding wages, Hou and Colombe (2010) find that Canadian-born visible minorities are overall paid less for similar jobs in the private sector than white Canadian workers with similar education levels and work-related characteristics, such as work experience. Whereas for Chinese and South Asian minorities this gap is between 3% and 6%, it was found to be considerably larger for black minorities (11% and 16% for women and men, respectively). For public sector jobs, no significant differences are found. A study in the United States also shows that for black minority men working in the private sector – without distinguishing by country of birth – wage differences become larger compared to white workers when occupations are more highly paid (Grodsky and Pager, 2001). This association remains when controlling for a number of human capital occupational characteristics. Thus, wages differences appear to also depend on average occupational earnings. This relationship is not found in the public sector.

Furthermore, there is some evidence for the United States indicating that even when taking workers' performance reviews and ratings into account, salary growth, promotions and layoffs continue to differ by gender and ethnicity (Castilla, 2012). However, these findings are based on the employment history of around 6 000 employees working in the same company and therefore cannot be generalised. In addition, firm downsizing appears to affect ethnic minorities more strongly than other workers (Couch and Fairlie, 2010 for the United States), and also when they are in managerial positions (Kalev, 2014).

Conclusion

When assessing the intergenerational mobility of natives with a migration background, at first glance there is an overall optimistic picture that emerges in many OECD countries. Compared to their parents, most children of immigrants obtain higher degrees and tend to do better economically. However, in many cases this is partly explained by the fact that their parents had low educational credentials and earnings compared to native-born parents. An international comparison on how mobility rates differ for children of less-educated natives and less-educated immigrants currently yields an inconclusive picture. Often this is also due to different methodologies and data sources. However, there is some evidence (chapter 4) that natives with low-educated non-EU parents are less likely to experience upward mobility in EU countries and have lower employment rates than their peers who have low-educated, native-born parents, even when controlling for their own educational attainment.

While it is generally assumed that a weak association between immigrant parents' and their children's outcomes is desirable, it is crucial to look beyond these overall correlations. As weak intergenerational associations can also imply downward mobility, i.e. highly educated parents who are not able to pass their educational advantage on to their children, it is critical to assess whether and how these associations differ across the educational or wage distribution. In addition, the educational and economic mobility of children with immigrant parents also varies among different immigrant groups in a given country. Thus, it is important to go beyond countrywide averages and take a closer look at what specific obstacles these groups are experiencing.

This review has looked at four main factors that impact intergenerational transmission; 1) family characteristics; 2) concentration of disadvantage in neighbourhoods; 3) determinants at a school level; and 4) pathways and obstacles to intergenerational mobility in the labour market.

Family characteristics

Evidence on the impact of the *number of siblings* is inconsistent, ranging from a small or no negative impact to considerable negative effects for larger number of siblings (Luthra, 2010; Hermansen, 2016; Riphahn and Bauer, 2007). Mostly, however, family size is not a particularly strong explanatory factor, when other characteristics such as income are accounted for. Moreover, very little is known at this point about the extent to which older siblings can be a resource for their younger siblings, and whether this can translate into higher mobility rates for younger siblings (Schnell, 2014).

Moreover, the *amount of years the parents have spent in the host country* appears to positively affect educational outcomes of their children, mostly due to the parents' better language skills. However, the impact is small and evidence is only available for a few countries (Worswick, 2004; Nielsen and Schindler Rangvid, 2012; Smith, Helgertz and Scott, 2016). While the parents' reason for migration may also impact intergenerational mobility, there is currently no research that disentangles how different reasons for migrating or legal status may impact intergenerational mobility.

Intergenerational transmission of language skills is difficult to assess when there are only imprecise proxies for language skills, such as years spent in the country or self-assessed language skills. Moreover, language skills are not only transmitted from parents to children, but also vice versa, making it difficult to rule out reverse causality. Despite these caveats there is some evidence that parents' good language skills positively impact their children's educational attainment, and more so when the children are still young (Bleakley and Chin, 2008; Casey and Dustmann, 2008).

Educational aspirations among immigrant parents and their children are generally found to be high (OECD, 2015). Whereas high educational aspirations may be a prerequisite for overcoming initial disadvantage, they do not appear to be sufficient when concrete knowledge on how to attain these goals is lacking (Gresch et al., 2012; Cummings et al., 2012).

Growing up in disadvantaged neighbourhoods

While there is evidence that growing up in a poor neighbourhood – not accounting for migration background – generally has long-term, negative effects on labour market outcomes (Chetty et al., 2016; Rothwell and Massey, 2015), it is less clear how a *high concentration of immigrants at a neighbourhood level* impacts mobility of natives with a migrant background. Literature that has aimed to capture immigration-specific factors of residential segregation shows that its impact strongly depends on the (often group-specific) economic and social resources of migrant communities (Zuccotti and Platt, 2016; Grönqvist, 2006).

Determinants of intergenerational mobility on a school level

In the majority of OECD countries, natives with migrant parents are overrepresented in schools with high shares of pupils with a migration background. However, the literature finds a relatively minor or no effect of the share of students with immigrant parents on

educational attainment when controlling for socio-economic characteristics (Lemaitre, 2012; Veerman, van de Werfhorst and Dronkers, 2013). Thus, the often-observed negative *relationship between educational outcomes and high shares of students with immigrant parents* is largely driven by socio-economic disadvantage.

There is strong evidence that *early childhood education* – given that it is widely accessible and of good quality – can increase intergenerational mobility. Especially for children of immigrants with limited language proficiency, early childhood education is highly important to increase their language skills and overall school readiness (OECD, 2015).

Regarding *early streaming*, i.e. sorting students into different educational tracks according to their academic ability, the evidence is somewhat less clear-cut. Yet the majority of research indicates that overall, school systems that stream students only at a later age, e.g. around the age of 15, reduces the importance of parental socio-economic background, including for children of immigrants (Meghir and Palme, 2005; Pekkarinen, Uusitalo and Kerr, 2009; Ruhose and Schwerdt, 2016).

Parents' familiarity with the education system is likely to have an impact on how well they can support and guide their children through their educational career, particularly when parents can choose their children's schools or have to make decisions regarding school streams early on (Pfeffer, 2008). The lack of such strategic knowledge can thus become a mechanism that limits the educational mobility of their children, but little evidence is available on how limited familiarity concretely impacts parental decision making.

Lastly, obtaining an accurate picture of *teachers' expectations and potentially discriminating attitudes* towards students with a migration background is difficult, not only because such behaviour can be very subtle and difficult to quantify, but also because students' social class plays into teachers' expectations (Figlio, 2005; Lüdemann and Schwerdt, 2013). As a consequence, the impact of teachers' – potentially biased – attitudes towards children of immigrants is highly mixed (Burgess and Greaves, 2013; Lindahl, 2007).

Pathways and obstacles for intergenerational mobility in the labour market

The *transition from school to work* has been highlighted in the literature as a critical point for natives with a migration background, who are often less successful in finding employment. In most countries these differences are not explained by differences in educational attainment. Fewer *networks* may be a factor that limits school to-work-transitions for natives with a migration background, particularly if their parents cannot provide them with useful contacts (Li, Savage and Warde, 2008; Beicht and Granato, 2010; Roth, 2014). In some countries, *vocational education and training* systems can facilitate school-to-work transition for natives with a migration background under certain circumstances, and can present a pathway for upward mobility (OECD, 2012).

Sorting into low-paid occupations or receiving lower wages for a given job than their colleagues may also hinder mobility in the labour market. Detailed analysis of how children of immigrants are distributed across occupations and to what extent pay is different within a given occupation is still limited. There is, however, some evidence, mostly from English-speaking countries, that certain ethnic minorities are concentrated in low-paying occupations and also tend to receive lower wages than equally qualified white workers (Hou and Colombe, 2010; Brynin and Longhi, 2015), pointing to the issue of

discrimination in the labour market. Yet, it should be highlighted that in these studies no distinction is made whether persons are foreign- or native born.

Field experiments show that natives with a migration background and ethnic minorities can experience *discrimination in the hiring process* due to their ethnicity, religion and/or gender, and often have to send out considerably more applications before being invited to an interview (Arai and Skogman Thoursie, 2009; Heath, Liebig and Simon, 2013; Weichselbaumer, 2016). Studies on discrimination during employment, e.g. regarding wage differences, promotions and layoffs, are less frequent, yet there is evidence for some countries that ethnic minorities receive less pay than similarly qualified peers (Hou and Colombe, 2010; Grodsky and Pager, 2001).

Directions for future research

Reviewing the literature reveals that there are still considerable research gaps in a number of areas. Whereas these gaps are often due to data limitations – either because data are not collected or because the population of natives with a migration background is too small – the following highlights research areas to be pursued further within the intergenerational mobility literature. Some of them are already well developed, but have not yet focused on immigrant families.

First, little is known about how intragenerational mobility, i.e. how the social mobility of immigrant parents in the host country and intergenerational mobility are connected. It seems plausible that they can be interrelated; intergenerational mobility in immigrant families might be different if parents are themselves upwardly or downwardly mobile compared to parents who do not experience mobility during their lifetime. Thus, taking into account that family circumstances are often not static and connecting these two aspects of mobility would require tracking immigrant parents' outcomes over time and assessing how this might impact their children's trajectories. Relatively few studies have assessed the relationship between intra- and intergenerational mobility (see, however, Plewis and Bartley, 2014), and so far none has considered this relationship for immigrant families.

Second, sibling studies can be an interesting avenue, as shared genes and a similar social environment while growing up makes them more similar than other members of society. Sibling correlations are therefore arguably a broader measure of the impact of family and neighbourhood than intergenerational estimates based on parental income or education, and have become an increasingly frequent means of assessing drivers of intergenerational mobility (Black and Devereux, 2011). Other studies have compared adopted children and twins in an attempt to determine causal effects (see Holmlund, Lindahl and Plug, 2011 for an overview; Black et al., 2015), yet this approach may not be feasible when focusing on immigrant families only. Nevertheless, sibling correlations could prove to be a promising avenue for future research on natives with a migration background.[12]

Third, there is still inconclusive evidence regarding the relative impact of mothers' and fathers' socio-economic background on their children's mobility, and whether this also depends on the gender of the child. Moreover, relatively little is known about women's intergenerational earnings mobility, as the majority of studies observe father-son pairs. While limited data may still present a considerable challenge, much could be gained from having a better understanding of which characteristics of mothers and fathers have a stronger effect on their children, and whether this differs between immigrant and native families.

Fourth, a number of studies show that intergenerational mobility tends to be overestimated when only taking into account two generations (Pfeffer, 2014). With regard to the children of immigrants, this is a particularly important issue. Whereas children of immigrants growing up in disadvantaged families are largely found to do better than their parents' generation, it is often (implicitly) assumed that this trend will continue in the grandchildren's generation. However, the extent to which this is the case remains largely unclear in European countries. Although administrative data in Scandinavian countries as well as a number of recent surveys have been used to identify respondents with foreign-born grandparents (Andersson and Hammarstedt, 2010; Fick et al., 2014), multigenerational mobility of immigrant families remains under-researched.[13] More studies with a multigenerational approach exist in the United States, Canada and the United Kingdom, but these largely rely on ethnic self-identification rather than the grandparents' country of birth, which renders mobility analysis difficult (Duncan and Trejo, 2016). Focusing on the grandchildren of immigrants also raises questions of how to define and identify them in the data. Indeed, it remains debated whether for a "third generation immigrant" migration status or ethnic minority status is the more insightful characteristic to explain social mobility. Moreover, across three generations, within-group differences are likely to increase as well – e.g. due to intermarriages or internal mobility – and would require additional research attention paid to the internal heterogeneity of ethnic minority or immigrant-origin groups (Alba, Jiménez and Marrow, 2014). Although the numbers of grandchildren of immigrants are still rather small in many European countries, multigenerational approaches may become a relevant research topic in the future and provide a more long-term perspective on the intergenerational mobility of immigrant families.

Notes

1. The review at times also includes studies that do not distinguish between native- and foreign-born children of immigrants as well as studies on ethnic minority groups, when these findings are likely to also be pertinent for natives with a migration background.
2. Native-born children with one foreign- and one native-born parent tend to have socio-economic outcomes similar to those of children with native-born parents and are therefore not the focus of this review (OECD/European Union, 2015). In addition, a number of OECD countries have increasingly large populations of natives with native parents and immigrant grandparents. As there is currently very little evidence on how mobility patterns develop over more than two generations, this group is not included in the review either.
3. There is, however, evidence that fertility rates of native-born persons with immigrant parents are closer to the fertility patterns of those without a migration background, indicating convergence across generations (Stichnoth and Yeter, 2013; Meurs, Puhani and von Haaren, 2015).
4. Australia, Austria, Belgium, Canada, Denmark, France, Germany, Luxembourg, the Netherlands, New Zealand, Norway, Sweden, Switzerland and the United States.
5. These exams are not mandatory and only taken by students who plan to enrol in university. It is therefore likely that students are positively selected on a number of unobserved characteristics, such as a strong sense of perseverance or ambition, and that findings cannot be extended to the student population as a whole.
6. The studies do not indicate whether students are foreign- or native-born.
7. For instance, countries with early streaming policies such as Austria and provide high-quality vocational education and training, which may reduce a potential negative effect of streaming mechanisms on outcomes in later life.
8. Australia, Canada, New Zealand, Denmark, Norway, Sweden, Austria, Germany, the Czech Republic, Hungary and the Russian Federation.
9. The study does not distinguish between native- and foreign-born workers.
10. Survey data of black Caribbean, Bangladeshi, Pakistani and British white women, n=800.
11. It is customary in Germany to include a photograph as part of the application.
12. Schnitzlein's paper (2012) on Danish-born sons of immigrants is a notable exception in the otherwise sparse literature on sibling correlations among children of immigrants. He finds that sibling correlations in earnings are largely similar across different immigrant groups, arguing that "cultural background" does not appear to be an important factor for intergenerational mobility.
13. In Sweden, earnings between the immigrant grandparents' and grandchildren's generation seem to decline (Hammarstedt, 2009). However, the grandparents' generation – largely originating from Europe and North America – was positively selected and experienced high earnings. Therefore, these findings only pertain to a specific group of migrants coming to Sweden in the 1960s, and can hardly be indicative of how multigenerational mobility may unfold for other immigrant groups coming to Sweden at a later stage.

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Chapter 3.

The intergenerational educational mobility of natives with immigrant parents

This chapter examines the possible intergenerational transmission of educational disadvantage imposed by immigrant parents having fewer years of schooling than native-born parents. The first section compares the educational attainment of three groups of native-born students: those with at least one native-born parent; those with two parents born inside the European Economic Area (EEA); and those with two parents born outside the EEA. The second section focuses on the students' performance at school. It aims at assessing the extent to which parental background characteristics influence skill scores across the different groups of students. This section also investigates the likelihood of students "succeeding against the odds" and other factors influencing school performance, such as language proficiency and the concentration of disadvantaged students at school. Lastly, the third section compares adult skills in numeracy, reading and problem solving between natives whose parents are also native and natives whose parents are foreign-born.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Main Findings

- The results of this chapter indicate a persisting albeit narrowing gap in educational attainment between immigrants and their offspring and natives and their offspring. However, much of that gap can be explained by the socio-economic background of immigrants' children, which tends to be lower than that of natives' children. The extent to which parental characteristics impact their children's ultimate educational attainment differs greatly between countries.
- Natives with immigrant parents are more likely than natives with native parents to attain only a lower secondary education. The gap is largest in Belgium and Austria, where around 10% of natives' children cease education at a lower level, compared with almost 30% of natives with immigrant parents.
- Natives with immigrant parents are less likely than children with native parents to attain any level of tertiary education. On average, the share of those who reach higher educational attainment is 21% for natives with immigrant parents versus 29% for natives with native parents. In Austria, Belgium and Switzerland, natives' children are two times as likely to enter tertiary education compared to immigrants' children (around 30% and below 15%, respectively). In the United Kingdom on the other hand, the proportion of university-educated natives with immigrant parents (35%) exceeds the average for natives with native parents (28%).
- Controlling for parental education reduces the observed educational attainment gap. The overrepresentation of natives with immigrant parents among the less educated is reduced in all countries, and the under-representation of natives with immigrant parents among the more highly educated is correspondingly reduced as well.
- Yet even after controlling for their parents' education, analysis of the chosen higher education stream (vocational vs. general) shows that natives with parents born outside the EU are 4 percentage points less likely to choose an academic higher education stream.
- In most countries, intergenerational educational progress is much faster for natives with immigrant parents than for natives with native parents. In fact, the educational attainments of the two groups converge over time. Natives with immigrant parents generally reach much higher educational levels than their parents. While natives with native parents also reach higher educational levels than their parents, the difference is less pronounced than for natives with immigrant parents. That is partially because native parents already tend to have higher levels of education than immigrant parents.
- The link between achieving higher PISA (Programme for International Student Assessment) maths test scores and the parents' greater educational attainment is much more pronounced for the children of natives than it is for the children of migrants. Parental education thus has *less* of an effect on children's test scores when their parents are foreign-born. This result is also found for test scores in reading and science.
- Schooling systems that produce more resilient students among the children of natives (defined as children who perform well in school despite their disadvantaged background, also described as children who are "succeeding

against the odds") also increase the likelihood that the children of immigrants will become more resilient. Resilience among the children of immigrants seems to be higher in countries where it is also high for the children of natives.

- It is generally difficult to disentangle socio-economic background from immigrant-specific effects in analysing school performance. Factors such as school quality and neighbourhood effects often concern children with a low socio-economic background and children with immigrant parents simultaneously. However, language proficiency seems to be extremely important for children's success in school, especially for those 41% of children with immigrant parents that speak a language at home that is different from the language in which the PISA test was conducted. OECD analysis shows that the earlier host-country language skills are acquired, the higher the PISA test scores will tend to be.
- On the school level, the analysis of PISA scores suggests that socio-economic disadvantage has a much stronger impact on the educational performance of students than the concentration of students with immigrant parents. For example, in Germany, Italy, Slovenia and the Netherlands, students in schools with a high concentration of immigrants perform around 50 points lower than the average. However, this gap disappears when the socio-economic background of parents is taken into consideration. In Denmark, students even perform better in schools with high shares of students with a migration background once socio-economic status is accounted for. On the average in OECD countries, score are reduced from 18 to 5 points.

Introduction

In most European countries, children with immigrant parents tend to have weaker educational outcomes than children with native-born parents. This is partly because the parental generation with a migrant background has on average fewer years of schooling than the native-born parents (OECD/EU, 2015). The objective of this chapter is to study the intergenerational transmission of this disadvantage, and to understand whether lower parental education is more likely to be transmitted among natives with immigrant parents than among natives with native-born parents. It also looks at whether and why there are differences across countries. The chapter is organised around three sections that measure different dimensions of education. The first section analyses educational attainment. The second focuses on the skills acquired in school, using test scores from the OECD Programme for International Student Assessment (PISA). Finally, the third uses data from the OECD Programme for the International Assessment of Adult Competencies (PIAAC) to assess measures of cognitive skills in the adult population.

This chapter's first section compares educational attainment levels across migration backgrounds, and studies whether the educational gap, with respect to the parental generation, is closing between natives with and without a migration background. This is done by assessing whether students have on average more years of schooling than their parents, and compares that evolution for natives with and without immigrant parents. To capture potential differences in the intergenerational transmission by parental educational level, the section then analyses the association between parental education and the educational attainment of the adult child. The results indicate that children of immigrants attain a higher educational level than the one predicted by their parent's background, compared to natives. Results overall reveal a narrowing of the educational gap between immigrants' and natives' children.

The second section of the chapter focuses on student performance at school. Relying on data from PISA – a standardised test for the reading, mathematics and science abilities of 15-year-old students – the section analyses cognitive skills by parental origin and, in a second step, the intergenerational transmission of education. To help understand differences by parental origin, there is an assessment of how much of the test score differences can be attributed to parental socio-economic background. The results suggest that to a large extent – about 37% – performance gaps are indeed explained by a child's socio-economic background. However, the extent to which parental characteristics impact their children's ultimate educational attainment differs greatly between countries.

Finally, the remainder of the chapter compares adults' cognitive skills by migration background, relying on PIAAC data. In the European Union, natives with a migration background consistently score slightly lower on different measures of skills at each educational level tested, even after taking into account parental educational background. In recipient countries such as Canada and Australia, there are no differences in adults' cognitive skills by migration background, which likely reflects the selective immigration policy in those countries.

The results from this chapter indicate that a large part of disadvantage is explained by lower socio-economic background, measured by the parental education level. Compared to their peers of native origin, children with immigrant parents complete fewer years of schooling and perform worse in cognitive tests, both in and after school. However, by many measures this gap is narrowing. In fact when taking into account parental education level this gap is greatly diminished and in some countries it disappears altogether. The transmission of any disadvantage is stronger among natives with immigrant parents: having low-educated parents has a stronger negative effect on the education level of natives with immigrant parents than it has on natives with low-educated native-born parents. That signals an "ethnic penalty", (Heath, 2006) a disadvantage that goes beyond socio-economic status, albeit one much less common among younger cohorts. Overall, these findings are encouraging: the educational outcomes of natives with a migration background are converging towards those of their peers.

Educational attainment

This section compares the educational attainment of natives with a migration background to those without that background. It describes the distribution of attainment for three groups of native-born students: those with at least one native-born parent; those with two parents born in the European Economic Area (EEA), and those with two parents born outside the EEA (thus, natives with immigrant parents). The first sub-section documents a large gap in educational attainment: on average, those with native- or EEA-born parents obtain higher degrees than natives with immigrant parents. The second sub-section analyses the evolution of this educational gap, with respect to both the parent generation and for different cohorts over time. The findings show that natives with immigrant parents are closing the educational attainment gap, which becomes smaller with each new cohort in age of entering the labour market. Compared to their parents, all new cohorts of natives have on average more years of schooling, but this difference is even larger for natives with immigrant parents. Finally, when taking into account their parental background, natives with immigrant parents are no longer at a disadvantage in terms of schooling attainment. All the results point towards a convergence: natives with immigrant parents have on average fewer years of schooling, but are catching up with the natives with native parents.

The distribution of educational attainment

Low educational attainment

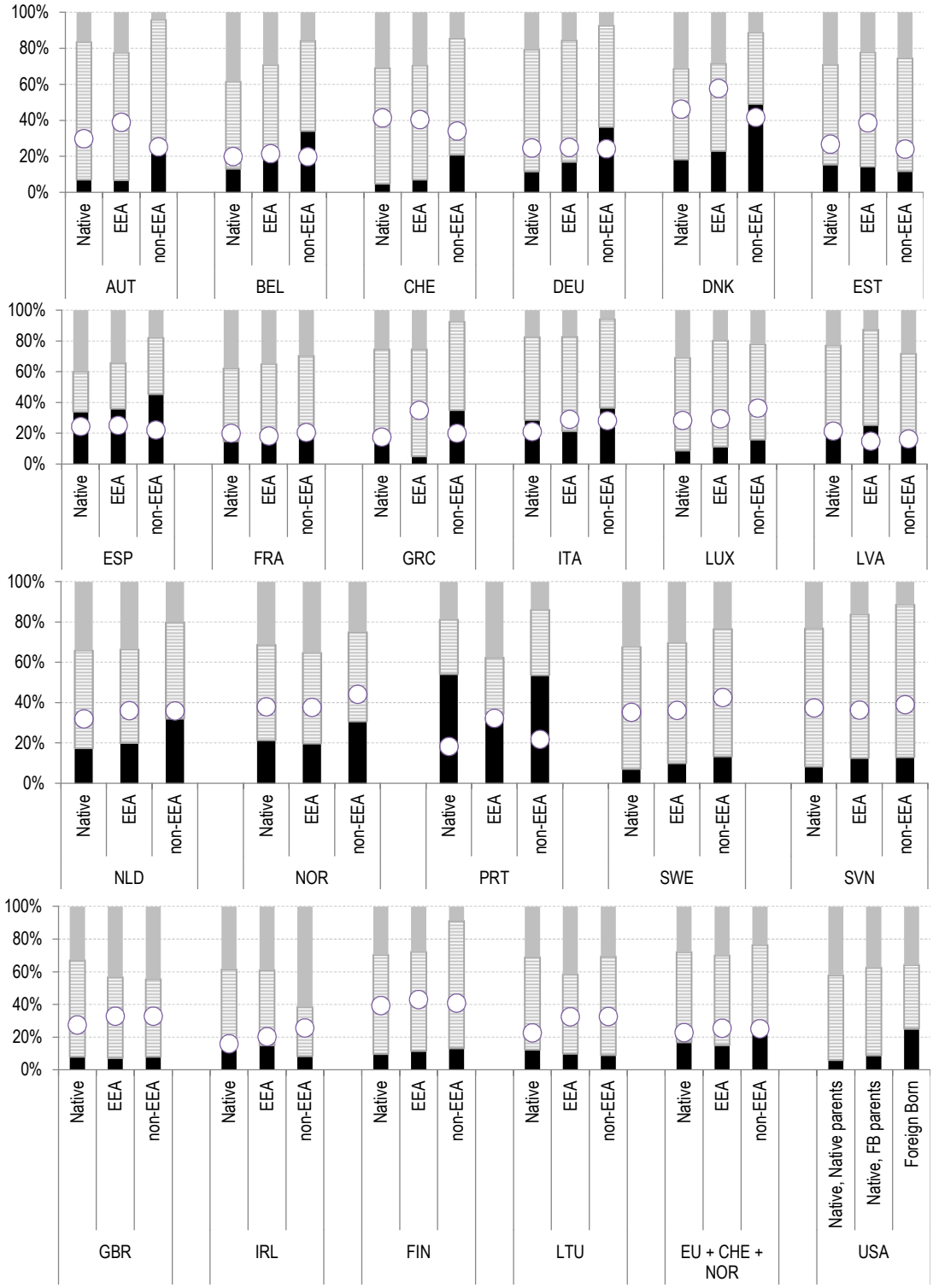
Natives with parents born in countries outside the EEA are overrepresented at the bottom end of the educational distribution. Figure 3.1 presents distribution by migration category and country using 2014 European Union Labour Force Survey (EU-LFS) data. The figure focuses on those aged 20 to 39 and shows that the proportion of those with lower education levels is higher among native children with immigrant parents than among natives without migration background, or among the natives with EEA-born parents. In 15 of the 21 countries for which comparable data are available, natives with immigrant parents are more likely than natives' children to complete lower secondary education as their highest educational attainment. The gap in lower attainment rates between natives with immigrant parents and natives' children is largest in Belgium and Austria, where around 10% of natives' children cease education at a lower level while almost 30% of natives with immigrant parents do. The population-weighted average across the EEA countries analysed shows that 17% of natives' children cease their education at a lower level, while almost 30% of the natives with immigrant parents do. The only exceptions are the three Baltic countries, Portugal and the United Kingdom. Independently of migration background, in Portugal the percentage of those low educated is high compared to other countries, whereas in the United Kingdom it is low.

This overrepresentation of natives with immigrant parents at the bottom of the educational spectrum is partly explained by parental background. Immigrant parents from non/EU-EFTA countries have on average fewer years of schooling than native parents (OECD/EU, 2015). Given the degree of intergenerational transmission of education, it is expected that natives with immigrant parents also have lower years of schooling than their peers with native parents. However, countries differ greatly in the extent to which natives with immigrant parents are overrepresented at the bottom end of the educational spectrum. This is mostly because countries differ in their migration history, and thus in their shares of low-educated immigrants from non-EU countries in the population.

High and medium educational attainment

In most EU countries, natives with immigrant parents are under-represented in higher education, mirroring the overrepresentation in lower education. As shown in Figure 3.1, obtaining a higher education degree is more common for natives with native-born parents than for natives with immigrant parents. The exceptions are the United Kingdom and the Baltic countries, where, compared to natives' children, natives with immigrant parents are either slightly overrepresented (in the United Kingdom) or equally represented (in Baltic countries) among the tertiary-educated.

Figure 3.1. Distribution of educational attainment of natives by migration background, 20-39 year-olds, percentages



Note: Lower education corresponds to ISCED 0-2, medium educated to ISCED 3-4, and highly educated to ISCED 5-6.
Source: EU-LFS, 2014; CPS data for the United States.

In 16 of the 21 countries, natives with immigrant parents are less likely than natives' children to be tertiary-educated. Within these 16 countries, outcomes differ considerably. The largest gaps are found in Austria, Belgium and Switzerland. In those countries, around 30% of natives with native-born parents have attained a higher education degree. This proportion drops to less than 15% for the natives with immigrant parents. In other western European countries, the gap is somewhat smaller. For example, in France, the Netherlands and Sweden, around 35% of those with native parents have attained a tertiary degree compared to 25% of the natives with immigrant parents. In the 21 countries analysed, the population-weighted average of those who reach a higher educational attainment is 21% for the natives with immigrant parents and 29% for natives with native parents. In the United Kingdom, the proportion of university-educated natives with immigrant parents (35%) exceeds the average for natives with native parents (28%). In Baltic countries, natives with immigrant parents are proportionally represented in among the highly educated.

The attainment of medium-level degrees (such as completing secondary school and having a short tertiary degree) also differs by country and migration background. In Austria, Ireland and the United Kingdom, natives' children are around 10 percentage points more likely to have medium-level educational attainment than natives with immigrant parents. However, this is not the case in the Netherlands, Belgium, France, Sweden or Switzerland, where natives with immigrant parents and natives' children are roughly equally represented among the medium-educated.

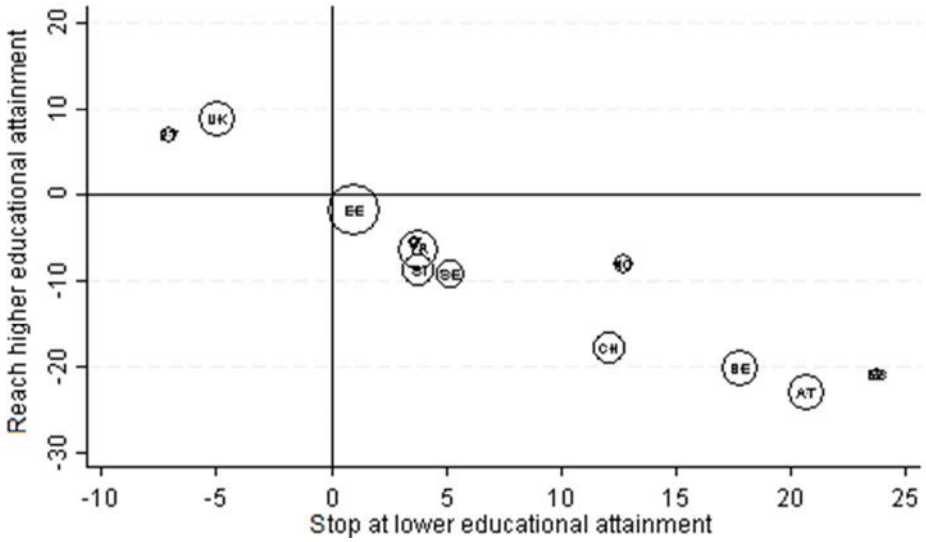
Analysing highest educational attainment: Who drops out and who reaches university?

Figure 3.2 documents the difference between natives with immigrant parents and the children of natives, in the percentage of the population that a) stops at a lower level of educational attainment, and b) reaches a university degree. These differences are measured using an econometric model that takes into account gender and age. Children with parents born in the EEA are found to have educational attainment almost identical to those with native parents – hence the results for them are not shown. Two main facts emerge from the results presented in Figure 3.2. The first is that natives with immigrant parents are on average more likely to stop at a lower educational level and consequently also less likely to obtain a university degree. The second fact is that countries differ greatly with regard to both low and higher attainment rates.

In Austria, natives with immigrant parents are 20 percentage points more likely than natives to cease their education at a lower educational level (as shown on the horizontal axis), and 22 percentage points less likely to have a tertiary degree (as shown on the vertical axis). In the United Kingdom, natives with immigrant parents are slightly less likely than those with native parents to stop at a lower educational level (-5%), and are around 8% more likely to obtain a tertiary degree. A good illustration of the differences among countries shown in Figure 3.2 is the comparison between Norway and Switzerland. In both countries, the percentage of natives with immigrant parents that stops at lower educational attainment is around 12 points higher than for the natives' children. However, these two countries differ when it comes to higher education. In Norway, natives' children are 10 percentage points more likely than natives with immigrant parents to reach a university degree, while in Switzerland this difference is 22 percentage points.

Figure 3.2. Likely comparative educational attainment of immigrants' children, ages 20-35, without controls for parental education

Immigrants' children relative to natives' children (in percentage points)



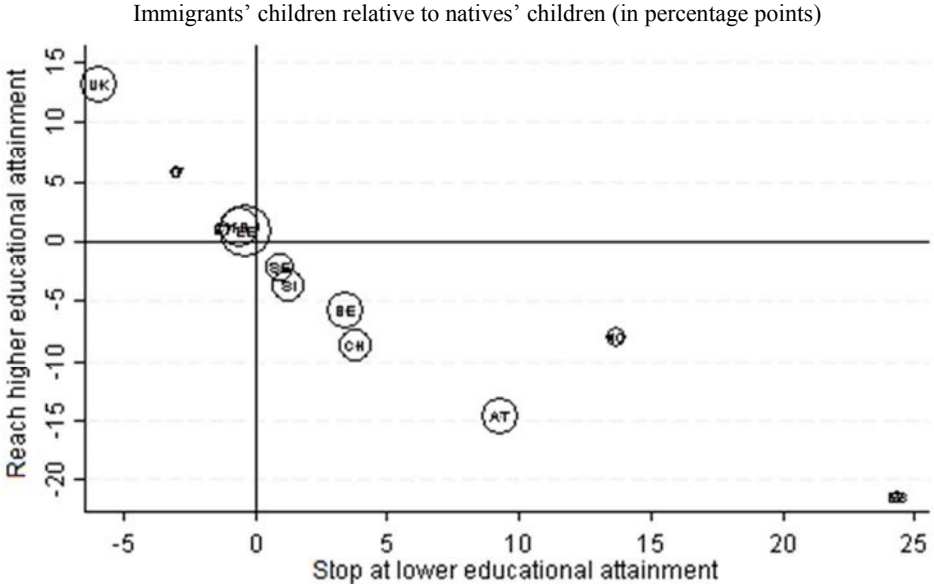
Notes: Two steps – first, probability of educational outcome, given migration category, age and gender. No controls for parental education. Second, marginal likelihood of being in either higher or lower education for the children of immigrants compared to natives' children.
Taking Austria (AT) as an example, natives with immigrant parents are 22 percentage points less likely to attain a higher education than natives with no migration background, and around 20 percentage points more likely to stop their schooling at the lowest of three educational steps**.**
Source: EU-LFS, 2014.

The results presented in Figure 3.2 do not, however, take into account parental educational background. If most of the achievement gap is due to socio-economic background, then one would expect that taking into account the parents' highest educational attainment would reduce differences in attainment. Figure 3.3 reports the results from the same model, and adds parental background to the estimation.

Accounting for the education of the parents, the first and salient observation is that countries move to the upper left quadrant in Figure 3.3 as compared to Figure 3.2. Thus, controlling for parental education reduces the observed educational attainment gap. The overrepresentation of natives with immigrant parents among the low-educated is reduced in all countries, and the under-representation of natives with immigrant parents among the more highly educated is correspondingly reduced as well. Moreover, educational outcomes of natives with immigrant parents are no longer significantly smaller in six of the previous ten countries for which they were smaller.

Controlling for parental educational background reduces the attainment gap by a very large amount. In France and Sweden, the children of immigrants are no longer significantly different from natives' children in their educational attainment. In Switzerland the difference in the share of the cohort that stops at a lower educational level is reduced from 13 percentage points to less than 3 percentage points. This reduction is even larger in the case of Belgium (17 percentage points to 4 percentage points).

Figure 3.3. Likely comparative educational attainment of immigrants' children, ages 20-35, controlling for parental education



Notes: The figure accounts for the highest parental educational attainment.
Two steps – first, probability of educational outcome, given migration category, age, gender and parental education. Second, marginal likelihood of being in either higher or lower education for the children of immigrants compared to natives' children.
The percentage point differences in Austria for instance decrease from 22 to 15 percentage points for the children of immigrants, and from 20 to 8 percentage points for natives' children.
Source: EU-LFS, 2014.

The intergenerational transmission of education: Is the educational gap closing?

This section looks at the intergenerational transmission of education, and analyses whether the educational gap has narrowed in recent years. Measuring this evolution does however pose a few methodological challenges. The age of leaving education may be different for each successive cohort. Given the general rise in educational attainment, the parents of each new cohort should have higher educational attainment than the previous cohort's parents. Although this is the case for native parents, it is not always the case for immigrant parents, because for instance countries of origin change over time. This complicates the comparison between two different cohorts of natives with immigrant parents, which in turn renders assessment of the evolution compared to that for natives with native-born parents more difficult. (Three different methodologies to evaluate the evolution of the educational gap and the intergenerational transmission of education are presented in Annex 3.A.)

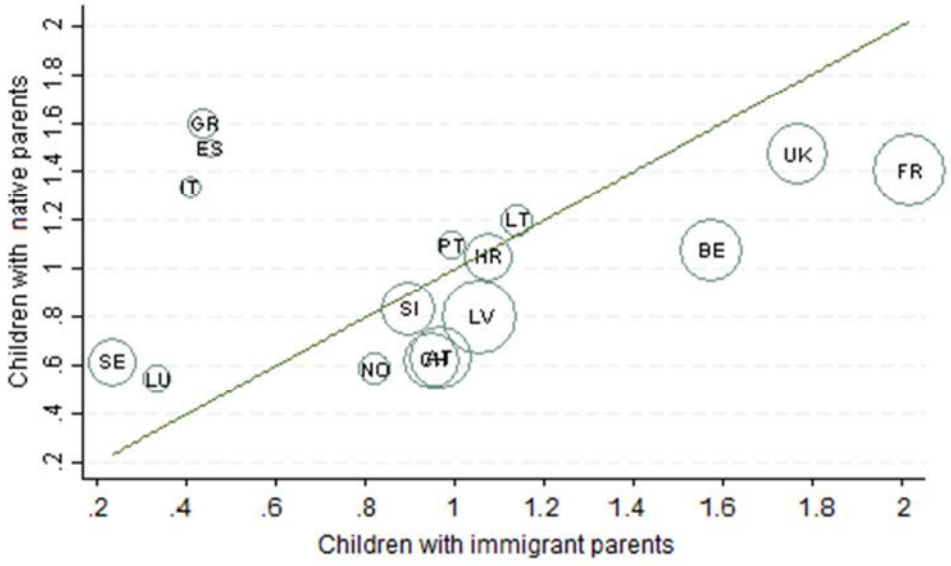
Evolution of the gap in educational attainment between parents and offspring

The educational attainment gap between parents and adult child is measured with respect to respondents' own parents, allowing a direct link. As explained in the methodological box in Annex 3.A, each person interviewed in the EU-LFS is asked about the highest level of education attained by both parents. The evolution from one generation to the next is measured as the respondent's education minus the higher of the two parents' educational attainment. Education is measured using the 3-point ISCED scale for

respondents and parents. This evolution is measured independently for each migration category, using the 20-35 age group taken from the 2014 EU-LFS.

Figure 3.4. Evolution of educational attainment as compared to that of parents

Years of schooling over and above those of parents, natives aged 20-35, by migration background



Notes: The size of circles represents the share of the children of immigrants in the population of the country. In Belgium for example, among those aged 20-35, natives with immigrant parents have 1.6 years of schooling more than their parents had, while those with native parents have 1.1 points more than their parents had. Countries under the green line indicate that compared to their parents, natives with immigrant parents progress faster than their native peers.
Source: EU-LFS, 2014.

The first and salient fact that emerges from Figure 3.4 is that in most countries, progress with respect to parental education is much faster for natives with immigrant parents than for natives with native parents. The figure shows the educational attainment of the two groups converge, especially in countries with large shares of natives with immigrant parents in their population. Natives with immigrant parents reach much higher educational levels than their parents and while this is also the case for natives, the difference with respect to their parents is less pronounced. This is partially because native parents already have on average high education levels, but it nonetheless shows a reduction of the gap between one generation and the next.

In France for example, natives with immigrant parents have around two more years of schooling than their parents had. Natives with native parents have 1.4 additional years of schooling with respect to their parents. Hence, taking into account that immigrant parents have fewer years of schooling, their offspring are converging in their educational attainment with the level of the natives with native parents.

Considering the 18 countries analysed in Figure 3.4, the population-weighted average indicates that natives with immigrant parents have on average 1.3 years of schooling more than their parents, while those with native parents have 0.7 years of schooling more than their parents. Among parents, the difference in educational attainment between natives and immigrants is roughly 1.24 years of schooling, while among natives with

immigrant parents this difference is roughly 0.68 years of schooling. It emerges from this picture that the educational gap within the offspring cohort is smaller than the one observed among their parents. That gap has almost halved within one generation. Summing up, there is an unequivocal convergence in the educational attainment between natives with immigrant parents and those with native parents. Progress in the number of years of schooling with respect to parents is faster for natives with immigrant parents than for other natives.

Are natives with immigrant parents at a disadvantage?

This sub-section analyses whether natives with immigrant parents are at a disadvantage in terms of educational attainment after accounting for parental education, and whether intergenerational transmission of education differs between them and peers of native origin. Table 3.1 presents the results from a regression analysis with educational attainment as the main outcome of interest.[1] The first column of the table presents the most basic model, in which educational attainment is explained by migration category, controlling for individual-level characteristics. The results indicate that compared to their peers with native parents, natives with immigrant parents have on average a half-year's less schooling.

The second column presents a model in which the highest educational attainment of parents is taken into consideration. This reduces the initial educational gap from 0.54 to 0.17 years of schooling. Two-thirds of the educational attainment difference between natives with immigrant parents and those with native parents disappears when taking into account the fact that natives with immigrant parents have on average parents with fewer years of schooling. Column 2 also provides a measure of the intergenerational transmission of education. It shows that the correlation between parental and children's education is 0.25. This intergenerational transmission of education means that for every extra year of schooling of the parent, a child has on average 0.25 years of schooling more. In other words, a parent with a university degree (compared to one with a high school diploma) has a child with an average of 1 year of schooling more than the child of a parent with a high school diploma.

Table 3.1. Comparative educational attainment of the children of immigrants, three models

Years of schooling; reference group = natives with native-born parents

	Basic	Parental education	Interaction term
Natives with parents born outside the EU	**-0.543*** **	**-0.174*** **	**0.98*** **
Natives with EU-born parents	-0.0464	0.0337	0.361
Correlation with parental highest educational attainment		**0.254*** **	**-0.266*** **
Interaction term		**-0.12*** **	
Other controls	Yes	Yes	Yes

Notes: The countries included in this regression are Austria, Belgium, Switzerland, France, Sweden, Norway, the United Kingdom, Spain and Italy. Basic = educational attainment explained by migration category, controlling for individual-level characteristics. Interaction = Parents' highest educational attainment is coded on a three-point scale, with 1 being low, 2 medium and 3 high. Other controls include age, the square of age, gender, and country fixed effects. *** p<0.01, ** p<0.05, * p<0.1
Source: EU-LFS, 2014.

The model presented in column 2 assumes however that the strength of intergenerational transmission of education is the same for natives and immigrants. The next model presented, in column 3, relaxes this assumption. It allows for this coefficient to be different across migration categories, which proves highly important for assessing intergenerational mobility. When taking into consideration that parental education may have different effects for natives and immigrants, natives with immigrant parents are no longer at a disadvantage with respect to their native peers. In fact, natives with immigrant parents outperform their peers when the intergenerational transmission of education is allowed to differ by migration category. The 0.25 correlation between the parent's and child's education for natives is much lower for the immigrants' children: as shown in the interaction, 0.12 points lower. The educational attainment of immigrants is thus less correlated with their children's than is the case for natives. To analyse whether the results are driven by the United Kingdom, a separate analysis was performed excluding that country from the sample. The regression yields similar results.

Results from the regressions presented in Table 3.1 thus clearly show that natives with immigrant parents are less at a disadvantage in terms of schooling if their parental background is accounted for. The intergenerational transmission of education is stronger for those of native origin, which gives natives with immigrant parents an advantage. Immigrants' children have a level of education converging towards that of their native-origin peers.

Intergenerational transmission of education may not be the same across all parental education levels. Table 3.1 shows average results across all three levels of parental education (high, medium and low), and does not allow for analysis of mobility patterns by parental education level. Given the overrepresentation of immigrant parents at the bottom spectrum of the educational distribution, however, it is important to analyse educational mobility for this group in particular, and compare it to mobility patterns of native-born parents that are equally low educated. In other words, the key question in this section is whether educational opportunities differ by parental migration background, considering that the parental education level is low across all groups. What is the probability for completing medium and/or high education for someone who has low-educated parents born outside the EU as opposed to someone whose parents are native-born and equally low educated? And second, controlling for parental educational background, do individuals choose different educational paths, i.e. academic vs. vocational/technical streams?

Results in the table show that natives with low-educated parents born outside the EU have a 5 percentage point lower probability of completing medium or higher education, compared to natives with equally low-educated native-born parents. Interestingly, when looking at the younger cohort (under 40 years of age), there is still an "ethnic penalty" (Heath, 2006) but it is much weaker, suggesting that the gap is narrowing over time.

An analysis of the chosen higher education stream (vocational vs. general) shows that natives with parents born outside the EU have a 4 percentage point lower probability of choosing an academic higher education track, even after controlling for their parental education (Table 3.2, column 3). Results for natives with parents born in the EU show no significant effects.

Table 3.2. Educational opportunities and the intergenerational transmission of disadvantage

Reference group: Natives with native-born low-educated parents (for columns 1 and 2)

	Medium/higher education	Medium/higher education Age<40	Academic higher education stream
Natives with parents born outside the EU	**-0.046****	**-0.0174****	**-0.049***
Natives with EU-born parents	0.0198	0.0040	0.0353
Other controls	Yes	Yes	Yes

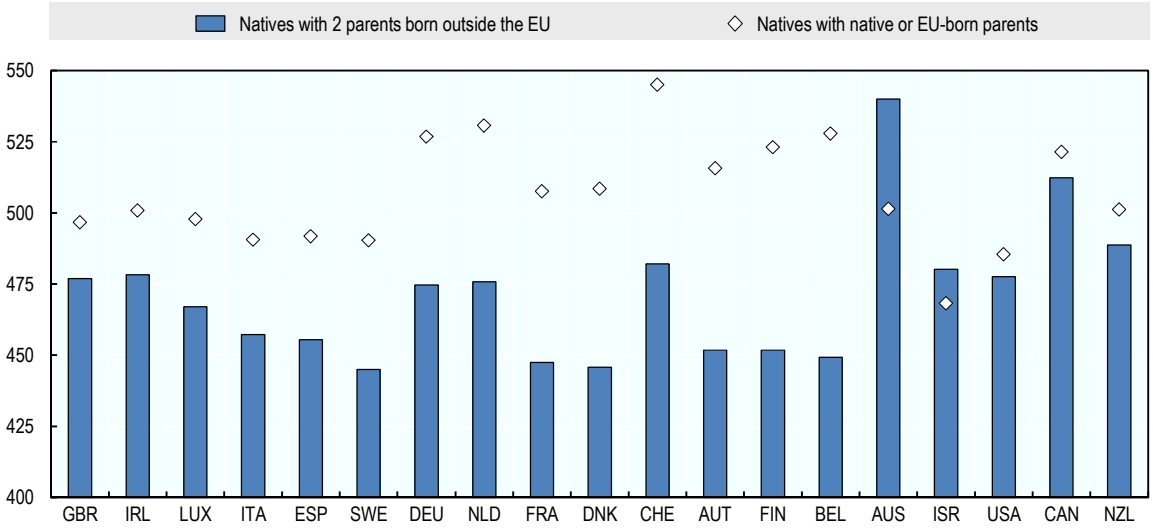
Notes: Countries included in this regression are Austria, Belgium, Switzerland, France, Sweden, Norway, the United Kingdom, Spain and Italy. Sample includes only those individuals with low-educated parents. Controls include age, the square of age, gender and country fixed effects. The third column includes parental education as a control. Only those who are not in education and training anymore are kept in the analysis. *** p<0.01, ** p<0.05, * p<0.1.
Source: EU-LFS, 2014.

PISA scores by migration background

The previous section has shown that natives with immigrant parents attain on average lower educational levels than natives, although this disadvantage is greatly reduced after controlling for parental background. This section focuses on performance in school using PISA scores as the main measure. (Annex 3.B summarises the literature on how well PISA scores predict later achievement of students who are natives with immigrant parents.) The main objective of the section is to understand whether the PISA test scores of a given group of natives are more or less affected by their parental educational attainment. In other words, it analyses the influence of parental educational level on the PISA test scores for different groups of natives.

Figure 3.5 shows PISA test scores in mathematics by parental origin. In almost all countries the scores of natives with immigrant parents are worse than those of other natives with native parents. It can be seen that the performance of students with a migration background differs widely across countries.

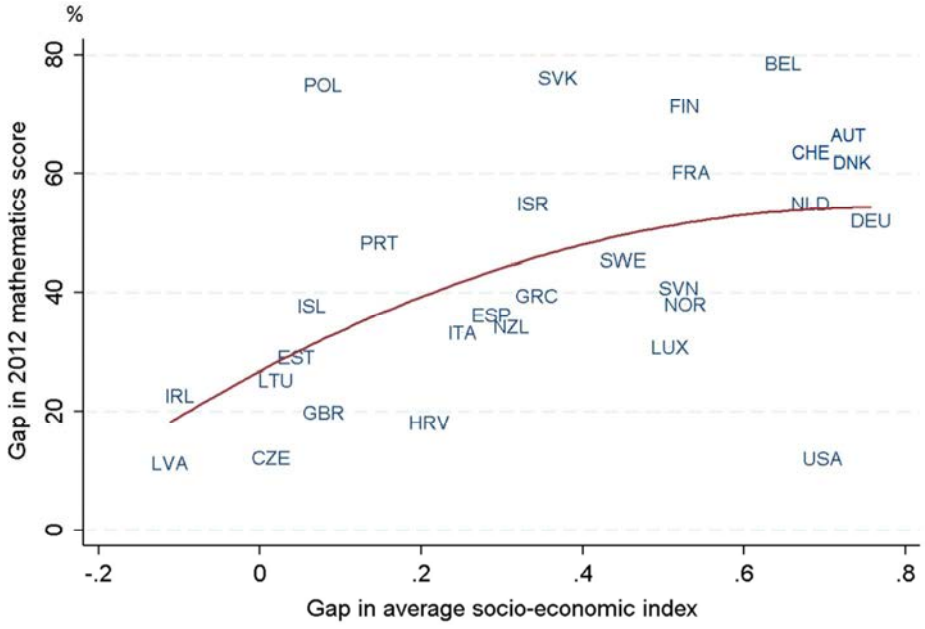
Figure 3.5. PISA 2015 mathematics test scores by migration background



Source: OECD (2015), "PISA: Programme for International Student Assessment", http://dx.doi.org/10.1787/data-00365-en.

Figure 3.6. Gaps in PISA scores and in average socio-economic background

Gaps between natives with EU-born parents and natives with parents born outside the EU



Source: OECD (2015), "PISA: Programme for International Student Assessment", http://dx.doi.org/10.1787/data-00365-en.

Figure 3.6 plots the average gap in socio-economic background between natives and migrants, and shows its relationship to the performance gap in mathematics and other test scores. As noted in OECD (2015), "Around 25% of the variation in test scores across countries is explained by differences in mother's attainment level [between migrants and

natives]". The results show that the gap in PISA scores is higher in countries where the socio-economic gap is larger between natives and migrants. The larger gap in tests scores observed in Western European countries with large populations of natives with immigrant parents, such as Belgium, Germany and France, is partly explained by the large gap in socio-economic background in those countries.

How strongly is high parental education related to PISA performance?

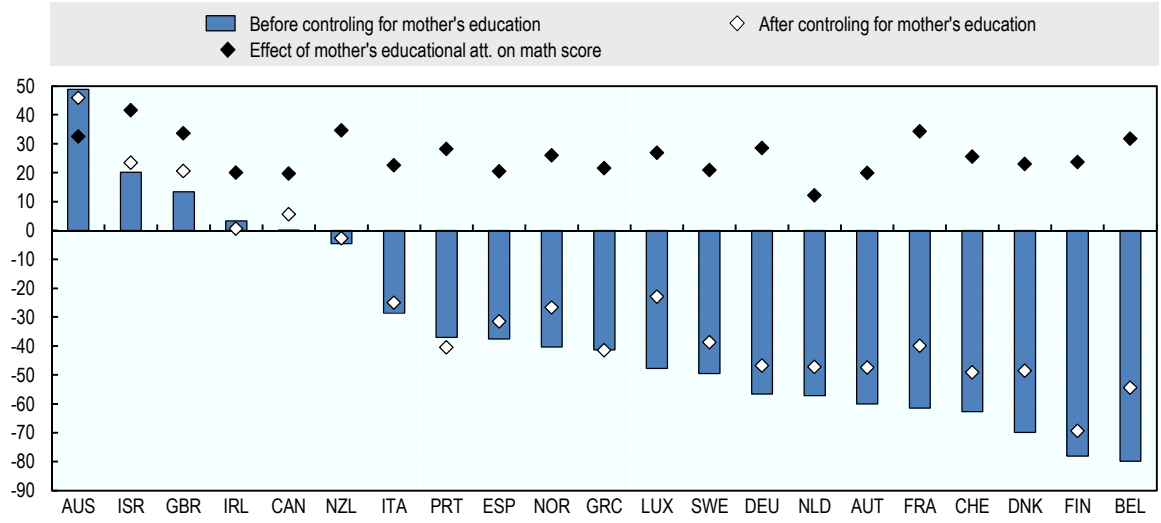
Children's test scores rise with the level of schooling of their parents. Given that immigrants have on average less schooling than natives, at least part of the test score gap between their children is attributed to the differences in parental education. However, countries differ in the extent to which educated parents are able to transmit this advantage to their children. In some countries, test scores are less determined by parental background. This sub-section studies the extent to which parental education is transmitted to children's test scores, and the differences among countries and migration backgrounds.

To better illustrate the link between parental education and children's test scores, Figure 3.7 shows the gap in mathematics scores between natives with native parents and those with immigrant parents, before and after accounting for mothers' education level. On average, the initial gap of 47 points is reduced to 30 points when taking into account the educational achievement of the mother and the broader socio-economic background of children's families. This measure of socio-economic background is calculated by PISA and includes parental education, but also parental occupation, whether or not there are books at home, and other measures. Large disparities among countries can be observed in the extent to which the socio-economic background of the parents translates into higher test scores for children. In Sweden, the effect of the mother's education on students' test scores is around 20 points, whereas this increases to almost 35 in France. In the Netherlands, the child of a university-educated mother is on average only 12 points ahead in mathematics compared to a child whose mother has a high school diploma. This gap is much higher in other countries: it stands above 30 points in Belgium, France and the United Kingdom.

However, the relationship between mothers' education and test scores differs for natives with and without a migration background. The relationship between the mother's highest educational attainment and her children's test scores is further analysed by migration background in Figure 3.8. Analysing EEA countries, this figure plots the average test scores by mother's educational attainment, for children of different migration backgrounds. The main result that emerges from this analysis is that the relationship between test scores and mother's educational achievement is much steeper for natives with native-born parents as compared to natives with parents born outside the EU. The test scores of the natives with immigrant parents increase less with their mother's educational achievement than for any other migration category. This result is very similar to the one found in Bratsberg (2011), where the link between test scores and the parental educational attainment is much more pronounced for the children of natives than it is for the children of migrants.

Figure 3.7. PISA score gaps between students with immigrant parents and students with native parents, before and after accounting for the mother's education

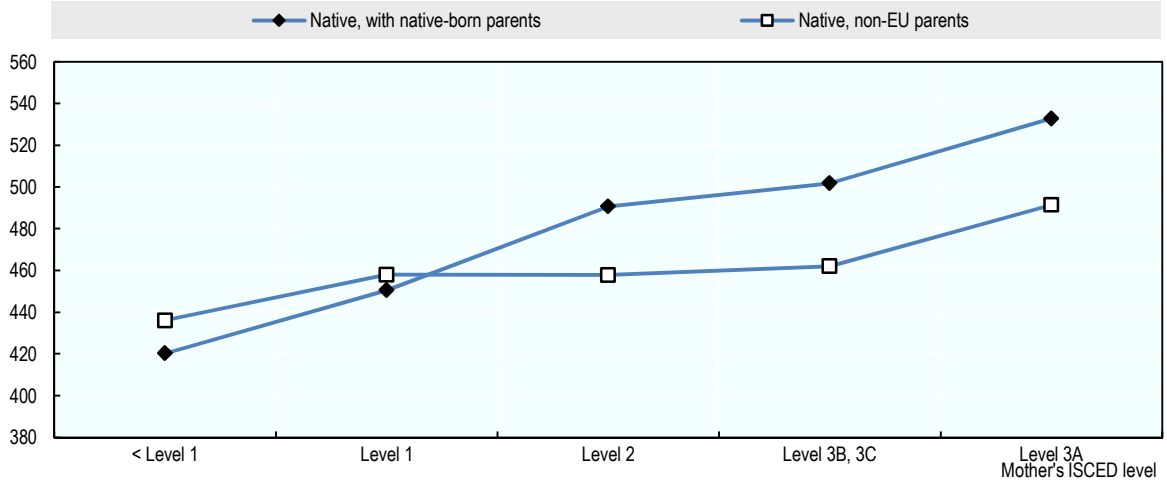
PISA scores difference from natives with native-born parents



Source: OECD (2015), "PISA: Programme for International Student Assessment", http://dx.doi.org/10.1787/data-00365-en.

This intergenerational transmission of education is further analysed using an econometric modelling of test scores (Table 3.3) using students' test scores in 28 EEA countries. Test scores are initially regressed on migration categories and individual characteristics. The results from Table 3.3 indicate that the lower educational attainment of the migrant mother explains almost a third of the difference in test scores between natives' and migrants' children (column 2).

Figure 3.8. PISA 2015 mathematics scores by parental origin and mother's educational level in EU/EEA countries



Source: OECD (2015), "PISA: Programme for International Student Assessment", http://dx.doi.org/10.1787/data-00365-en.

Table 3.3. Association between parental educational level and origin and child's math score

Reference group: Natives with two native-born parents

	1	2	3	4	5
Native with 1 foreign-born parent	**-7.675*** **	**-7.746*** **	**-7.769*** **	**-8.578*** **	**-7.984*** **
Native with 2 foreign-born parents	**-47.48*** **	**-35.51*** **	**-15.53*** **	**-26.88*** **	**-26.11*** **
Mother's educational attainment		**28.21*** **	**28.74*** **		
Interaction Mother education*native with migration background			-6.973***		
Index of socio-economic background				39.02***	33.37***
Females	-11.14***	-11.16***	-11.18***	-10.62***	-14.63***
School characteristics					
Log class size					69.02***
Average level of mother's education at school					31.5***
Percentage of children with migration background					-43.51***
Observations	202 707	192 440	192 440	201 459	126 629
R-squared	0.073	0.147	0.147	0.215	0.259

Notes: *** p<0.01, ** p<0.05, * p<0.1. OLS regression output table. Controlling for gender, age, socio-economic index, mother's education, log class size, school-level controls (column 5 only). With country FE.
Source: OECD (2015), "PISA: Programme for International Student Assessment", http://dx.doi.org/10.1787/data-00365-en.

The first column of Table 3.3 compares the test scores of children with native-born parents to children with one and with two foreign-born parents. Natives with immigrant parents score on average 47 points fewer than natives with native or EU parents. Columns 2 and 4 add the mother's highest educational attainment and an index of socio-economic background. After controlling for parental background, the gap observed for natives with immigrant parents is reduced from the initial 47 points to around 36 points. Higher parental education is found to have a positive effect on test scores, independently of the specification chosen. The implicit assumption in columns 2 and 4, however, is that the effect of parents' education is the same for native and migrant parents.

Column 3 relaxes this assumption and tests whether the intergenerational transmission of education differs by migration background, by introducing an interaction term between the migration background and mother's education. The performance gap between natives with immigrant parents and natives' children is thus further reduced to only 16 points. The interaction is negative and significant, suggesting that parental education has *less* of an effect on children's test scores when their parents are foreign-born. This result is also found for test scores in reading and science.

Resilient children

Children who perform well in school despite their disadvantaged background are often referred to as being "resilient" – they have succeeded against the odds. This sub-section compares the likelihood of being a resilient child across migration backgrounds and countries. Children are categorised as resilient when their test scores are in the country's top 25%, while coming from a household in the bottom 25% of the country's socio-economic index. This index captures parental education, income, and other household characteristics.

Resilience rates differ greatly by country and by migration background. Overcoming the lower socio-economic background of their parents is around twice less likely for native children with parents born outside the EEA, compared to native children. On average, in the EEA countries analysed, a child from a household in their country's bottom quintile of the socio-economic index has a 13% chance of being resilient (OECD, 2015b). The gap in resilience between natives with native parents and natives with parents born outside the EU differs greatly across countries. The average resilience rate, when weighted by population, is 8% for natives with immigrant parents and 14% for those with native or EU parents. In Switzerland, the United Kingdom and Norway, resilience is found among 12% of natives with immigrant parents but more than 20% of those with EU or native parents. At the other end of the spectrum, natives with immigrant parents have very low resilience rates in France, Belgium and Germany (less than 7%), while the resilience of natives' children is around 12%.

Table 3.4 presents the results from a model that looks at the characteristics that correlate with being resilient. To improve the comparability between children of native parents and children with immigrant parents and avoid reliance on language skills, only the pupils' mathematics scores are considered. The reference category is natives with native or EU-born parents. Compared to this category, native-born children with immigrant parents are on average 2.6 percentage points less likely to become resilient children, as shown in column 1. This gap in the rate of resilience changes relatively little when teacher and school characteristics are included (columns 2 and 3). Schooling systems that produce more resilient kids for natives also increase the likelihood that the children of immigrants become resilient. In countries where disadvantaged children of natives are more likely to be resilient, children of migrants do better as well. Resilience among the children of migrants seems to be higher in countries where it is also high for the children of natives.

Table 3.4. Likelihood of being resilient

Reference: Native with native or EU parents

	1	2	3
Native with parents born outside the EU	**-0.026*** **	**-0.0228** **	**-0.0202***
Index of the feeling of belonging at school		0.00182	0.000469
Index of teacher relationship		**0.0155*** **	**0.0146*** **
Index of discipline		**0.0151*** **	**0.0162*** **
Class size (log)			**0.158*** **
Females	**-0.0409*** **	**-0.0508*** **	**-0.0612*** **
Observations	1 180 708	935 132	798 115

Notes: *** p<0.01, ** p<0.05, * p<0.1. Controlling for age. With country FE. EU and EFTA countries only.
Source: OECD (2015), "PISA: Programme for International Student Assessment", http://dx.doi.org/10.1787/data-00365-en.

Other factors related to performance in school

The lower performance in test scores for natives with immigrant parents relative to their peers is due to many different factors. Those related to parental socio-economic background have been covered in the previous sub-section. As seen in Table 3.3, the parental educational background explains around a third of the gap between immigrants' and natives' children, and it is the most important predictor of a child's test scores. However, even after accounting for the schooling attainment of parents or for their socio-economic status, there remains a performance gap. It seems that there are other factors explaining that gap between the different groups of natives. This subsection covers the factors that are less related to parents and more to the schooling environment. Two different dimensions are covered: the characteristics of the school (in terms of teachers, rules, independence, parent-school relations, the discipline environment) and those of the student's peers.

School characteristics

Exposure to a high-quality school or preschool, as compared to children who do not attend preschool, has been shown to improve the outcomes of children with less educated parents. Cunha and Heckman (2010) reviewed the body of evidence from different randomised programmes, such as the Perry Preschool Program in the United States. Their results show that attending preschool significantly improved the children's outcomes, especially the non-cognitive attributes of disadvantaged children. The characteristics of the schooling system itself – the degree of school autonomy, the quality of teachers, and their readiness to teach to children of immigrants – may be linked to the low performance observed for the children of immigrants.

Peer characteristics and the concentration of disadvantage

The comparatively low performance of students with immigrant parents may also be an outcome of an accumulation of disadvantage that occurs when immigrant families settle in low-income neighbourhoods and send their children to schools where the share of disadvantaged students is high. However, the economic literature on peer effects suggests that socio-economic disadvantage has a much stronger impact on educational performance than the concentration of students with immigrant parents itself. See Annex 3.C for lessons from schools in overcoming children's disadvantaged backgrounds.

The economic literature studying these peer effects has documented them at two levels: the classroom level, and at the neighbourhood level. At the classroom level, students that have been exposed to domestic violence have been found to significantly affect the test scores of their peers (Carrell, Hoekstra and Kuka, 2016), and also affect other long-run outcomes such as labour earnings years after. Carrell and Hoekstra (2016) also find effects from behavioural problems in school. Black, Devereux and Salvanes (2013) find that boys (but not girls) benefit from being exposed to peers from high-earnings families, by having lower likelihood of dropping out, higher test scores, and higher earnings in adulthood. At the neighbourhood level, low-income families that move to higher-income neighbourhoods also benefit in terms of better test scores, lower likelihood of dropping out of school, and higher earnings later in life (Chetty and Hendren, 2015).

In itself, the clustering of students with immigrant parents in certain schools does not have a negative impact on educational performance. "Educational segregation" is particularly pronounced in Norway, Denmark, Canada, Italy and Greece, where 70% to 80% of all native and foreign-born students with immigrant parents go to schools where

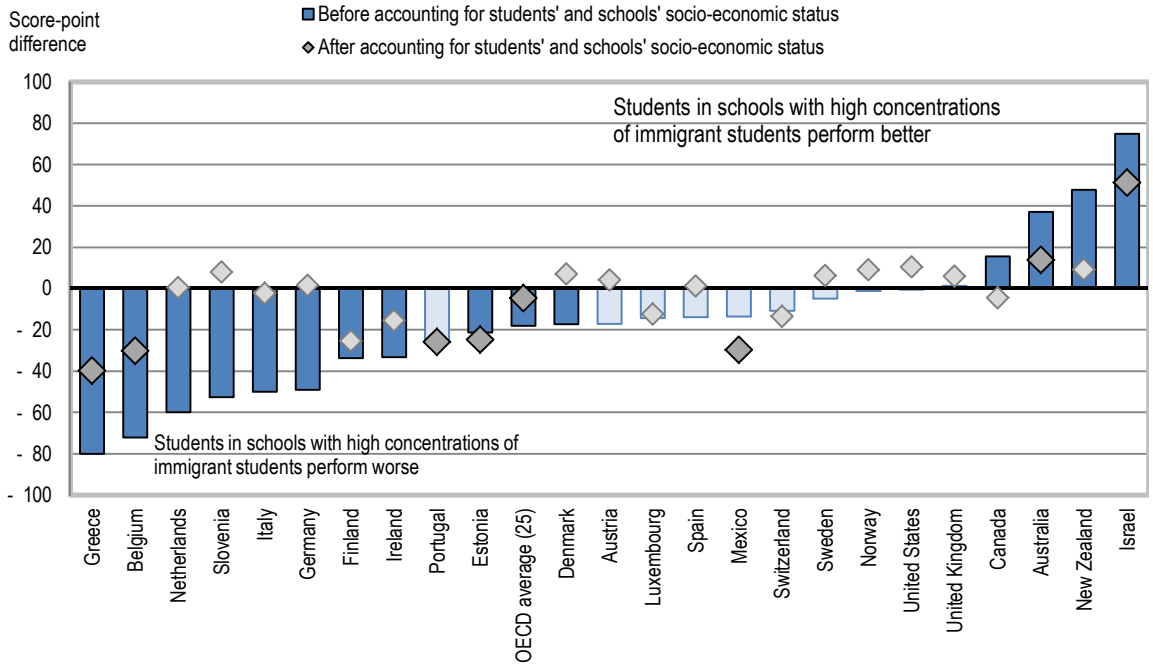
at least half of the student body also has a migration background (OECD, 2015b). Negative peer effects are found to come from students with lower educated parents, but not specifically from the children of immigrants.

The lower performance of students in schools with a highly diverse population is a product of socio-economic disadvantage rather than of immigrant background, as shown in Figure 3.9. The figure shows that in most countries, students who go to schools with a high share of natives with immigrant parents (here defined as more than 25% of a school's student population) do worse than students in schools with low shares of natives with immigrant parents. However, these differences shrink considerably when accounting for the socio-economic background of students.

Figure 3.9 suggests that socio-economic disadvantage has a much stronger impact on educational performance than the concentration of students with immigrant parents. For example, in Germany, Italy, Slovenia and the Netherlands, students in schools with a high concentration of immigrants perform around 50 points lower than the average. However, this gap disappears when the socio-economic background of parents is taken into consideration. In Denmark, students even perform better in schools with high shares of students with a migration background once socio-economic status is accounted for. On average, score differences are reduced from 18 to 5 points. Although score differences are approximately halved in Greece and Belgium, they remain large. In Finland, Portugal and Estonia, initial gaps are somewhat smaller, and in fact little affected by socio-economic status.

The finding that a higher concentration of immigrants' children in schools does not necessarily pose a disadvantage is also supported by country-specific studies. Birkelund and Hermansen (2015) have looked at long-term educational outcomes of students in Norway, using registry data covering more than 750 schools. They found that students in cohorts with more immigrant peers had an even higher likelihood to complete higher secondary education compared to those with less exposure, with the effect higher for the children of immigrants. These peer effects seem to mainly reflect the presence of immigrant classmates from high-achieving origin regions, while the corresponding negative effects of exposure to immigrant classmates from low-achieving origin regions is not found.

Figure 3.9. Concentration of disadvantage and performance in school



Source: OECD (2015), "PISA: Programme for International Student Assessment", http://dx.doi.org/10.1787/data-00365-en.

Language proficiency

Another important predictor of children's performance at school is their language skills. These skills predict test scores not only for students aged 15 in PISA, but also for children in primary school. Schnepf (2007) looked at how language skills explain the performance gap between natives with immigrant parents and their peers. For the analysis, she used three sources of test scores: PISA, TIMMS and PIRLS, and looked at 10 different OECD countries. Her results show that when controlling for the language spoken at home, part of the gap between natives with immigrant parents and native's children disappears, even after controlling for the socio-economic and migration background of children. This result is also backed by Levels, Dronkers and Kraaykamp (2008).

Early exposure to the host country language is extremely important for children's success at school. It predicts surprisingly well the test score of children of immigrants. Children who arrived in their early childhood and who benefited from language exposure early in their life, have higher test scores than those who arrived aged 6-11, who in turn also perform better compared to those who arrived later (OECD, 2015b). Nursery education enrolment, in ages from 0 to 3, is likely to be a factor improving the language skills of the natives with immigrant parents, independently of the language spoken at home.

Many of the students with a migration background mainly speak a different language at home. Within EU-15 countries, around 40% of the natives with immigrant parents speak a foreign language at home, although this percentage varies significantly by country. In the United Kingdom and Ireland, less than 25% of natives with immigrant parents speak a foreign language at home. In France and Germany this proportion increases to around one-third. In Denmark, Sweden, Switzerland and Belgium, around half of natives with immigrant parents speak a foreign language at home. After accounting for the language

spoken at home, the test-score gap is further reduced. As seen in Table 3.5, children of immigrants have on average 48 points fewer than children of natives in PISA scores. Controlling for parental background reduces the performance gap by almost one-third, to around 36 points. Controlling for the language spoken at home (column 4) reduces it even further, to make it insignificant.

Table 3.5. Language skills and the test score gap

Dependent variable: Mathematics test scores; Reference: Natives with two native or EU-born parents.

	1	2	3	4
Native with parents born outside the EU	-47.86***	-36.23***	-14.45**	-2.72
Foreign-born with EU-born parents	-19.04***	-19.66***	-19.72***	-15.7***
Foreign-born with parents born outside the EU	-54.81***	-43.81***	-43.68***	-31.89***
Mother's highest education level		28.23***	28.8***	28.49***
Mother's highest education level * natives with immigrant parents			-7.5***	-8.813***
Foreign language at home				-13.92***
Observations	208 953	195 918	195 918	188 240

Notes: *** p<0.01, ** p<0.05, * p<0.1.
Source: OECD (2015), "PISA: Programme for International Student Assessment",http://dx.doi.org/10.1787/data-00365-en.

Adult skills in PIAAC

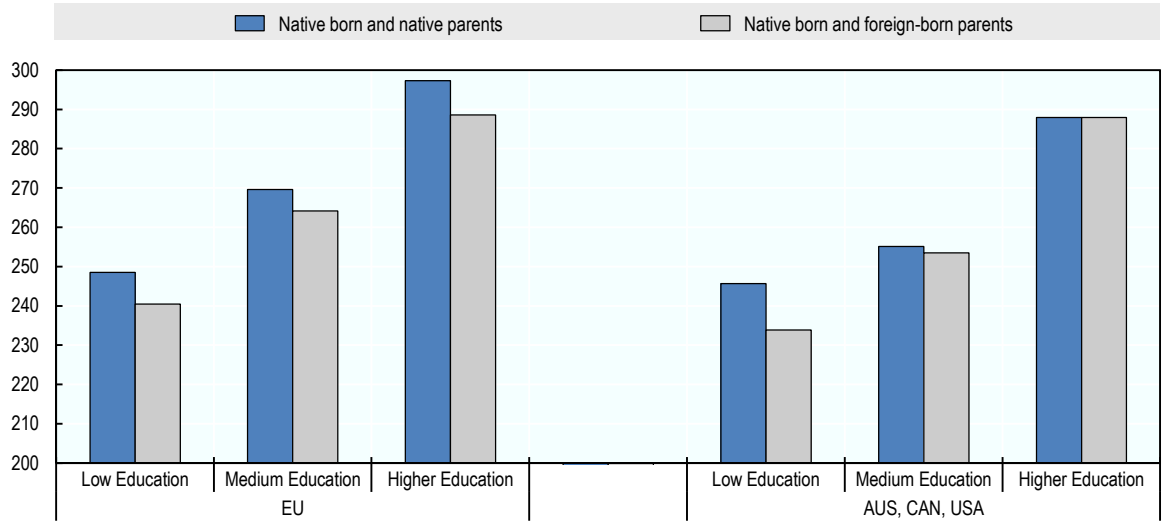
The skills used in everyday life and at work are an important correlate to labour market inclusion and productivity, and have a direct bearing on people's lives. Previous research has found that schooling attainment is an imperfect proxy for skills, particularly for immigrants who have obtained their education abroad (OECD, 2016). Hence, when controlling for the educational background of immigrants, one might be overestimating their skills. The implication from this finding is that controlling for parental education overestimates the educational background of natives with immigrant parents. It also implies that observing a lower "return" to parental education might be explained by their parents' lower skills. It may be the case that immigrant parents are just as able as native parents to transmit human capital.

The next paragraphs compare adult skills in numeracy, reading and problem solving of natives whose parents are native and natives whose parents are foreign-born, using PIAAC data. Due to data limitations, no distinction is made between parents from EU and non-EU countries.

In western European countries, adult skills in numeracy and problem solving are lower for natives with immigrant parents than those with native parents. Figure 3.10 shows that among the low, medium and highly educated, natives with native parents score higher than those with two foreign-born parents. Some of the gap in scores might be explained by certain background characteristics. However, when taking into consideration age, gender, educational attainment, parents' educational attainment, and country of residence, natives with foreign-born parents still score lower than their peers, as shown in Table 3.6. At the same time, the highly and medium educated adult natives with immigrant parents in the United States, Canada and Australia do not score significantly lower than other

natives even after taking into account their educational level and parent's education, as shown in Figure 3.10.

Figure 3.10. PIAAC numeracy scores by education level



Source: OECD (2015a), Survey of Adult Skills (PIAAC).

Table 3.6. PIAAC score estimations

PIAAC Numeracy 1 scores, OLS

	1	2	3	4	5	6
	EU	EU	EU	USA, CAN, AUS	USA, CAN, AUS	USA, CAN, AUS
Native, foreign parents	-15.56***	-14.12***	-12.43***	-3.162***	-1.972**	0.336
Foreign, native language	-14.72***	-15.25***	-15.95***	1.834	-13.43***	-15.81***
Foreign, foreign lang.	-48.19***	-43.12***	-42.67***	-19.06***	-29.17***	-29.76***
Education levels		23.56***	20.53***		29.11***	24.73***
Parents' education			9.247***			12.22***
Observations	43,364	42,170	38,858	31,942	31,118	28,649

1. Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.
2. Controlling for gender, age. With country FE.
3. EU selected countries: Belgium (Flanders), Netherlands, Denmark, France, Austria, the United Kingdom and Germany.
4. The reference category is the natives with native-born parents, speaking the native language at home.
Source: PIAAC data.

Conclusion

This chapter has investigated the intergenerational transmission of education in EU and OECD countries. Three main outcomes were analysed: highest educational attainment, test scores in schools using PISA data, and adult skills measured by OECD PIAAC data. The educational disadvantage of the children of immigrants is documented for European countries, and also compared to non-European OECD countries.

In most European countries, children with immigrant parents perform less well in terms of educational outcomes compared to their peers without a migration background.

However, differences in educational outcomes differ considerably across countries. In western continental European countries, the gaps are particularly large, whereas in the United Kingdom and in recipient countries such as the United States, Canada, Israel, Australia and New Zealand, the children of immigrants are either on a par with or perform better than the children of natives. This chapter has documented these gaps for each measure and each country.

In most western continental European countries, natives whose parents were born outside the EEA (natives with immigrant parents) are overrepresented at the bottom of the educational spectrum, and under-represented at the top. Therefore, it is no real surprise that their children have a much smaller educational gap from the parental generation, as compared to their peers with native-born parents. This indicates that from one generation to the next, the educational gap is narrowing. At the same time, natives with immigrant parents who are particularly of non-EU origin perform considerably less well in standardised tests such as PISA. By age 15, their skills are on average one year behind their native peers. Even after accounting for their parental socio-economic status, natives with immigrant parents still underperform. The children of more highly educated non-EEA immigrants also lag behind their peers with similarly highly educated parents. In addition, among the offspring of lower-educated parents, the children of natives are more likely to achieve higher test scores than the children of immigrants. The test score results suggest that it is more difficult for children with immigrant parents to navigate and succeed in the education system, compared to their peers with native parents.

In the United Kingdom, Ireland and the Baltic countries, these trends are different. The schooling gap in the parent generation is lower than in continental Europe and natives with immigrant parents overcome the lower educational background of their parents. This group reaches the same schooling levels as natives with native parents, and perform similarly in test scores at school. In recipient countries such as Canada, the United States and Australia, this trend is even stronger. Despite their parents having fewer years of schooling than native parents, these children catch up and reach the same years of schooling and test scores as their peers.

For individuals who were born in a given country, the education system has the potential to mitigate socio-economic disadvantages and its intergenerational transmission. Well-functioning schools, quality teachers, school autonomy and targeted support all contribute to a better school environment (OECD, 2015). Educational attainment is an important outcome to be considered, but the issues that students from disadvantaged backgrounds face begin long before education is about to be completed, and are likely to have long-term consequences. In other words, countries that are unable to mitigate the impact of socio-economic background during and prior to compulsory education may face greater challenges in ensuring equal opportunities for all once students enter the labour market.

Note

1. Data for these findings were initially collected in the EU-LFS and coded on a six-point ISCED scale for the respondents and on a three-point scale for the respondent's parents. For the sake of simplicity, these scales have here been converted to their equivalence in years of schooling.

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Annex 3.A. Measuring the evolution of the educational gap between groups of natives

A first and intuitive way of measuring the evolution of an educational gap is to compare it over time for a given age group (for example the 25-34 year-olds). Two steps are needed for measuring this evolution. The first step involves measuring the educational gap of the 25-34 year-olds in the year t (for example in year 2004). The second involves measuring the same gap of the 25-34 year-olds later in time, for example in year t+10 (in 2014), to ensure that each single person initially measured has left the cohort. This measures the evolution of the educational gap between one cohort and the next, using the following formula:

$$Evolution_1 = [S_{N,2014} - S_{NIP,2014}] - [S_{N,2000} - S_{NIP,2004}]$$

In the above formula, S stands for the average years of schooling, while the subscript N stands for natives' children and the subscript NIP stands for the native children of immigrant parents. An alternative version of this first method would consist of measuring the educational gap for different cohorts at a given point in time. For example, measuring the educational gap between natives with immigrant parents and native's children for the 18-24 year-olds, the 25-34 year-olds, and the 35-45 year-olds. This alternative method is in essence the same as the one described above, as it compares the gap between different cohorts. The chapter follows this alternative method first.

Yet the methodology chosen has a flaw: it does not control for the characteristics of the cohort in question. To take a hypothetical case: earlier immigrants are highly educated and consequently have highly educated children, while more recent immigrants are less educated, and therefore have less educated children. In this hypothetical case, one is likely to observe that the education gap, with respect to natives' children, is increasing. This increasing gap will mostly be due to the fact that two cohorts with very different characteristics are compared. It could very well be that the education system is very inclusive, and improving its effectiveness in reducing educational gaps. However, this measure will not be able to capture that, as it will instead capture the differences in the cohorts' characteristics.

Estimates will therefore be more insightful when taking into account parents' education levels. In the context of rising average education, each new cohort has on average more years of schooling than the parents. The question is therefore whether children of immigrants exceeded their parents' educational attainment to a greater extent than the children of natives. If natives with immigrant parents have many more years of education than their parents, while the increase in years of education compared to parents is smaller for the other natives, then the educational gap is closing. This evolution of the educational gap is hence measured using the following formula:

$$Evolution_2 = [S_{N,2014} - S_{Nparents,2014}] - [S_{NMB,2014} - S_{NMB\ parents,2004}]$$

This second measure has two advantages. First, it takes into account parent's educational attainment and second, it only requires data for a given year, as data on parents' and children's educational attainment can be taken from the same year. The EU-LFS has collected, in two ad hoc modules in 2008 and 2009, information on the educational attainment of each of the respondents' parents. Using the 2008 and 2009 EU-LFS data therefore permits linking the parent's and the respondent's educational attainment, and provides this second measure of how the educational gap has evolved.

The third way is to use an econometric approach. A regression on schooling attainment takes into account parental schooling attainment and migration category. This approach can answer the question of whether immigrants' children are disadvantaged in terms of educational attainment, holding parental education constant. The regression not only reports the intergenerational transmission of education, but also indicates whether immigrants' children are at a specific disadvantage (or advantage) compared to natives' children. Thus, the regression estimated is:

$$S_i = \alpha_i + \beta_1 S_{parents} + \beta_2 Mig_i + \beta_3 \left(S_{parents} * Mig_i\right) + \epsilon_i$$

where S_i stands for the years of schooling of person i. The intergenerational transmission of education is captured through the coefficient β_1, while β_2 captures whether children of immigrants are on average less educated after accounting for parental background. The interaction between parental schooling and being the children of immigrants reports whether the association between parental and child education is different for the children of immigrants compared to the children of natives. There is no "preferred" or "best" methodology. The chapter utilises all three methodologies, as each one shows a different facet of the evolution of the educational gap.

Annex 3.B. How well do PISA scores predict later achievements of native students with immigrant parents?

PISA test scores are generally regarded as a rather precise measure of students' skills and labour market preparedness. However, there is little longitudinal evidence available on how predictive PISA scores are of future academic advancement and labour market outcomes among youth with a migration background. The Transition from Education to Employment (TREE) data set is a notable exception. It covers approximately 6 000 students who participated in the Swiss PISA test in 2000 and follows their transition from compulsory schooling to work or further education in seven annual waves until 2007, with two further follow-ups in 2010 and 2014. TREE not only provides detailed information on educational outcomes and employment trajectories, but also registers the country of birth of respondents and their parents. As such it has been widely used to study school-to-work transition among youth with a migration background in Switzerland – investigating, for instance, the impact of discrimination (Becker, Jäpel and Beck, 2013), gender (Hadjar and Hupka-Brunner, 2013) and vocational training (Murdoch et al., 2014).

Bertschy, Böni and Meyer (2008) observe educational outcomes six years after the PISA test and find that generally, literacy at age 15 and socio-economic background are the most strongly predictive factors for educational trajectories. Having low reading skills and low socio-economic status increase the likelihood of dropping out by the factor of 2.8 and 2.7, respectively. Youth with fathers from the Balkans, Turkey or Portugal are found to be three times more likely (20%) to drop out of post-secondary education, including apprenticeship schemes, than those with native-born fathers (7%). However, when controlling for socio-economic status and reading scores, their father's country of birth becomes insignificant. For students who successfully finished their vocational education, neither immigrant status – here operationalised as having two parents born abroad – nor language spoken at home had a significant influence on the likelihood of finding a job with a matching skill level (Bertschy, Cattaneo and Wolter, 2009). PISA reading scores, however, were found to be a significant factor in finding employment: scores of graduates who found employment had on average 30 points higher than those of unemployed graduates.

Another study finds that PISA is the strongest factor explaining differences in university enrolment rates between Swiss-born students with foreign-born parents and Swiss students with native-born parents and (Picot and Hou, 2013). Looking only at youth with parents from Turkey, the former Yugoslavia, Kosovo and Albania they find that, controlling for PISA scores and family background, differences are no longer significant.

Similarly, while native-born Swiss children of immigrants from lower-income countries are shown to be almost 25% less likely to finish upper secondary education than students with Swiss-born parents, controlling for PISA scores renders this difference insignificant (Liebig, Kohls and Krause, 2012). Furthermore, when controlling for PISA scores as well as socio-economic background characteristics, immigrant students from lower-income

countries are 20% more likely to finish upper secondary school than their peers with no migration experience. This advantage is particularly pronounced among young immigrant women (35% vs. 11% for male immigrant students). However, students with immigrant parents from low-income countries are also significantly more likely not to be in education, employment or training seven years after taking the PISA test. This difference is particularly large for men and hardly reduced when controlling for PISA reading scores (from 13% to 12%). For women with parents from lower-income countries, however, the difference is more than halved (from 20% to 8%).

A follow-up ten years later shows that, all other factors being equal, students with medium or high PISA reading scores have a significantly higher chance of obtaining a university degree (16% and 18%) compared to those with low reading skills (Scharenberg et al., 2014). Moreover, differences in educational attainment between youth with immigrant parents and those with native-born parents are no longer statistically significant.

Annex 3.C. Lessons from schools in overcoming children's disadvantaged backgrounds

A series of recent papers have focused on the lessons that can be learned from both charter and boarding schools that enrol students from a disadvantaged/minority background in the United States. Two particularities of charter schools make them ideal for learning what works in overcoming the disadvantaged background of children: first, their variety, and second, their selection, which is based on a lottery system. Charter schools were initially created to serve as an escape for students in failing public schools, and were given relative freedom in methods, curricula and school inputs. This freedom permitted the development of an impressive diversity of types of schools, which renders the evaluation more interesting as charter schools differ much more than those under public authority whose characteristics cannot vary as much.

Some charter schools have become so in demand that they are oversubscribed, and accept students on a lottery basis. These two characteristics – the fact that they differ so widely in their teaching practices, and the fact that students are to a certain extent randomly selected through a lottery – allow testing which types of schools work best in improving students' short- and long-term outcomes. Many authors have used the data from admissions lotteries as a natural experiment, and have estimated the causal effect of the charter schools on students' outcomes.

In a recent paper, Dobbie and Fryer (2013) collected data from 39 charter schools in New York City and studied which of their characteristics correlate with their effectiveness. To measure school characteristics, the authors interviewed principals, teachers and students, and went as far as recording classroom sessions. School effectiveness was measured using standardised test scores. Their results highlight that traditional measures of school inputs such as class size, teacher certification and training, and per-pupil expenditure are not correlated with success. By contrast, they show that the following school policies predict test scores very strongly:

- Frequent teacher feedback – Schools that give feedback ten or more times per semester to teachers have tests scores that are 0.075 standard deviations higher.
- Longer instruction time – Charter schools had longer schooling days and years, and within the day more instruction time. On average, schools with 25% more instruction time have math test scores that are 0.084 standard deviations higher.
- Having a culture of high academic and behavioural expectations – Schools that focus relentlessly on academic goals and discipline score around 0.066 standard deviations higher than other schools.

Students enrolled in charter schools with this set of policies close the performance gap related to their disadvantaged background within a few years of school attendance. This same set of policies was also found to be linked to higher test scores in urban charter schools in Massachusetts, in a study by Angrist, Pathak and Walters (2013). The authors

find that test scores are considerably higher in charter schools that emphasise discipline, selective teacher hiring, increased instruction time and cold-calling of students. The authors also find no effect of per-pupil expenditure and certain other traditional input measures. Angrist, Pathak and Walters (2013) find that among charter schools, the ones that outperform other charter schools are those associated with the "No Excuses" philosophy, such as the Knowledge is Power Program charter schools (KIPP). These schools enrol mostly students from a disadvantaged and minority background, and focus heavily on discipline and commitment. They also have an effect on discipline and truancy: they are more likely to give disciplinary sanctions and children are less likely to have unjustified absences. Most importantly, these schools are more likely to give frequent teacher feedback, and to hire alumni of the Teach for America programme.

Boarding schools are also seen as a potentially effective schooling strategy to help disadvantaged children, who are often reared in failing, violent neighbourhoods and dysfunctional families. The challenge these children bring to school is hard to overcome, even for the most dedicated and talented educators.

The belief that boarding schools can improve the educational outcomes of disadvantaged children is longstanding, dating to the late 19th century. A boarding school could provide for more constructive out-of-school time; it could reduce the negative social interactions with a child's environment; and it explicitly aims at having better and more focused instruction in school and increased student achievement.

Two recent studies have looked into whether boarding schools can improve disadvantaged children's educational outcomes. The first of these studies looked into a boarding school in the United States. Curto and Fryer (2014) used the lottery system of the SEED boarding schools, which combines a "no excuse" educational strategy with a five-day boarding programme. The authors used the admissions lottery of the school to construct groups of selected and control students. Their results indicate that the boarding school was indeed extremely successful in improving children's outcomes. Relative to their peers, children that enrolled in the boarding school reached test scores that were 20% of a standard deviation higher per year, with the effects even higher for female students.

The second study of boarding school effectiveness was conducted in France. Behaghel, Gurgand and de Chaisemartin (2016) tracked students from a disadvantaged background that applied to a selective boarding school with admissions through a lottery. The non-selected students were also followed for interviews, and constituted the control group. By the second year, students enrolled in the selective boarding school differed significantly from those of the control group. They spent more time working and reported a higher intrinsic motivation for studies. Student well-being fell in the first year of boarding school, but recovered afterwards. The authors found very large and heterogeneous effects. For students that were initially in the top third in test scores, attending the boarding school increased their test scores by around 57% of a standard deviation per year of school, compared to those with similar grades that did not win the lottery to enter the school. However, the positive effect is only observed for students that were initially stronger, and is absent in the bottom third of students.

These evaluations of school performance offer a clear message. Expanding the number of charter schools that have a pedagogical model with a proven record of effectiveness can be a powerful tool in reducing the achievement gap between the children of well-off parents and those from a disadvantaged background. Policy makers should perhaps try to implement these practices in traditionally lower-performing public schools, or at least allow for the expansion of the number of schools with such practices.

Chapter 4.

Intergenerational mobility in the labour market: How do natives with immigrant parents fare?

This chapter analyses the intergenerational aspects of the labour market integration of youth with an immigrant background in Europe. It begins with a look at labour market outcomes by parental background for three main groups of natives in their adulthood: those with native-born parents, EU-born parents, and parents born outside the EU. The focus is on parental education levels, but individual-level characteristics are also taken into account. A second section investigates occupational mobility by analysing the extent to which adults are employed in work that requires higher skills than their parents needed in their work. As in the previous section, the analysis aims to shed light on whether natives with immigrant parents are more or less mobile in terms of occupations. Finally the chapter looks at the intergenerational transmission of economic vulnerability, concentrating on those at the bottom of the strata and how their disadvantaged positions are inherited from one generation to another.

Main findings

- Parental education matters for the labour market outcomes of their adult children generally – but at the aggregate level it tends to be somewhat less determining for children with immigrant parents than for their peers with native-born parents. In Europe, natives with low-educated parents of non-EU origin have roughly the same employment probability as their peers with low-educated native-born parents. However, having parents educated at a medium (as opposed to low) level increases the employment rate for natives with native-born parents by 10 percentage points, while the rate increases only by 5 percentage points for peers with non-EU parents. The picture is broadly the same for those with highly educated parents (as opposed to medium educated). This mirrors findings of earlier OECD work showing that foreign degrees from non-EU countries are much more strongly discounted in the labour market than those from EU countries (Damas de Matos and Liebig, 2014). The chapter's findings suggest that this reduction may have intergenerational consequences.
- Across all levels of parental education, adult children with EU parents have higher employment rates than the two other groups observed in this chapter, i.e. adult children of native parents and of parents born outside the EU. The difference is largest with parents who have the lowest level of education, suggesting that an immigrant background has a larger impact on the less educated than on the higher educated.
- However, for those adult children who are themselves low educated, having medium-educated as compared to low-educated parents gives a larger boost to the employment chances of adult children of non-EU immigrants than for their peers with native parents.
- Differences in educational attainment partly explain employment gaps among the different groups of natives. Generally, the employment gap decreases with the level of educational attainment, suggesting that education is a stronger driver for labour market integration among children of non-EU immigrants than among children of natives. Low-educated natives with low-educated parents born outside the EU have an almost 8 percentage points lower employment rate than their peers with native parents, while the gap is only about half that for higher levels of education.
- Employment gaps by parental origin vary by country. In Austria, Switzerland, Spain, France, Norway and the United Kingdom, the employment gap between natives with low-educated non-EU-born parents and natives with equally low educated native-born parents ranges between -5 percentage points and -10 percentage points, even after controlling for the person's own highest educational attainment, age and gender. Differences are largest in Belgium, where natives with low-educated parents born outside the EU have an 18 percentage points lower probability of being in employment compared to natives with native-born parents.
- For persons with low-educated parents, an employment gap by parental origin arises in the age group 25-29 and continues to widen in older cohorts. At age 45-49, the employment gap is 8 percentage points larger for natives with parents

born outside of the EU than for natives with native-born parents. This may suggest that young persons with parents born outside the EU take up jobs that prove less stable over the long term than the jobs taken up by natives with native-born parents.

- The correlation between parental educational level and the share of those not in employment, education or training (NEET) is somewhat weaker for natives with parents born outside the EU than for the other groups. At first sight, these findings could be interpreted as higher social mobility for the former. However, this finding could also be driven by a discount of immigrants' foreign education that is observed in immigrant labour market outcomes more generally, as has been shown in previous OECD work.
- A full 15% of natives with non-EU parents have a mother with no completed formal education at all, which is five times the share in the other groups. The overrepresentation of mothers with no education among natives with non-EU origins indicates that they have a more challenging "starting point" which could partly explain their weaker performance on the labour market.
- Immigrant mothers' labour market participation seems to have an important impact on the outcomes of their children, more than for their peers with native-born parents. While this is observed for both genders, the association is particularly strong for women: having had a working mother at age 14 (as opposed to a mother staying at home) increases the employment probability for natives with non-EU parents by 9 percentage points, more than twice the number for their peers with native parents at 4 percentage points.
- Natives with parents born outside the EU experience less occupational upward mobility than their peers with EU origins or with native-born parents. About a third of natives in the latter two categories manage to move upward on the occupational ladder. For natives with parents born outside the EU, only 1 in 5 manages to find work in an occupation requiring a higher skill level than his/her father needed in his occupation.
- Intergenerational mobility patterns in the transmission of financial vulnerability (based on a subjective evaluation of the household's financial situation when the native is 14 years old and in their adulthood) do not differ across groups of natives. The financial situation in childhood is a significant predictor of poverty and deprivation, but this association disappears once educational attainment is accounted for. That suggests that the financial situation of the household during childhood mainly impacts future life chances through its impact on the child's chances of receiving higher educational attainment.

Introduction

Ensuring equal opportunities for all and promoting upward social mobility have become crucial policy objectives for inclusive societies. At the same time, natives with immigrant parents – despite being born in a given country – are often at a disadvantage in terms of education and labour market outcomes (OECD/EU, 2015). Over the past decade the share of natives with immigrant parents has considerably increased in European Union and OECD countries. In the EU, there are now more than 10 million children with immigrant parents below the age of 15, accounting for almost 20% of the population in that age

group. Facilitating a successful labour market performance of natives with immigrant parents is thus an increasingly urgent policy challenge in EU and OECD countries.

Parental background matters for labour market outcomes. Living conditions in childhood can significantly affect later achievements and the whole life of individuals, as has been shown in the literature (e.g. Luo and Waite, 2005). In other words, parents with higher living standards tend to transmit better education, ability and non-cognitive skills to their children, providing them also with greater labour market success and, consequently, higher incomes (Blanden, Paul and Lindsey, 2006).

The aim of this chapter is to investigate the extent to which differences in labour market outcomes between native-born children of immigrants and their peers with native-born parents may be explained by differences in the socio-economic characteristics of their parents. More precisely, this discussion aims to shed light on whether the intergenerational transmission of social and economic disadvantage is more pronounced among natives with immigrant parents. Although a great deal of quantitative research has gone into mapping the labour market outcomes of children of immigrants, very little effort has gone into analysing these outcomes from an intergenerational perspective, i.e. comparing the outcomes of children of immigrants to those of their parents. Exploring differences in social mobility patterns by comparing natives with native-born parents to natives with immigrant parents across countries is one of the main objectives of the chapter.

The analysis will cover intergenerational links in labour market participation for three main groups: natives with native-born parents, natives with EU-born parents and natives with parents born outside the EU. The degree of association between the parental educational background and labour market outcomes of their children in adulthood provides insights into the importance of family background for the different groups of natives, and thus presents some evidence on social mobility patterns. Considering that immigrants have on average lower education levels than natives, a native with immigrant parents may not be expected to do as well as a child of native-born parents. To analyse the intergenerational transmission of disadvantage, it is therefore important to compare children of natives and immigrants with similar family characteristics. That comparison can help to ascertain whether a gap in outcomes may be linked to family background. Intergenerational transmission from the perspective of female labour market participation is also investigated, by analysing the intergenerational employment link between a mother and daughter.

Beyond labour market participation, which is the focus of the first part of this chapter, the correlation between an adult child and his/her parent's occupation is one of the most important components in understanding intergenerational mobility in many countries. Thus the second part of the chapter investigates whether natives with immigrant parents are at disadvantage in terms of occupational upward mobility compared to natives with native-born parents. Finally, the economic environment in which a child grows up may determine his/her financial stability in adulthood. The chapter's last section analyses the intergenerational transmission of economic vulnerability, conditional on a given parental educational level.

By analysing intergenerational mobility in labour market participation, occupations and financial vulnerability, the chapter aims at providing a comprehensive picture of social mobility patterns among natives with native-born and immigrant parents. That knowledge can help provide a better understanding of the policies needed to improve social mobility across countries.

Intergenerational links in labour market participation

This section analyses labour market outcomes by parental background for three main groups of natives in their adulthood: those with native-born parents, EU-born parents, and parents born outside the EU. Parental background is mainly measured by the parents' highest educational attainment.[1] Information on the parental educational level is available for EU countries as well as Norway and Switzerland, in the 2014 EU Labour Force Survey's ad-hoc module on migrants and their children.[2] By comparing the association between parental educational level and labour market outcomes of the offspring in adulthood, this section attempts to shed some light on intergenerational mobility patterns across groups. More precisely, the analysis seeks to help build a better understanding of whether natives with differing parental origins are more or less mobile – or in other words, whether the intergenerational transmission of economic and social (dis-)advantage is more or less pronounced in a given group.

Considering that low-educated parents are overrepresented among immigrant groups, a native with immigrant parents may on average not be expected to do as well as a child of native-born parents. Thus to analyse the intergenerational transmission of disadvantage, it is important to compare adult children of natives and of immigrants with similar family characteristics. This can help clarify whether and to what extent the gap in labour market outcomes may be linked to family background.

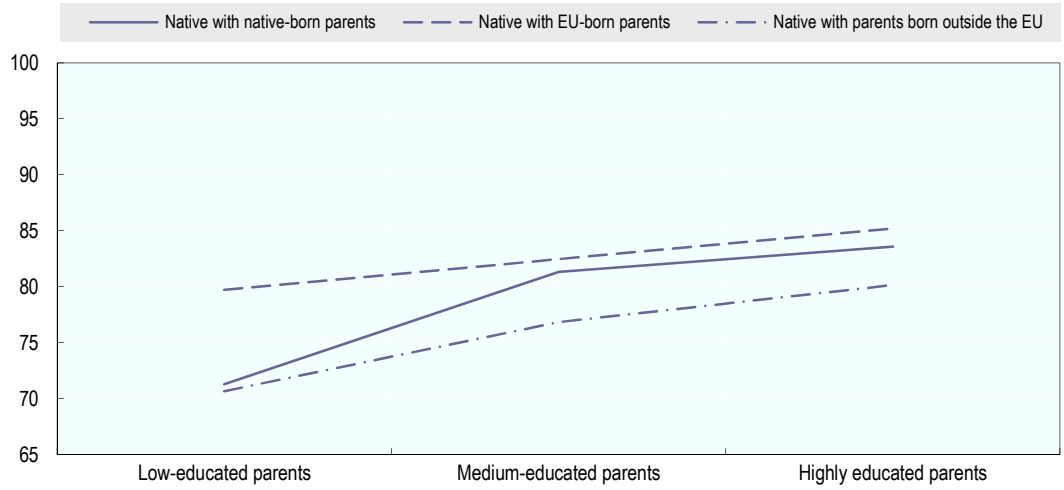
Employment rates by parental educational level

How does the educational level of parents affect the employment rate of their children in adulthood? Figure 4.1 displays the employment rate by parental educational level for each group of natives. As expected, the employment rate increases with the parental educational level across all groups. Natives with EU-born parents experience overall higher employment rates than the other two groups. With low-educated parents, the employment rate for both natives with native-born parents and those with parents born outside the EU is slightly above 70%, lagging behind the employment rate of natives with low-educated EU-born parents by about 8 percentage points.

The gain of having medium-educated parents as opposed to low-educated parents is largest for natives with native-born parents. With medium-educated parents, natives with native-born parents experience an increase in the employment rate of about 10 percentage points and thus reach the employment rate of natives with similarly educated EU-born parents (of about 80%). Natives with medium-educated parents born outside the EU have a 6 percentage points higher employment rate than the same group with low-educated parents. Thus, having medium-educated parents as opposed to low-educated parents does not translate into an increased employment rate of the same magnitude for all groups of natives. This suggests that the transmission of advantage seems somewhat hampered for natives with parents born outside the EU.

Natives with highly educated parents experience employment rates between 80% and 85%, with the lowest rate observed in the group of natives with parents born outside the EU, and the highest rate in the group of natives with EU-born parents. However, an important finding is that natives with highly educated parents born outside the EU experience a somewhat lower employment rate than natives with *medium-educated* native-born or EU-born parents.

Figure 4.1. Employment rates by parental origin and parental education level, 2014, percentages

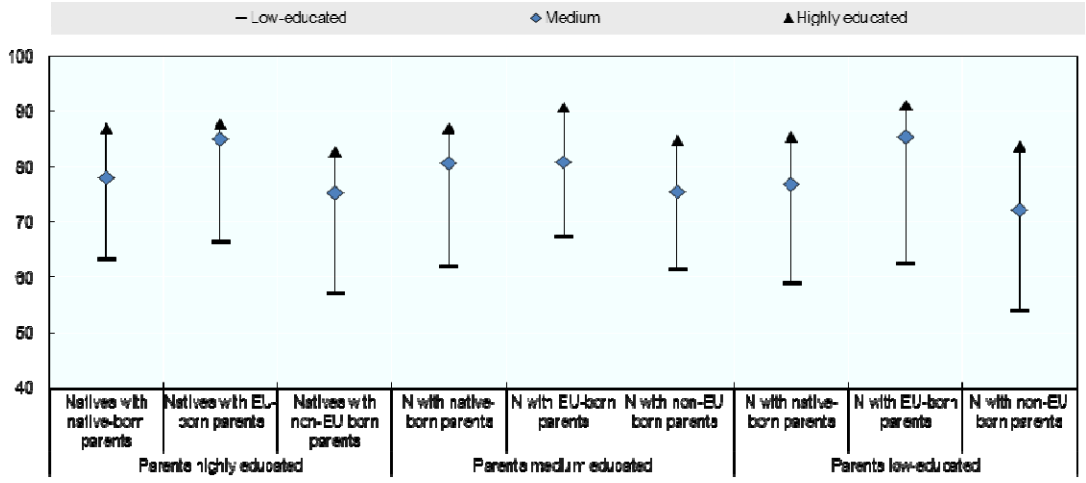


Note: Population aged 25-54.
Source: Eurostat, EU-LFS 2014 ad-hoc module (AHM).

Interestingly, Figure 4.1 mirrors the findings of earlier OECD work that showed that foreign qualifications have a much lower value in the labour market than domestic ones, and their returns are lower than those for domestic qualifications in terms of both employment and job quality. Foreign degrees from non-EU countries are much more strongly discounted in the labour market than those from EU countries, which results in a flatter curve of employment rates by educational attainment for natives with parents from non-EU countries (Damas de Matos and Liebig, 2014). Figure 4.1 suggests that this discounting has intergenerational consequences.

What is the employment rate by parental educational level, when considering the educational level of the respective groups of natives? Figure 4.2 shows employment rates by educational level, parental origin and parental educational level. As expected, low-educated individuals have overall the lowest employment rates independent of their parental origin and parental educational background. However, low-educated natives with low-educated parents born outside the EU have an almost 8 percentage points lower employment rate than other low-educated natives with equally low-educated EU-born parents. This suggests somewhat lower intergenerational mobility for natives with low-educated parents born outside the EU.

Figure 4.2. Employment rates by parental origin and parents' and natives' educational attainment, 2014, percentages



Note: Population aged 25-54.
Source: Eurostat, EU-LFS 2014 AHM.

The return to medium-level education is large, even for the most vulnerable group: completing an educational level of ISCED level 3-4 (as opposed to completing low-level education) increases the employment rate by about 16 percentage points for natives with low-educated parents born outside the EU. The return to medium-level education is even larger for natives with low-educated EU-born parents (+21 percentage points). Medium-educated natives with low-educated EU-born parents have the same employment rate, of about 80%, as the other two *highly educated* groups of natives with equally low-educated parents.

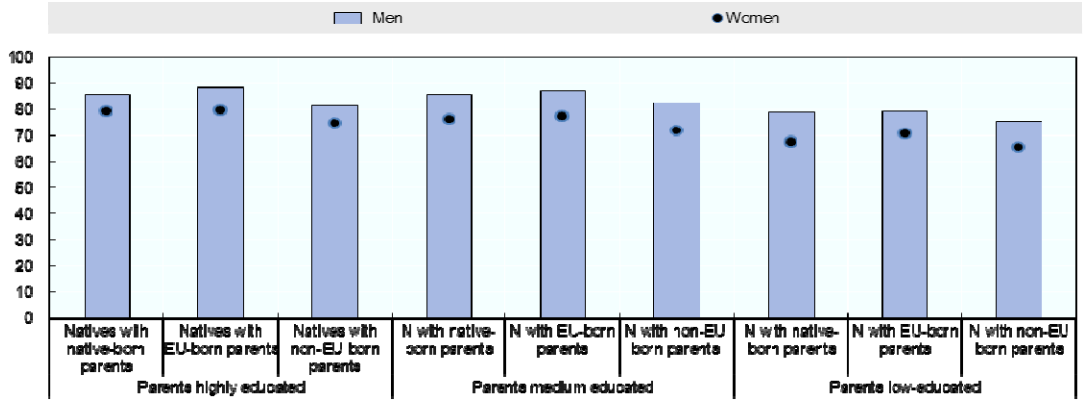
The most resilient individuals are those who have completed higher education despite their low parental educational background. Highly educated natives with low-educated parents born outside the EU, experience an employment rate similar to their peers with native-born parents, of well above 80%.

With highly educated parents, highly educated natives with native-born and EU-born parents experience very high employment rates of almost 90%. Highly educated natives with equally highly educated parents born outside the EU, however, have a 5 percentage points lower employment rate than the other groups of highly educated natives, suggesting that socio-economic advantage is less easily transmitted in the group of natives with parents born outside the EU.

The 2008 economic and financial crisis may have contributed to an increased gap between those with low and high educational attainment across the groups of natives. Between 2008 and 2014, all groups of natives experienced decreases in employment rates (see Annex Figure 4.A.1). Overall, the impact of the economic crisis was strongest on the immigrants with non-EU origins and lowest on those with EU origins. Those with parents born outside the EU and a low level of education saw sharp decreases of 7.3 percentage points in their already low employment rates of about 57%. The decreases were more moderate for those with a higher level of education, ranging from 4.2 percentage points in the case of natives with parents born outside the EU to 0.5 percentage points for natives with EU-born parents.

Taking a closer look at employment rates by gender, a lower rate can be observed for women across all groups of natives and across all parental educational levels (see Figure 4.3). Comparing women by parental origin, the largest employment gap of 11 percentage points can be observed for women with low-educated parents born outside the EU. At the same time, when parents are highly educated, the employment gap is the most narrow (-2.5 percentage points) for women with parents born outside the EU.

Figure 4.3. Employment rates by parental origin, parental education level and gender, 2014, percentages



Note: Population aged 25-54.
Source: Eurostat, EU-LFS 2014 AHM.

Accounting for individual-level characteristics

The differences in employment rates among natives may well be explained by an individual's particular socio-economic characteristics, such as highest educational attainment, age, gender and parental educational level. To produce more meaningful results, this section estimates the employment probability for natives of EU and non-EU origin, taking those with native-born parents as a baseline and accounting for individual-level characteristics.

Table 4.1 displays the employment probability by gender for natives with immigrant parents (EU-born and non-EU-born) as compared to natives with native-born parents. The results show that even after controlling for individual-level characteristics, natives with parents born outside the EU have a 10 percentage points lower employment rate than natives with native-born parents (column 2). Columns 3-6 show that the employment gap is higher for women (-11 percentage points) than for men (-7.4 percentage points). Native men with EU-born parents show a slightly higher probability to be employed than natives with native born parents (columns 3 and 4).

Table 4.2 shows that the gap in employment rates decreases with the level of educational attainment. Natives with non-EU origins that complete higher education have a much lower employment gap (compared to natives with native-born parents) than those with lower educational attainment. As shown in the first column of Table 4.2, low-educated natives with parents born outside the EU have a 12 percentage points lower probability of being in employment, compared to natives with native-born parents. This employment gap reduces to 10 percentage points when they reach medium education and to 6 percentage points when they complete higher education.

Table 4.1. Employment probability by parental origin and gender, 2014

Percentage point difference with the reference group natives with native-born parents

	All		Men		Women	
Natives with EU-born parents	**0.019*** **	**0.017** **	**0.021*** **	**0.019*** **	0.005	0.002
Natives with parents born outside the EU	**-0.13*** **	**-0.1*** **	**-0.098*** **	**-0.074*** **	**-0.156*** **	**-0.11*** **
Controls	No	Yes	No	Yes	No	Yes

Note: *** p<0.01, ** p<0.05, * p<0.1. OLS regression. Controls include age, educational attainment and parental educational attainment. With country dummies. Population aged 25-54.
Source: Eurostat, EU-LFS 2014 AHM.

Table 4.2. Employment probability by parental origin and educational attainment, 2014

Percentage point difference with the reference group natives with native-born parents

	Educational attainment		
	Low	Medium	High
Native with EU-born parents	0.013	**0.011*** **	**0.04*** **
Native with parents born outside the EU	**-0.121*** **	**-0.106*** **	**-0.06*** **
Individual controls	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes

Note: *** p<0.01, ** p<0.05, * p<0.1. OLS regression. Controls include age, gender and parental educational attainment. Educational attainment categories: Low indicates ISCED 0-2; Medium indicates 3-4; High indicates 5-6. Population aged 25-54.
Source: Eurostat, EU-LFS 2014 AHM.

The influence of low-educated parents

As shown in the previous section, individuals with low-educated parents have more difficulties in succeeding in the labour market. This section therefore focuses on natives with low-educated parents and analyses their association with labour market performance for the three groups of natives, given a similarly disadvantaged socio-economic background and thus starting point.

Figure 4.4 displays regression outcomes by country,[3] analysing the effects of low-educated parents on the employment probability of natives with immigrant parents compared to natives with equally low educated native-born parents. Natives with low-educated parents born outside the EU have a lower probability of being in employment in all observed countries. The magnitude, however, varies. In Austria, Switzerland, Spain, France, Norway and the United Kingdom their employment gap ranges between -5 percentage points and -10 percentage points. In Belgium, natives with low-educated parents born outside the EU have an 18 percentage points lower probability of being in employment compared to natives with native-born parents – even after controlling for their highest educational attainment, age and gender.

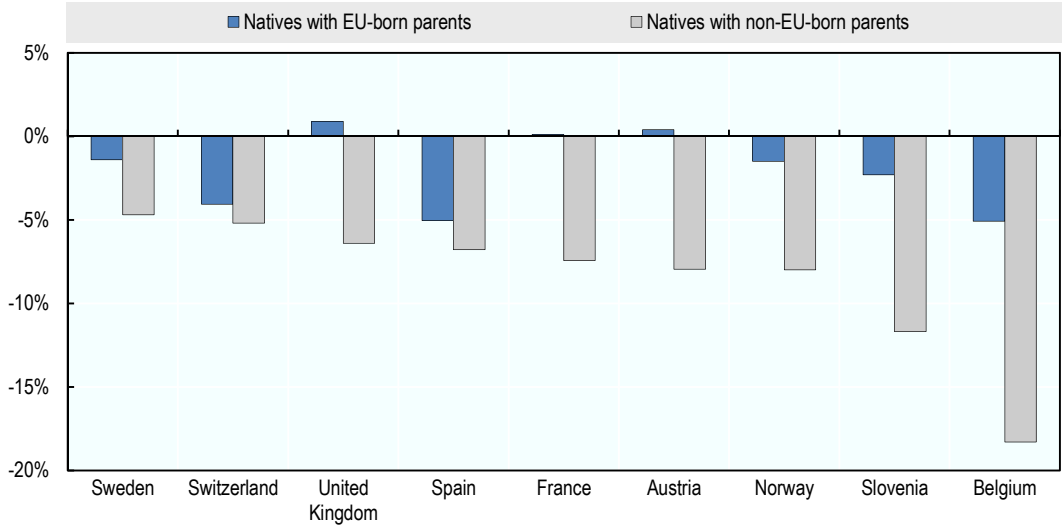
As for natives with low-educated EU-born parents living in Austria, France, Norway, Sweden, and the United Kingdom, their probability does not significantly differ from the employment probability of natives with native-born parents. In Belgium, Switzerland and Spain, natives with low-educated EU-born parents have a 5 percentage points lower

probability of being in employment compared to natives with low-educated native-born parents.

It is equally interesting to analyse how socio-economic advantage, measured by a high parental educational level, affects the employment probability of natives with immigrant parents as compared to natives with native-born parents. When looking at individuals with highly educated parents, the sample size becomes smaller and statistically significant results are only obtained for Belgium (-4 percentage points for EU-born parents; -9 percentage points for parents born outside the EU); the United Kingdom (no effect for EU-born; -8 percentage points for parents born outside the EU); Sweden (-7 percentage points for parents born outside the EU). This indicates that in some countries the transmission of *advantage* is equally challenging.

Figure 4.4. Employment probability if both parents are low educated, by parental origin, 2014

Difference in percentage with the reference group natives with native-born parents



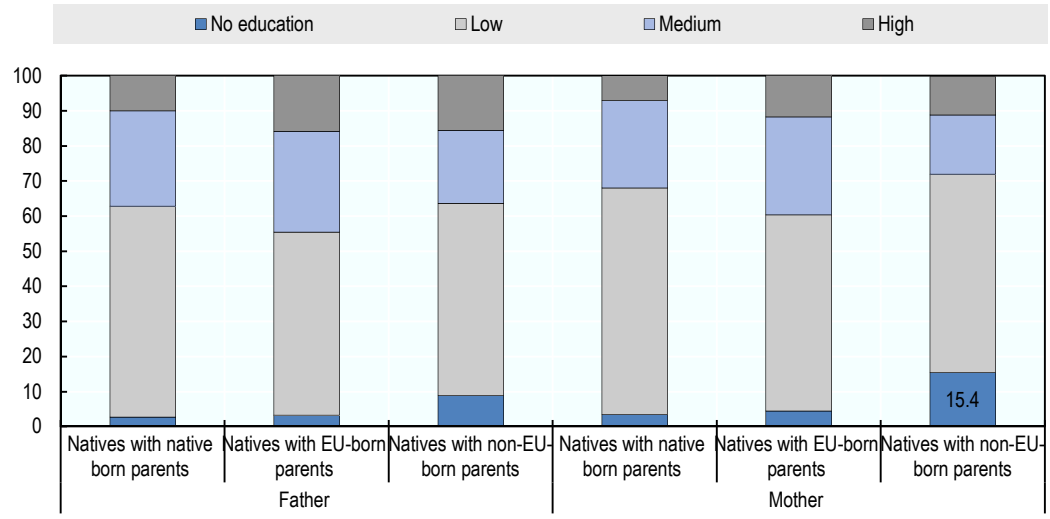
Note: Population aged 25-54. Controlling for educational attainment, age and gender.
Source: Eurostat, EU-LFS 2014 AHM.

Low is not equal to low – the influence of a mother with no education

A drawback of most available data sets is the fact that the parental education level is only available on a very aggregate level (low, medium and high). A low education level implies having completed education up to ISCED level 2. This means that among low-educated parents there could be parents with several years of education alongside parents with no education at all. For the question on the highest educational attainment of the parent, the 2011 EU Statistics on Income and Living Conditions data (EU-SILC) includes a category of "no education" (i.e. the parent is not able to read or write in any language) in addition to the more common low, medium and high education levels. This allows for a more detailed analysis of the influence of parents' education level on their adult children's labour market outcomes. Considering that parents with "no education" may be overrepresented in the group of natives with immigrant parents, analysing this issue is particularly relevant in the context of intergenerational mobility.

Figure 4.5 shows the distribution of parental education by parental origin. The most important result in this figure is that 15% of natives of non-EU origin have a mother with no education at all (and 9% of fathers) compared to about 3% in the other groups. In fact, about 65% of both natives with native-born parents and natives with parents born outside the EU have a mother with either no education or low education. Yet a significant share of mothers of non-EU origin have no education at all – without it being evident unless a specific category indicating no education is included.[4]

Figure 4.5. Distribution of parental education level by origin, 2011, percentages



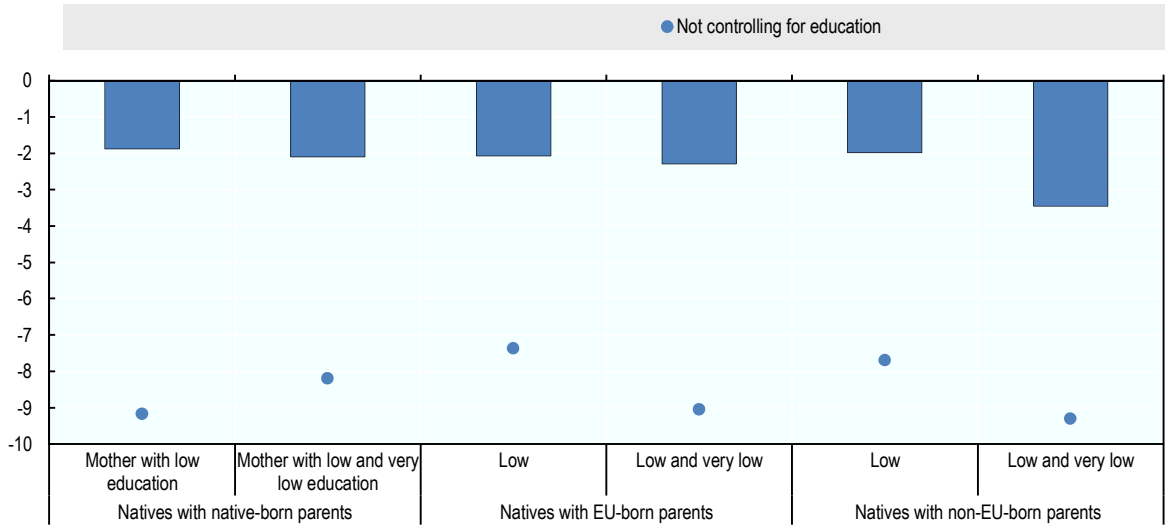
Note: Population aged 25-54.
Source: EU-SILC data, 2011.

To analyse the influence of a mother with no education, a regression of two groups is performed: firstly, the influence of having a low-educated mother (ISCED 1-2); secondly, the influence of having a low-educated mother *or* a mother with no education at all. The overrepresentation of mothers with no education for natives with parents born outside the EU (as shown in Figure 4.5) could have a stronger negative effect on employment rates in this group.

Figure 4.6 displays the regression outcome of having either a low-educated mother (ISCED 1-2, in columns 1, 3 and 5) or having a mother with low education and no education combined (columns 2, 4 and 6) across the different groups of natives, controlling for some individual-level characteristics.

Before controlling for education, having a very low-educated mother (i.e. comprising a low education level and no education at all) can have a negative effect on the employment rate of up to 10 percentage points. Once educational attainment is controlled for, the effect decreases for all groups. The main result of Figure 4.6 is that for natives with parents born outside the EU, including mothers who have no education, the analysis doubles the negative effect on the employment rate. For the other groups, the difference between the two educational groups of the mother remains marginal.

Figure 4.6. Employment probability in percentage points by mother's education level, 2011



Note: Population aged 25-54. Controlling for highest educational attainment, age and gender.
Source: EU-SILC data, 2011.

Employment gaps by age groups

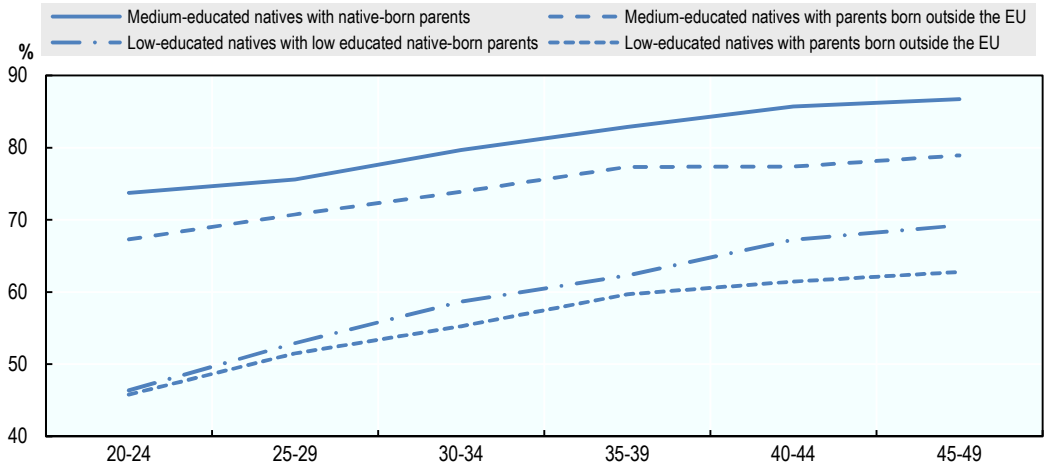
The transition from school to work can have long-term consequences for labour market integration (OECD/EU, 2015). This is therefore the critical stage in life in which potentially long-lasting employment gaps arise between those with and without immigrant parents. Young natives with immigrant parents who start out struggling to make the transition are at a considerable risk of experiencing further difficulty in finding a suitable and stable job.

As can be observed from Figure 4.7, low-educated natives with low-educated parents in the cohort aged 20-24 have an employment rate at slightly above 45%, independent of their parents' origin. The employment gap arises in the age group 25-29 and continues to widen in older cohorts. At age 45-49, the employment gap between low-educated individuals and equally low-educated parents is about 8 percentage points, in favour of natives with native-born parents. This may suggest that 20-24 year-olds and 25-29 year-olds with parents born outside the EU take up jobs that may prove less stable than the jobs taken up by natives with native-born parents.

Medium-educated natives aged 20-24 with low-educated parents born outside the EU have an 8 percentage points lower employment rate than their peers with native-born parents. The transmission of disadvantage as measured by the low education level of the parental generation is thus more pronounced among natives with non-EU origins. The employment gap by parental origin at age 40-44 and 45-49 is even wider than at the beginning of the career.

Figure 4.7. Employment rate by age group, educational level and parental origin, 2014, percentages

Individuals with low-educated parents



Note: Population aged 20-49.
Source: Eurostat, EU-LFS 2014 AHM.

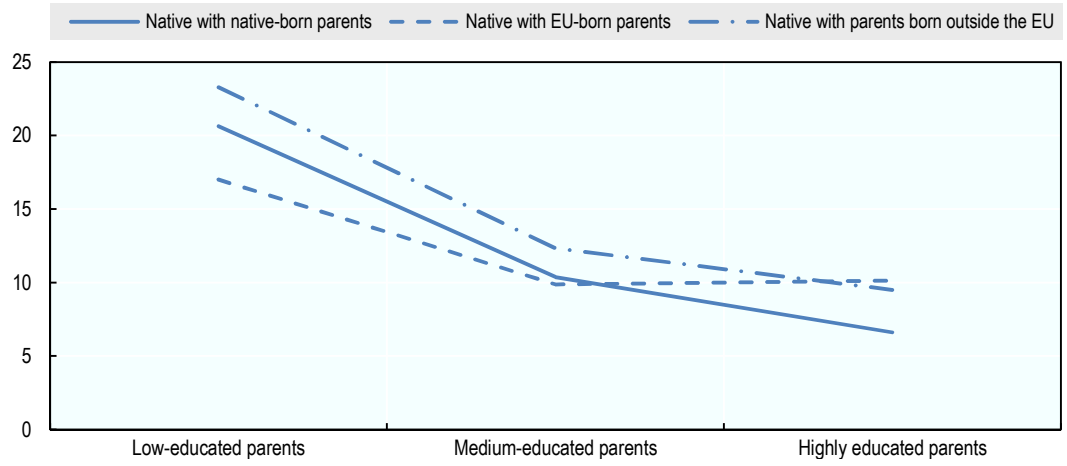
The risk of labour market exclusion: NEET[5] rate by parental education

To what extent does the parents' educational level determine the probability of not being in employment, education or training at a young age? Overall, NEET[6] rates are higher for natives with parents born outside the EU than for natives with native-born or EU-born parents. When analysing the NEET rate by parental educational level (see Figure 4.8), it can be observed that the young with low-educated parents across all parental origins are more likely to fall into the NEET category as compared to the young with medium- or highly educated parents. Figure 4.8 shows that almost one in four native-born youth with low-educated parents born outside the EU falls into the NEET category; having highly educated parents significantly "protects" the young from doing so. For natives with highly educated and native-born parents, only 6.6% fall into the NEET category, compared to 9.5% of the natives with parents born outside the EU.

About 40% of the NEETs are low educated (ISCED 1-2), about 50% have completed medium-level education (ISCED 3-4), and less than 10% have completed higher education (ISCED 5+). Across different population groups, it is the low-educated young that are at risk of falling into the NEET category. The overrepresentation of natives with immigrant parents – particularly those with parents born outside the EU – among the low educated explains in part why those natives show overall higher NEET rates than other groups of natives (EU/OECD, 2015).

Thus it is no surprise that young individuals with low-educated parents across *all* parental origins are overrepresented in the NEET category. The question that arises when analysing intergenerational mobility, however, is whether one group is more affected by the parental educational level than another. The question to be analysed therefore is whether the influence of the parental background is more or less pronounced among one group of natives.

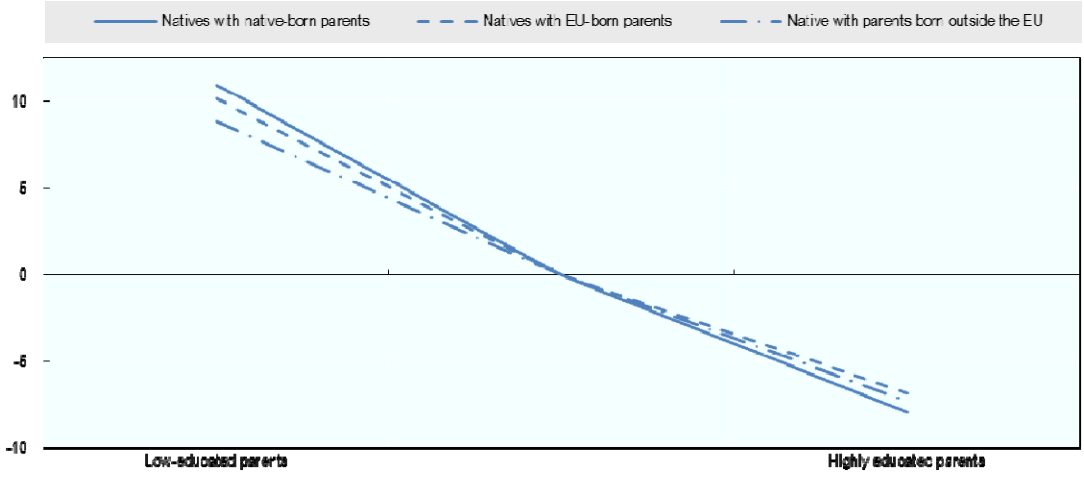
Figure 4.8. NEET rate by parents' origin and education level, for age group 15-29, 2014, percentages



Note: Countries included are Austria, Belgium, Switzerland, France, the Netherlands, Norway, Sweden, and the United Kingdom.
Source: Eurostat, EU-LFS 2014 AHM.

Figure 4.9 displays regression outcomes analysing the influence of the parents' educational attainment on the probability of falling into the NEET category for each group of natives. Natives with native-born parents see their NEET rate increased by 11 percentage points when they have low-educated parents (as opposed to having medium- or highly educated parents) – even after controlling for individual-level characteristics such as age, gender, highest educational attainment and area of residence (rural/urban). Natives with parents born outside the EU experience a slightly smaller increase of 8.5 percentage points in the NEET rate when they have low-educated parents. This indicates that there is a somewhat weaker association between (low) parental education and the NEET rate for natives with parents born outside the EU.

Figure 4.9. Influence of the parents' educational attainment on the probability of being NEET (in percentage points) for population aged 15-29 by parental origin, 2014



Note: Controlling for highest educational attainment, area of residence (rural/urban), age and gender.
Source: Eurostat, EU-LFS 2014 AHM.

Highly educated parents yield an 8 percentage point lower probability for natives with native-born parents to be NEET. Again, the influence is somewhat weaker for natives with non-EU-born parents: having highly educated parents implies a 7 percentage point lower probability of being a NEET. Overall, the correlation between the parental educational level and falling into the NEET category is somewhat weaker for natives with parents born outside the EU, indicating higher social mobility for this group.

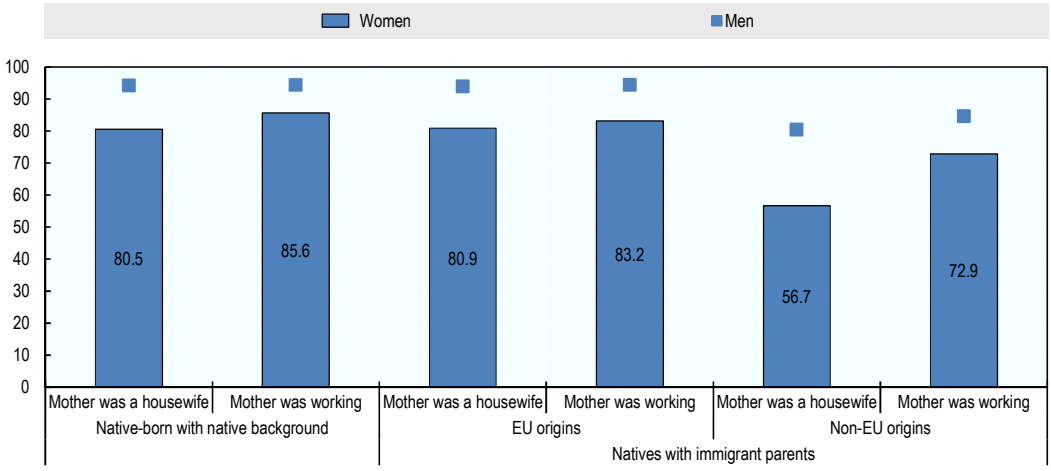
Intergenerational employment link between mother and daughter

The intergenerational link between a mother's labour force participation and that of her daughter is an important component for understanding the causes of the rise in female labour force participation. A large number of studies have only looked at father-son pairs, thereby factoring out the intergenerational mobility of women. This focus is partially due to data limitations, lower labour market participation among women, and the assumption that the fathers' socio-economic profile adequately represents family resources (Korupp, Ganzeboom and van der Lippe, 2002). The socio-economic status of mothers, however, can significantly influence their children's mobility. For the United States, the mobility of sons and daughters is found to be overestimated when excluding the socio-economic status of mothers, both those working and stay-at-home (Beller, 2009).

Recent research also shows that working mothers increase the labour market participation of their daughters in particular. Relying on survey data from 24 countries, McGinn, Lingo and Castro (2015) show that adult daughters of employed mothers are more likely to be employed, are more likely to hold supervisory responsibility if employed, work more hours, and earn marginally higher wages than women whose mothers stayed at home full time. One channel that could explain these findings involves preferences and culture (on e.g. gender role attitudes) that are transmitted between generations and shape labour market outcomes. Daughters of employed mothers and mothers with more education tend to be less traditional in their attitudes toward gender roles when compared to daughters of non-employed and less educated mothers. Farré and Vella (2013) investigate the presence of intergenerational transmission of gender role attitudes and find a statistically significant relationship between a mother's and her children's inherited views regarding the role of females in the family and the labour market.

Figure 4.10 shows employment rates by maternal employment status[7] at age 14 of the respondent (i.e. the mother was either fulfilling domestic tasks or care responsibilities, or was employed) and parental origin. Generally, about 60% of native-born mothers work, compared to 45% of mothers of non-EU origin. It can be observed in Figure 4.10 that there is only a minor difference between natives with native-born parents and natives with EU-born parents. The female (male) employment rate in those groups is above 80% (90%) independent of the mother's employment status. For natives with parents born outside the EU, however, having a working mother increases the female employment rate by 16 percentage points. The employment rate for men on the other hand increases by only 4 percentage points.

Figure 4.10. Employment rate by maternal employment status and parental origin, 2011, percentages



Note: Population aged 25-54; from financially non-vulnerable households at age 14.
Source: EU-SILC data, 2011.

Table 4.3 shows the correlation between an employed mother with the respondent at age 14 and the employment rate of the adult child. The main result of the table is that having had an employed mother increases the employment rate of women with parents born outside the EU by 14 percentage points. Even after controlling for a set of variables – such as age, educational attainment, the mother's educational attainment, financial situation at age 14 and at present – the employment gain of having had an employed mother at age 14 is higher by 9 percentage points. The correlation is also positive for the other groups of natives, although much weaker. For men with parents born outside the EU, the employment gain of 5 percentage points almost disappears when controlling for individual-level characteristics. Women with native-born parents have a 4 percentage point's higher probability if their mother was in employment when they were 14, even after controlling for individual-level characteristics.

Table 4.3. Correlation between males and females having an employed mother at age 14 and their employment rate as adults, by parental origin, 2011, percentage points

	Men	Men	Women	Women
Natives with native-born parents	**0.018****	0.009	**0.06****	**0.041****
Natives with EU-born parents	0.019	0.012	0.04	0.015
Natives parents born outside the EU	**0.057***	0.015	**0.14****	**0.09****
Controls	No	Yes	No	Yes

Note: *** p<0.01, ** p<0.05, * p<0.1. Controls include age, educational attainment, mother's educational attainment, financial situation at present, and financial situation when child was 14.
Source: EU-SILC data, 2011.

Analysis by the mother's educational level reveals that the results in Table 4.3 are mainly driven by women with a low-educated mother. It seems that having had a low-educated working mother at age 14 increases the women's employment probability in adulthood (even after controlling for the financial situation of the household at age 14 and in

adulthood). The results for medium- and highly educated working mothers remain positive but are somewhat weaker. Due to the small sample size, however, the regressions by educational level of the mother do not produce any statistically significant results, and thus somewhat impair the interpretation of this finding.

These findings suggest that measures to reach out to and improve labour market outcomes of mothers of non-EU origin are likely to have an additional intergenerational payoff. This is particularly important since the available data suggest that almost two-thirds of the mothers of non-EU origin have arrived as family migrants, and often lack access to integration measures.

Occupational mobility

This section investigates occupational mobility by analysing the extent to which adults are employed in work that requires higher skills than their parent needed in their work. As in the previous section, the analysis aims to shed light on whether natives with immigrant parents are more or less mobile in terms of occupations.

It has been argued that a correlation between an adult child and their father's occupation is one of the most important components in understanding intergenerational mobility in many countries. An individual's occupation can reveal information not only about economic resources but also about (for example) their social status, cultural capital and social network. Further, it has been shown that status is strongly associated with individuals' income, but also with other aspects of peoples' economic lives: their income security and unemployment risks, short-term income stability and longer-term income prospects in terms of wage progression over the life course (Lucchini and Schizzerotto, 2010; Watson, Whelan and Maître, 2010). From a methodological point of view, occupation-based measures are more stable and more accurately describe lifetime earnings profiles, making age-related biases less problematic.

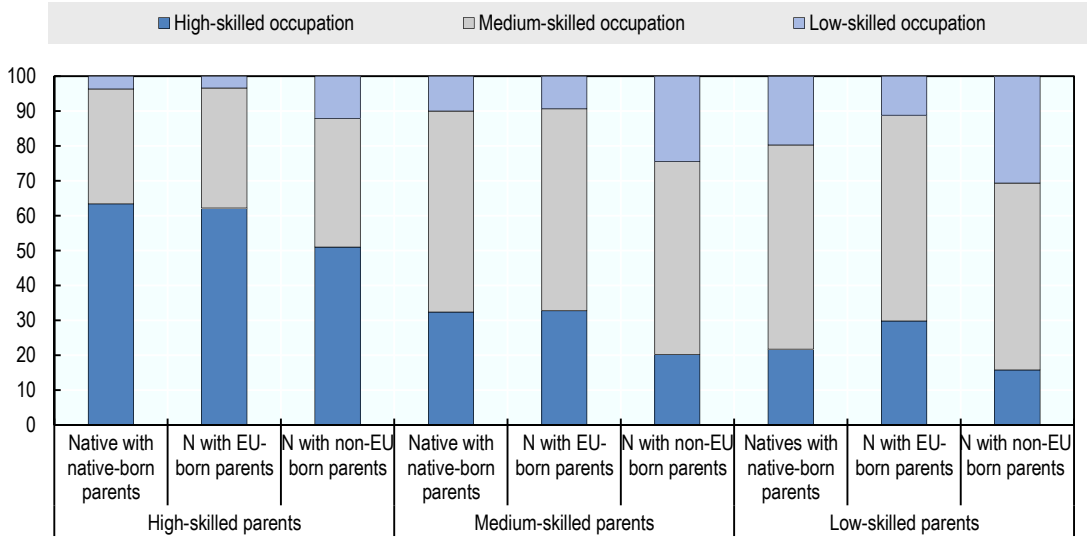
Several factors lie behind the fact that the occupation of parents influences the occupation of their children, even many years later. For instance, some types of occupations are more often transmitted than others, as they require job-specific human capital that can be transmitted from parents to children. Intergenerational occupational persistence is also linked to entry barriers limiting access to certain professions. Furthermore, in other cases it is the natural result of educational stratification. Finally, another channel through which persistence in occupations work are family ties, as many jobs are filled through networks and referrals by friends of family.

Occupational mobility across countries varies. Checchi and Dardadoni (2002) provide international evidence on the intergenerational correlation and show that the United States and the Netherlands rank among the most mobile countries, while in Austria and Germany mobility across generations in terms of occupation is low. Li and Heath (2016) show that for visible UK-born minorities, there is some occupational convergence across generations. Meurs et al. (2015) show that children born in France to immigrant parents are still strongly disadvantaged compared to their peers with native-born parents, with regard to employment, occupational status and access to jobs in the civil service, even when controlling for parental and individual background characteristics. Intergenerational mobility is particularly low for French of North African, sub-Saharan African and Turkish descent.

Distribution of occupations

What is the share of individuals working in occupations requiring a higher skill level than that required of their parents? Figure 4.11 shows the distribution of occupations[8] by parental origin. Occupational mobility is measured by comparing the father's occupation (i.e. skill level) when the respondent was 14 years old to his/her occupational skill level in the current job (or previous job in case of unemployment or inactivity[9]). Upward mobility means that the respondent works in an occupation requiring a higher skill level compared to that of their father and downward mobility implies the opposite. Immobility implies that the respondent is working in an occupation requiring the same skill level as that required in their father's work.

Figure 4.11. Distribution of natives' occupations by parental origin, 2011, percentages



Note: Population aged 30-49. Following the literature on intergenerational inequality (Haider and Solon, 2006), only prime-age workers are considered in order to reduce life cycle bias. In particular, the figure considers workers aged 30-49, for whom the process of intergenerational transmission is likely to have fully displayed its effects.
Source: EU-SILC data, 2011.

Generally, adult children seem to work in occupations requiring a skill level similar to that required of their father with some differences by parental origin and skill level. Figure 4.11 shows that 60% of natives whose native-born or EU-born parents are working in high-skill-level occupations are also working in occupations where a high skill level is required. On the other hand, 50% of the natives with parents born outside the EU whose father used to work in a high-skill occupation are also working in occupations requiring high skills. Overall, with high-skilled parents, downward mobility is most pronounced for natives with parents born outside the EU.

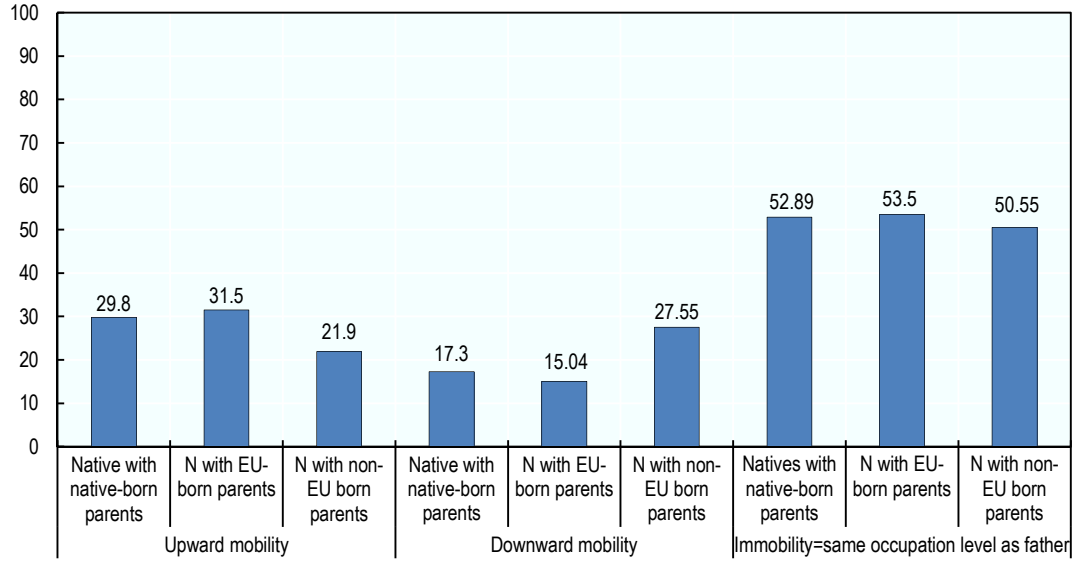
For parents working in occupations where a medium skill level is required, the distribution of "immobility" is the same across the groups of natives. As for upward and downward mobility, a disadvantage can be seen for natives with parents born outside the EU. For example, over 20% of natives with medium-skilled parents born outside the EU end up in occupations where only a low skill level is required (compared to less than 10% of natives with native-born or EU-born parents). At the same time, about 20% of natives

with parents born outside the EU manage to move up the occupational ladder, compared to 30% of the other two groups of natives.

For individuals with low-skilled parents, upward mobility can be observed for all (i.e. across all parental origins). The upward occupational mobility across all skill levels is particularly pronounced for natives with EU-born parents. However, about 30% of natives with low-skilled parents born outside the EU end up working in occupations where a low skill level is required, compared to about 22% for natives with native-born parents and 10% for natives with EU-born parents. This result indicates more immobility at the low skill level for this group. Sixteen percent of natives with parents born outside the EU are high achievers: they manage to work in an occupation requiring high skills despite having a father who was working in a low-skilled job. Thirty percent of the natives with EU-born parents are high achievers, compared to 22% of natives with native-born parents.

Figure 4.12 shows occupational upward mobility,[10] downward mobility and immobility by parental origin. Generally, about half of the natives across all parental backgrounds remain immobile (i.e. they work in an occupation requiring the same skill level as their father needed in his work when they were 14 years old). However, when looking at upward and downward mobility, it can be observed that about a third of natives with native-born parents and of natives with EU-born parents manage to move upward in occupational level. For natives with parents born outside the EU, about 20% move upward. The share of downward mobility reflects this picture. Fifteen percent of natives with EU-born parents and seventeen percent of natives with native-born parents have a job requiring a lower skill level than his/her father needed in his work. At the same time, about a third of the natives with parents born outside the EU experience downward occupational mobility. Again, it can be observed that natives with parents born outside the EU experience more difficulties in moving upward in their occupational level.

Figure 4.12. Upward and downward occupation mobility and immobility, by parental origin, 2011, percentages



Note: Population aged 30-49.
Source: EU-SILC data, 2011.

Analysing occupational mobility

To what extent does a parent's occupation matter for an adult child's occupation in relative terms? Table 4.4 shows the likelihood of occupational upward mobility (i.e. working in an occupation requiring a higher skill level than the father needed in his occupation) for natives with immigrant parents relative to natives with native-born parents. The main result of this table is that even after controlling for individual-level characteristics, natives of non-EU origin have a 12 percentage points lower probability of upward occupational mobility relative to natives with native-born parents, the reference group. For natives of EU origin there is no significant difference for upward mobility compared to natives with native-born parents.

Table 4.4. Probability of upward occupational mobility, 2011

Reference group: Natives with native-born parents

Natives with EU-born parents	0.005	0.014
Natives with parents born outside the EU	**-0.125****	**-0.116****
Controls	No	Yes

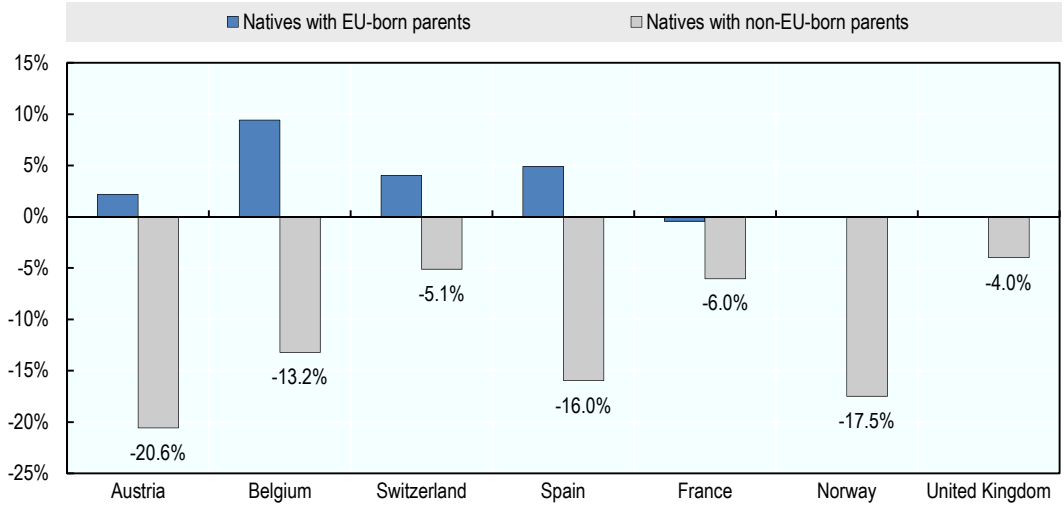
Note: *** p<0.01, ** p<0.05, * p<0.1. Controls include age, educational attainment and gender. With country dummies
Source: EU-SILC data, 2011.

Figure 4.13 displays regression outcomes by country (for which data are available and where the sample size is large enough to provide meaningful results). Even after controlling for individual-level characteristics such as age and gender, for natives with parents born outside the EU the probability of moving upward in occupations is significantly lower in Austria, Norway, Spain and Belgium (between 20 percentage points lower in Austria and 13 percentage points in Belgium). In France, Switzerland and the United Kingdom, the probability of moving upward in occupations is also negative, but much less pronounced. Natives with EU-born parents have a higher probability of moving upward in occupations than their peers with native-born parents. In Belgium, they have a 10 percentage points higher probability of moving upward and less than 5 percentage points in Austria, Switzerland and Spain.

If immigrant parents are overqualified for the job they are doing in the settlement country, their occupation neither reflects their skills nor their previous social standing in the country of origin. An average of 35% of highly educated immigrants, even when they are long-term residents, are overqualified in OECD countries, compared to about 25% of the native-born in 2012-13 (OECD/EU, 2015). A number of papers have addressed this issue by also taking into account parents' socio-economic status before migrating (Feliciano, 2005; Ichou, 2014; Feliciano and Lanuza, 2017). Overqualification of the foreign-born (i.e. the parental generation) complicates the interpretation of the outcomes. If, for instance, children with university-educated parents who work in low-skilled jobs attain a medium-skilled profession, it is debatable whether they experienced upward or downward mobility.

Figure 4.13. Likelihood of occupational upward mobility, by parental origin and country, 2011, percentages

Reference group: Natives with native-born parents



Note: OLS regression outcomes controlling for age, gender and highest educational attainment.
Source: EU-SILC data, 2011.

Transmission of economic vulnerability

This section analyses the intergenerational transmission of economic vulnerability, concentrating on those at the bottom of the strata and how their disadvantaged positions are inherited from one generation to another. The assessment of transmission of economic vulnerability in this analysis is mainly based on a retrospective subjective evaluation of financial stress in the household when the respondent was 14 years old, and a similar evaluation at present.[11] Taking into account the subjective nature of the phenomenon, international comparisons should reflect the cultural differences and changes in socio-economic conditions in the countries analysed.

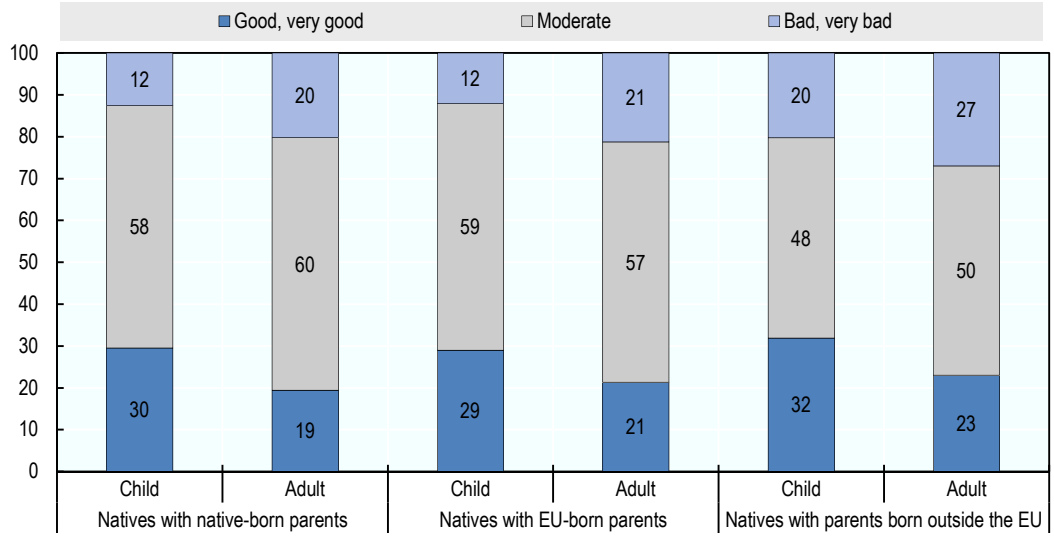
The empirical literature offers various evidence suggesting that economic living conditions in the past (in childhood) can significantly affect living conditions in the future (in adulthood). Thus there is an obvious relationship between deprivation of a person in childhood resulting from parents' poverty and experiencing poverty in one's own youth, which can further predict poverty in the later phases of life, and a consecutive transmission of poverty to descendants. However, the phenomenon cannot be generalised, as other factors such as family/household structure, environment and social isolation may independently affect an individual's living conditions throughout their life cycle (Bird, 2007). In the literature, the transmission of economic vulnerability has been analysed mostly by investigating income mobility i.e. the probability of being part of an income quintile in the income distribution, given that the parents fell into the same category.

Poverty in childhood can reappear in adulthood in various ways. Literature has shown that growing up in a low-income household increases children's probability of experiencing unemployment later in life (O'Neill and Sweetman, 1998). There is also evidence demonstrating that the poorer the family, the higher will be the likelihood of a child dropping out of school (Bukodi and Goldthorpe, 2013; Wiborg and Hansen, 2009).

In addition, parents' low income increases their children's probability of receiving social assistance in adulthood (Kauppinen et al., 2014). Some evidence in fact indicates that, compared with a wide range of parental factors, (long-term) poverty and receipt of social assistance have the most severe consequences in adulthood (Bäckman and Nilsson, 2011). In summary, as measured by multiple factors, a strong association exists between parental poverty and adulthood disadvantages of the children. However, the role of poverty and the significance of other factors related to poverty are unclear (Vauhkonen et al., 2017).

Figure 4.14 shows the distribution of the subjective perception of the financial situation at age 14 (i.e. the parental household) and in adulthood. Overall, the largest share of individuals consider their financial situation to be moderate, although natives with parents born outside the EU are overrepresented in reporting a difficult financial situation, both in adulthood and in childhood. Generally, the financial situation in adulthood seems to be perceived as more vulnerable than in childhood. In childhood, 32% of natives with parents born outside the EU consider their financial situation as good or very good, while 23% assess their adult household positively. Nineteen percent of natives with native-born parents and twenty-one percent of natives with EU-born parents consider their financial situation as good or very good, compared to about 30% in childhood.

Figure 4.14. Distribution of the financial situation at age 14 and in adulthood, by parental origin, 2011, percentages



Source: EU-SILC data, 2011.

One out of five adults with native-born parents and with EU-born parents consider their financial situation to be bad or very bad, while only 12% consider that their financial situation at age 14 was bad or very bad. As for natives with parents born outside the EU, 27% of the adults consider their financial situation to be bad or very bad and about 20% relate their childhood environment with financial difficulties.

Upward social mobility is associated with positive change in perception of the household's financial situation. Very few adults overall perceive their financial situation in adulthood as better than in childhood. About 8% of natives with native-born parents and EU-born parents assess the adult financial situation more positively than their

childhood household. This share is somewhat higher for natives with parents born outside the EU, at 10%.

How does the financial situation at age 14 affect the financial situation in adulthood? Table 4.4 shows a regression output analysing the effect of a household with financial difficulties when the respondent was 14 on their financial situation today. The main result of the table is that growing up in a difficult financial environment in childhood does not affect natives with parents born outside the EU more than natives with native-born parents (the reference group). In fact, it seems that the financial situation of natives with parents born outside the EU is less affected by their difficult childhood environment. However, the results need to be interpreted with caution, as the regressions do not produce statistically significant coefficients due to a very small number of observations.

Table 4.5. Correlation between difficult financial situation in childhood and financial situation in adulthood, in 2011

Reference group: Natives with native-born parents

Natives with EU-born parents	-0.002	0.028
Natives with parents born outside the EU	-0.010	-0.015
Controls	No	Yes

Note: *** p<0.01, ** p<0.05, * p<0.1. Controls include age, educational attainment, gender, and the father's educational level. With country dummies.
Source: EU-SILC, 2011 data.

Conclusion

Intergenerational mobility has important economic, political and social consequences. Therefore, promoting an environment that allows everyone to fulfil their potential – regardless of the parental socio-economic background – is crucial for the future of EU and OECD countries. This chapter has explored intergenerational mobility in labour market outcomes, occupations and economic vulnerability for natives with native-born parents, with EU-born parents and with parents born outside the EU. The aim of the chapter was to shed light on the transmission of disadvantage in these groups, and thus help provide a better understanding of intergenerational mobility patterns across countries.

Parents' socio-economic background matters for the labour market outcomes of their children in adulthood. It is unquestionable that an advantaged background will to a considerable extent facilitate success in later life. The parental generation of immigrants are in many countries overrepresented at the bottom of the educational strata: they are employed in lower occupational levels and are thus economically more vulnerable than the native-born parental generation. Given the importance of parental background for success, it is to some extent no surprise that children with immigrant parents perform on average less well on the labour market than native-born children with native-born parents.

However, even when individuals have similar educational attainments and (equally disadvantaged) family backgrounds, it is the natives with parents born outside the EU who experience weaker labour market outcomes and more difficulties in obtaining good jobs requiring high levels of skills. This indicates that there are potentially other factors that particularly natives with non-EU origins need to overcome, which in turn could partly explain their (weaker) performance on the labour market. While there is some convergence in terms of educational mobility among natives with and without an

immigrant background, more policy efforts are needed after education is completed to ensure a successful performance on the labour market for all.

School-to-work transition, or the first entry into the labour market, is a crucial moment for individuals, as it determines to a large extent labour market success later in life. While the employment gap between natives with parents born outside the EU compared to other groups of natives is relatively small at the beginning of the career, the gap increases for older age cohorts. This suggests that the disadvantage associated with an immigrant background may not only work during the school-to-work transition but also extend beyond. One reason for this may be that the first jobs of children of immigrants are less stable and of poorer quality – an issue that merits further scrutiny. Fostering equality of opportunity for immigrant families, and especially those with a low level of education, is key to ensuring that immigrants and their children can integrate successfully.

An important policy conclusion also arises from the finding that having a working mother seems to convey strong benefits to the outcomes of her children – especially the daughters. This suggests that measures to reach out to and improve the labour market outcomes of immigrant mothers have an additional intergenerational payoff. This is particularly important since the available data suggest that almost two-thirds of the immigrant mothers concerned have arrived as family migrants, who often lack access to integration measures.

Intergenerational mobility is linked to the institutional setting of the country. The evidence in this chapter suggests that there are differences between OECD countries in the extent to which parents' and adult children's outcomes are correlated. A better understanding of cross-country differences in intergenerational mobility of natives with and without immigrant parents – and how these relate to country-specific labour market institutions and settings – would be a crucial next step toward better understanding differences in mobility patterns.

Notes

1. The parental highest educational attainment is disaggregated into low, medium and high levels, corresponding to ISCED level 1-2, 3-4 and 5-6, respectively.
2. The Labour Force Survey (LFS) is the largest household sample survey carried out in the EU-28. It provides detailed quarterly and annual data on the employment, unemployment and economic inactivity of persons aged 15 and over. The 2014 ad hoc module (AHM) contains information on the parental educational level. The module was not collected by Denmark, Ireland, the Netherlands or Germany; these countries are therefore excluded from the analysis. Countries with very low numbers of observations in one of the categories of natives (<200) were dropped. These countries are Bulgaria, the Czech Republic, Hungary, Malta, Romania, and the Slovak Republic.
3. Only countries for which data are available and where the sample size is sufficiently large to produce meaningful results are kept in the analysis.
4. From a methodological point of view, not including a category with "no education" leads to an overestimation of the parental educational level of natives with parents born outside the EU, which in turn has implications for the interpretation of this type of analysis.
5. The rate of people not in employment, education and training (NEET) complements the unemployment rate. It provides a better picture of the labour market situation and exclusion of the young (age group 15-24 and/or 15-29), as it also covers the inactive and those not in education and training.
6. The small sample size of the EU-LFS AHM 2014 does not allow for a separate analysis of the parental educational background by education level.
7. The maternal employment rate includes self-employment and part-time employment.
8. For the respondent, occupation refers to the main job – that is, the current main job for people at work or the last main job for people who do not have a job. Occupational data for respondents and their parents, in each country, are coded to a common occupational classification, ISCO-88. Due to a small sample size, the occupation codes are then merged by skill level (low-, medium- and high-skill-level jobs).
9. For the occupational level of the parent, the EU-SILC data counts about 20% missing observations. The missing observations are random across parental origins and skill levels. The missing variables are not necessarily linked to unemployment of the parent, as there is a separate question investigating labour market participation. The missing observations are rather related to absence of the father, death, inadequate age group, or non-response to the question.
10. Mobility is independent of the baseline skill level, i.e. the individual could have moved up from a low-skilled father to a medium-level occupation or from a medium-skilled father to a high-level occupation.
11. The evaluation of the financial situation is available at six levels: very bad; bad; moderately bad; moderately good; good; and very good. Based on EUSILC 2011 data.

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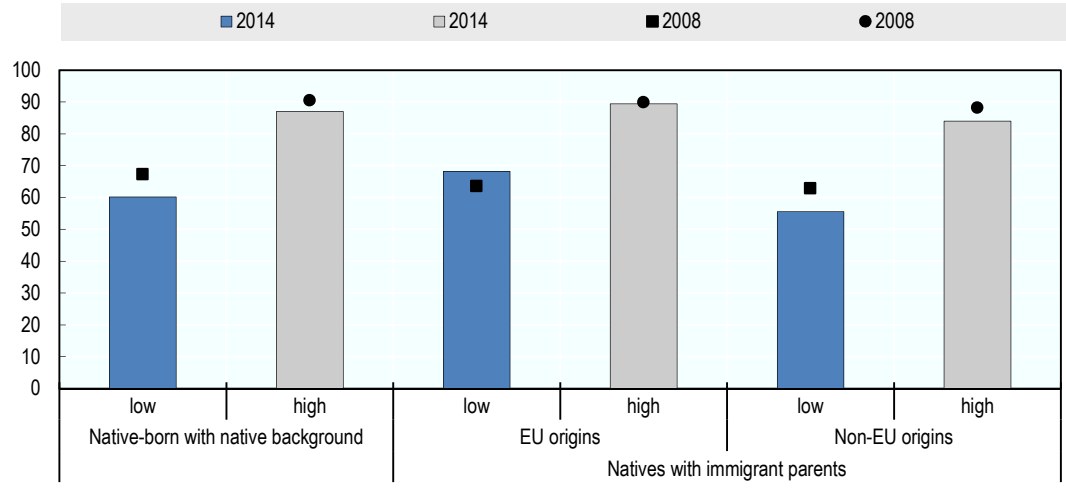
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Annex 4.A.

Annex Figure 4.A.1. Employment rates of population, by parental origin and by educational attainment, in 2008 and 2014



Note: Population aged 25-54.
Source: Eurostat, EU-LFS AHM 2014.

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