

## PART II

### Chapter 5

# A Family Affair: Intergenerational Social Mobility across OECD Countries

*Policy reform can remove obstacles to intergenerational social mobility and thereby promote equality of opportunities across individuals. Such reform will also enhance economic growth by allocating human resources to their best use. This chapter assesses cross-country patterns in intergenerational social mobility and examines the role that public policies play in affecting mobility. Intergenerational earning, wage and educational mobility vary widely across OECD countries. Mobility in earnings, wages and education across generations is relatively low in France, southern European countries, the United Kingdom and the United States. By contrast, such mobility tends to be higher in Australia, Canada and the Nordic countries.*

## Intergenerational social mobility reflects equality of opportunities

Intergenerational social mobility refers to the relationship between the socio-economic status of parents and the status their children will attain as adults. Put differently, mobility reflects the extent to which individuals move up (or down) the social ladder compared with their parents. A society can be deemed more or less mobile depending on whether the link between parents' and childrens' social status as adults is looser or tighter. In a relatively immobile society an individual's wage, education or occupation tends to be strongly related to those of his/her parents. Intergenerational mobility depends on a host of factors that determine individual economic success, some related to the inheritability of traits (such as innate abilities), others related to the family and social environment in which individuals develop. Among environmental factors, some are only loosely related to public policy (such as social norms, work ethics, attitude towards risk and social networks), while others can be heavily affected by policies. Typical examples are policies that shape access to human capital formation, such as public support for early childhood, primary, secondary and tertiary education, as well as redistributive policies (e.g. tax and transfer schemes) that may reduce or raise financial and other barriers to accessing higher education. Indeed, in an economic sense, intergenerational social mobility is generally defined in terms of the possibility to move up (or down) the income or wage scale relative to one's parents. Such mobility is closely related to educational achievement, given the direct link between human capital and labour productivity.

Against this background, this chapter assesses patterns of intergenerational social mobility across the OECD countries for which sufficient data are available, focusing on educational and wage mobility. It then identifies policy areas in which reform can help removing obstacles to mobility. Removing policy-related obstacles to social mobility can be advocated on equity grounds as it should improve equality of economic opportunities, but also on efficiency grounds. The economic rationale for removing such obstacles is two-fold. First, less mobile societies are more likely to waste or misallocate human skills and talents. Second, lack of equal opportunity may affect the motivation, effort and, ultimately, the productivity of citizens, with adverse effects on the overall efficiency and the growth potential of the economy.<sup>1</sup> It may also create greater pressure for policy settings that are detrimental to growth but may help specific groups increase their share in overall income.

These mobility-motivated rationales for reform have to be weighed against the possibility that some measures in favour of social mobility also entail potential output losses by affecting other drivers of growth (for example, certain redistributive policies such as progressive labour taxation can adversely affect labour utilisation or productivity). This suggests that a careful balance must be struck between growth-oriented policies and those that enhance mobility across generations. Also, because many of the factors potentially affecting intergenerational social mobility are family or country-specific, they are not readily amenable to public policies. Overall, there is neither a "desirable" level nor an international benchmark for mobility. This is so much more the case as several different

indicators (e.g. wage and earnings persistence, secondary and post-secondary education persistence) can be used to measure intergenerational social mobility, and given the complex nature of mobility, these indicators do not necessarily depict the same cross-country patterns. Nonetheless, the different measures of mobility levels can be compared across countries, and understanding the role potentially played by policies in driving cross-country differences can help in designing policy mixes that remove unintended obstacles to intergenerational social mobility, while at the same time encouraging growth.

The following main conclusions emerge from the analysis:

- Parental or socio-economic background influences descendants' educational, earnings and wage outcomes in practically all countries for which evidence is available.
- Mobility in earnings across pairs of fathers and sons is particularly low in France, Italy, the United Kingdom and the United States, while mobility is higher in the Nordic countries, Australia and Canada.
- Across European OECD countries, there is a substantial wage premium associated with growing up in a better-educated family, and a corresponding penalty with growing up in a less-educated family. The premium and penalty are particularly large in southern European countries, as well as in the United Kingdom. The penalty is also high in Luxembourg and Ireland. In these countries the wage premium is more than 20%, while the penalty is some 16% or more (relative to wages earned by individuals raised in a family with average education).
- The influence of parental socio-economic status on students' achievement in secondary education is particularly strong in Belgium, France and the United States, while it is weaker in some Nordic countries, as well as in Canada and Korea. Moreover, in many OECD countries, including all the large continental European ones, students' achievement is strongly influenced by their school environment.
- Inequalities in secondary education are likely to translate into inequalities in tertiary education and subsequent wage inequality. For example, in Denmark, Finland, Italy and Luxembourg the probability of achieving tertiary education is more than 30 percentage points higher for a son whose father had also achieved tertiary education compared to a son whose father only had upper secondary education. Educational inequalities are compounded by wage inequalities in the sense that generationally transmitted inequalities in higher education are positively associated across countries with inequalities in wages.
- At the other end of the spectrum, there is also generational persistence for below upper secondary education in OECD countries. Persistence is relatively strong in certain southern European countries, Ireland and Luxembourg, while it is lower in France, some Nordic countries and the United Kingdom.
- Education policies play a key role in explaining observed differences in intergenerational social mobility across countries. For example, higher enrolment in early childhood education is associated with a lower influence of parental background on students' achievement in secondary education. By contrast, school practices that group students into different curricula at early ages come with less social mobility in educational achievement. Moreover, increasing the social mix within schools appears to boost performance of disadvantaged students without any apparent negative effects on overall performance.

- Redistributive and income support policies seem to be associated with greater intergenerational social mobility.

## Assessing intergenerational social mobility and its channels

### **Parental background can affect individuals' wages via their productivity and labour market success**

It is a challenge to measure intergenerational wage or educational mobility and to identify the main ways in which the socio-economic status of parents can influence that of their children as adults. A key issue is that it is difficult to disentangle the effect of parents' socio-economic status from that of inherited abilities or disposition of individuals that influence their wages and educational achievement.<sup>2</sup> In general, as in this study, estimates of the impact of parents' socio-economic status on individuals' wages and educational achievement do not distinguish these two effects. However, to the extent that heritability of ability does not vary systematically across countries, it should not influence cross-country variation in wage or educational mobility.

Parents can affect their descendants' labour market outcomes in different ways. One runs through labour productivity, which is often affected by schooling choices, parents' private investment in education outside the educational system and individuals' own investment in higher education. The extent to which productivity is then reflected in wages is influenced by labour market institutions, which vary across countries. Parents can also affect the success and integration in the labour market in more indirect ways, such as through the transmission of social norms, work ethics or social networks (Bourguignon *et al.*, 2003). In practice, it has often been difficult to separate all these channels.

Recent OECD analysis assesses and explores the drivers of intergenerational mobility in three steps (Causa and Johansson, 2009).<sup>3</sup> A first step investigates how individuals' wages are associated with parents' socio-economic status, as measured by fathers' educational attainment. This can be seen as capturing all direct and indirect effects of family background on wages. A second step assesses how fathers' educational attainment influences individuals' wages *over and above* its effect on their educational attainment, which is thought to capture the influence of family and/or social environment factors such as social networks, social norms and work ethics. Given the importance of education in explaining wages, in a third step the study measures the access to education of descendants from different family backgrounds by assessing the extent to which students' and adults' educational achievement relates to their parental background.

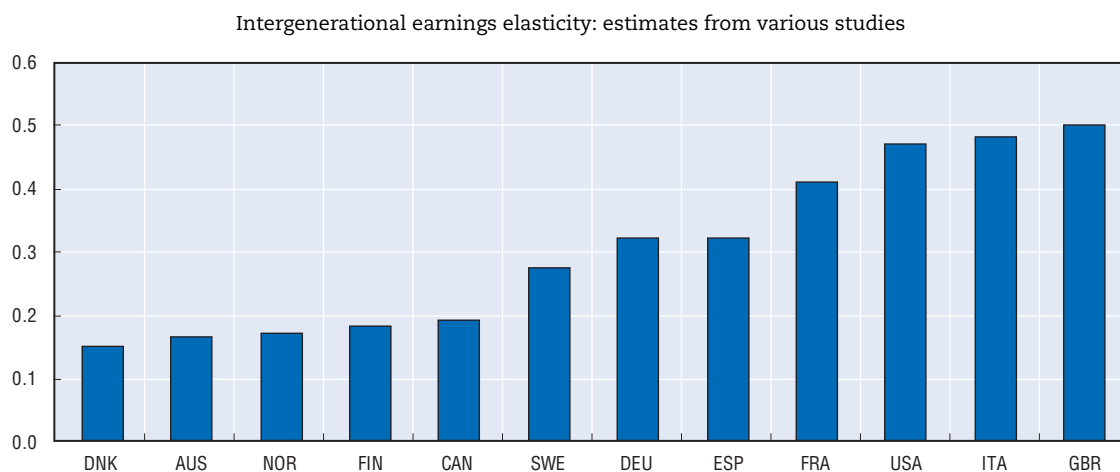
## Cross-country patterns in intergenerational social mobility

### **Wages tend to persist across generations in all OECD countries but cross-country differences are wide**

Relative positions in the labour income hierarchy persist over generations in all OECD countries, although to varying degrees (*e.g.* Solon, 2002; Corak, 2004, 2006; D'Addio, 2007). Existing estimates of the extent to which sons' earnings levels correlate with those of their fathers (*i.e.* the "intergenerational earnings elasticity") find persistence to be particularly pronounced in the United Kingdom, Italy, the United States and France. In these countries, at least 40% of the economic advantage that high-earnings fathers have over low-earnings fathers is transmitted to their sons (Figure 5.1). By contrast, persistence is comparatively

low in the Nordic countries, Australia and Canada, with less than 20% of the wage advantage being passed on from fathers to their sons.

Figure 5.1. **The strength of the link between individual and parental earnings varies across OECD countries<sup>1</sup>**



1. The height of each bar measures the extent to which sons' earnings levels reflect those of their fathers. The estimates are the best point estimate of the intergenerational earnings elasticity resulting from an extensive meta-analysis carried out by Corak (2006) and supplemented with additional countries from d'Addio (2007). The choice of empirical estimates in this meta-analysis is motivated by the fact that they are based on studies that are similar in their estimation technique, sample and variable definitions. The higher the value, the greater is the persistence of earnings across generations, thus the lower is the intergenerational earnings mobility.

Source: D'Addio (2007).

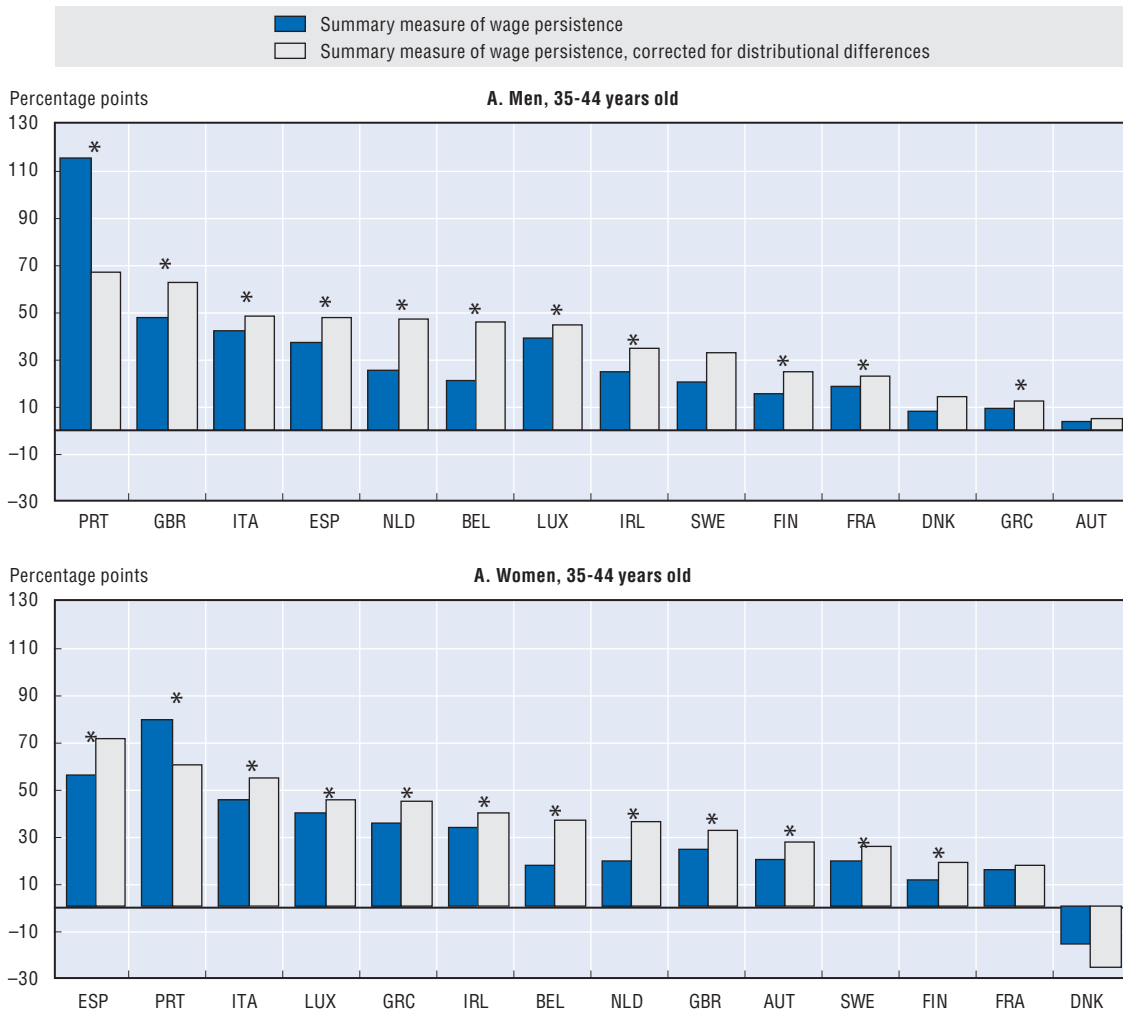
StatLink  <http://dx.doi.org/10.1787/784787325068>

New OECD evidence on intergenerational persistence in wages is obtained by estimating the percentage increase or decrease in individuals' gross hourly wages for different levels of their fathers' educational attainment in selected European countries.<sup>4</sup> Across these countries, individuals whose fathers had achieved tertiary education are found to earn substantially more than those whose fathers had achieved upper secondary education, after taking into account the impact of a number of individual characteristics (e.g. migrant and marital status and urbanisation of the area of residence).<sup>5</sup> For instance, in southern European countries, the United Kingdom and Finland, having a father with tertiary education raises a son's wages by at least 20% or more, compared with a son whose father had upper secondary education. At the same time, individuals whose fathers had achieved below upper secondary education tend to earn considerably less than those whose fathers had achieved upper secondary education.<sup>6</sup>

One way to summarise intergenerational wage persistence is through the overall estimated gap between the wage for individuals whose fathers had achieved tertiary education and the wage of individuals whose father had achieved below upper secondary education. According to this measure, intergenerational persistence is particularly strong in some southern European countries and in the United Kingdom, while it is lower in some Nordic countries, Austria, France and Greece (Figure 5.2).<sup>7</sup> In general, according to this metric, wage persistence across generations is also slightly stronger for sons than for daughters. The magnitude of wage persistence changes moderately, but country rankings are barely affected – although the cross-country spread is flatter – when adjustments are made for cross-country differences in inequalities today and in past generations. Such

adjustments aim to take account for the fact that the wage premium from having a higher-educated father is likely to be higher in countries where there is greater wage inequality, which does not necessarily signal lower intergenerational wage mobility.

Figure 5.2. **Summary measure of wage persistence across generations for some OECD countries<sup>1</sup>**



Note: An asterisk denotes statistical significance at least at the 10% confidence level. For example, the negative persistence in Denmark for daughters is not statistically significant, i.e. not statistically different from zero.

1. Wage persistence is measured as the distance or gap between the estimated wage of an individual whose father had achieved tertiary education and the wage of an individual whose father had achieved below upper secondary education. A larger number implies a larger gap, thus stronger persistence in wages or a higher degree of immobility over generations. Father's educational achievement is a proxy for parental background or wage. The summary measure corrected for distributional differences, corresponds to the summary measure of wage persistence, multiplied by the ratio of the standard deviation of fathers' education to the standard deviation of sons' or daughters' gross hourly wage. For details see Causa et al. (2009).

Source: OECD calculations based on the 2005 EU-SILC Database.

StatLink <http://dx.doi.org/10.1787/784787325068>

### **Education is a key driver of intergenerational persistence in wages**

Human capital is a key determinant of individual wages and productivity, and education is a key determinant of human capital. Therefore, as a further step in the analysis of intergenerational wage persistence, the OECD analysis attempts to separate any direct influence of fathers' educational attainment on their descendants' wages from the indirect effect going through their descendant's educational attainment (see Bourguignon *et al.*, 2003). Such direct effects could reflect social norms or work ethics transmitted to children but also the role of social networks. After taking into account the influence of individuals' education, the father's level of education appears to have only a limited influence on individuals' wage, except in some European countries (Ireland, Italy, Luxembourg the Netherlands, Spain and the United Kingdom), where direct linkages appear to be comparatively more important.<sup>8</sup> Overall, given that wages are largely driven by individual educational achievement, intergenerational educational persistence appears to be a key determinant of wage persistence.<sup>9</sup>

### **Socio-economic background has a considerable influence on students' secondary education achievement**

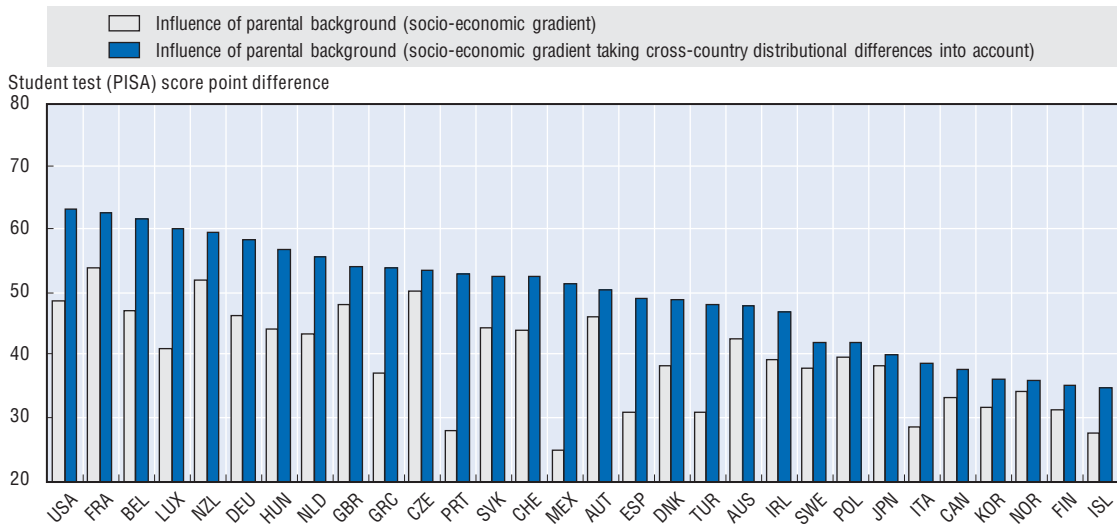
Intergenerational educational persistence partly reflects the influence of family background on cognitive skills acquired during secondary education. Persistence in secondary education, as measured by the influence of students' socio-economic background on student test score (PISA) achievements, is considerable in many OECD countries.<sup>10</sup> Austria, the Czech Republic, France, New Zealand, the United Kingdom and the United States are among the countries where socio-economic background appears to have the largest influence on students' performance (Figure 5.3). The countries in which persistence is relatively low include Iceland, Finland, Korea, Norway, Denmark, Canada and southern European countries, as well as Mexico and Turkey.

The extent of inequality in students' socio-economic background differs significantly across OECD countries, with possible consequences for the overall influence of socio-economic background on student achievement. Concretely, the effect of a comparable change in socio-economic background has a different meaning in countries in which inequalities in family backgrounds are small, as in Finland, or large, as in Mexico. Adjusting educational persistence measures by cross-country differences in background inequality significantly changes some country rankings along the persistence scale. In countries with large inequalities in students' socio-economic background, including Mexico, Portugal, Luxembourg, Spain, and Turkey, even a relatively mild influence of background on students' achievement leads to large overall educational persistence across generations (Figure 5.3). In these countries, inequality tends to exacerbate the influence of background on achievement. According to this adjusted metric, persistence in secondary education is among the highest in the United States, France and Belgium, while it remains low in most Nordic countries, Korea and Canada.

### **The school environment plays an important role**


The overall influence of socio-economic background on students' achievement in secondary education reflects both an effect at the individual level and an effect operating through school choice. In most countries, the overall effect is to a large extent explained by students with different backgrounds attending different schools, and thereby benefiting from diverse school environments (Figure 5.4). This school effect reflects partly the extent

Figure 5.3. **The influence of parental background on student achievement in secondary education varies widely across OECD countries<sup>1</sup>**



1. *Socio-economic gradient*: change in PISA science score due to an improvement of one international standard deviation in the PISA index of student socio-economic background. *Socio-economic gradient taking cross-country distributional differences into account*: change in PISA science score due to an improvement of one country-specific, inter-quartile change in the PISA index of student socio-economic background. In countries where the difference in socio-economic background across students is particularly large (e.g. Italy, Portugal and Mexico) the gap between the socio-economic gradients with and without account for cross-country distributional differences is comparatively wide. The PISA test score scale has a mean of 500 and a standard deviation of 100 test-score points. For details, see Causa and Chapuis (2009).

Source: OECD calculations based on the 2006 OECD PISA Database.

StatLink  <http://dx.doi.org/10.1787/784787325068>

to which students' achievement depends on their peer group, educational resources available to the school, the quality of the teachers, and the way in which students are allocated across schools or to classes within them. In all OECD countries there is a clear advantage in attending a school whose students are, on average, from higher socio-economic backgrounds. However, the strength of this school environment effect varies widely across countries. It is particularly sizeable in some continental European Union countries, notably in Germany and the Netherlands, which have several distinct schooling programmes within secondary education. The effect is much lower in the Nordic countries that essentially have a unified secondary education system.

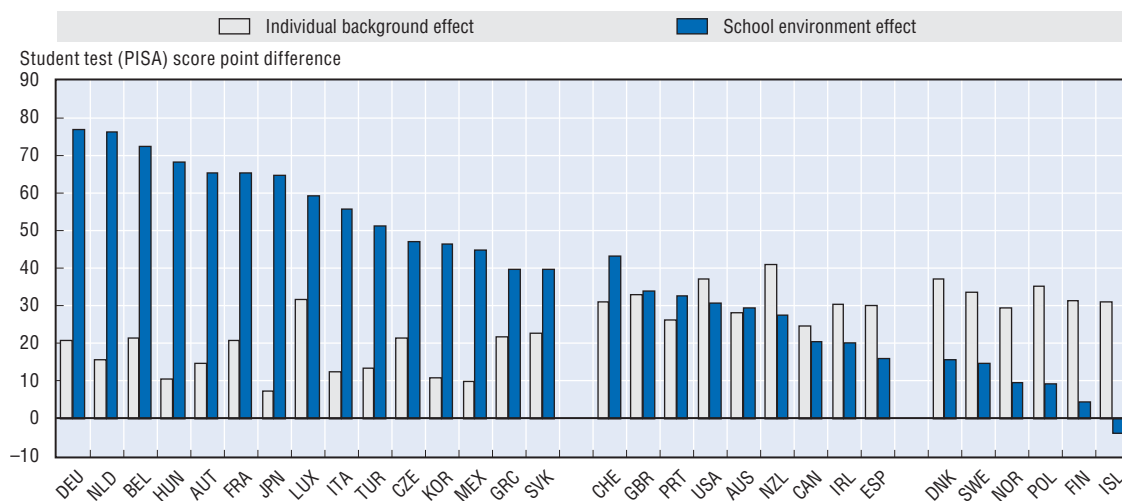
### **In all European OECD countries there is persistence in tertiary education across generations**

Intergenerational persistence in secondary educational achievement also translates into persistence in post-secondary educational attainment. The latter can be assessed by estimating the percentage increase or decrease in individuals' probability of achieving tertiary education for different levels of their fathers' educational attainment. This measures the extent to which individuals' educational levels reflect those of their fathers. Across all European OECD countries covered by the analysis, coming from a higher-educated family (i.e. a father with a tertiary degree) increases the probability of achieving tertiary education relative to having a medium parental educational background (i.e. a father with an upper secondary degree). Likewise, there is a sizeable drop in the probability of achieving tertiary education associated with growing up in a lower-educated family vis-à-vis a medium-educated one. For pairs of fathers and sons the increase in probability is at



Figure 5.4. **The school socio-economic environment is a major channel of transmission of parental background<sup>1</sup>**

Effects of individual background and school socio-economic environment on students' secondary achievement (Socio-economic gradient taking cross-country distributional differences into account)



1. The individual background effect is defined as the difference in performance on the PISA science scale associated with the difference between the highest and the lowest quartiles of the average distribution of the PISA index of economic, social and cultural status, calculated at the student level. The school environment effect is defined as the difference in a given student's performance on the PISA science scale associated with the difference between the highest and the lowest quartiles of the country-specific school-level average distribution of the PISA index of economic, social and cultural status. In the group of countries to the left in the figure the school environment effect mainly explains the influence of socio-economic background on student's achievement, while in group of countries to the right in the figure the individual background effect largely explains the influence of socio-economic background on student's achievement. In the group of countries in the middle of the figure the two effects are fairly balanced. For details, see Causa and Chapuis (2009).

Source: OECD calculations based on the 2006 OECD PISA Database.

StatLink  <http://dx.doi.org/10.1787/784787325068>

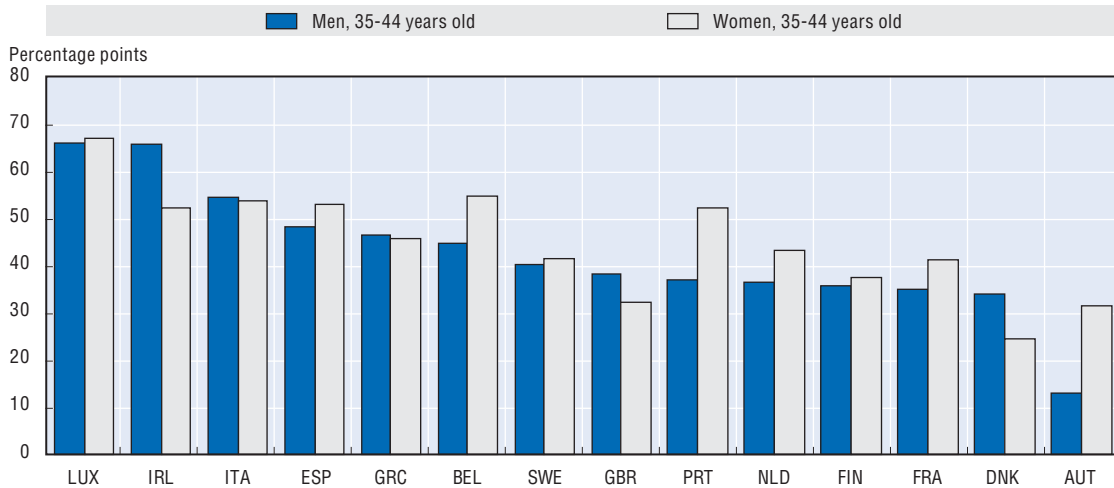
least 30 percentage points in Luxembourg, Italy, Finland and Denmark, while the decrease in probability is more than 30 percentage points in Ireland and Greece.

A summary indicator of persistence in tertiary education is the overall gap between the increase and decrease in the probability of achieving tertiary education when coming from a higher-educated and lower-educated family, respectively. A larger gap implies stronger intergenerational persistence in tertiary education (Figure 5.5). According to this metric, persistence in sons' education is relatively high in Luxembourg, Ireland and in most southern European countries, possibly reflecting financial and other constraints in access to post-secondary education, but also that inequalities in secondary education give rise to learning deficits that hinder students in qualifying for higher education. Persistence in tertiary education across generations for daughters follows a pattern similar to that of sons.

### **There is also persistence in below upper secondary education across generations**


There is also persistence in below upper secondary education across European OECD countries. The probability of achieving below upper secondary education is, on average across countries, 18 percentage points higher for a son or daughter whose father had below upper secondary education compared to a descendant whose father had upper secondary education. Conversely, the probability of achieving below upper secondary education decreases, on average, by 10 percentage points for the descendant of tertiary-educated

Figure 5.5. **Summary measure of persistence in tertiary education for some OECD countries<sup>1</sup>**



1. Persistence in tertiary education is measured as the distance between the estimated probability to achieve tertiary education of an individual whose father had also achieved tertiary education and the probability to achieve tertiary education of an individual whose father had below upper secondary education. A larger number implies a larger gap, thus stronger persistence in tertiary education or a lower degree of educational mobility across generations. For details see Causa et al. (2009).

Source: OECD calculations based on the 2005 EU-SILC Database.

StatLink  <http://dx.doi.org/10.1787/784787325068>

fathers compared with children whose fathers had upper secondary education. Persistence can be summarised by the difference in these probabilities, which is 28 percentage points on average, but varies widely across countries (Figure 5.6). Persistence in below upper secondary education is relatively high in certain southern European countries, Ireland and Luxembourg, while it is lower in Austria, some Nordic countries, France and the United Kingdom.

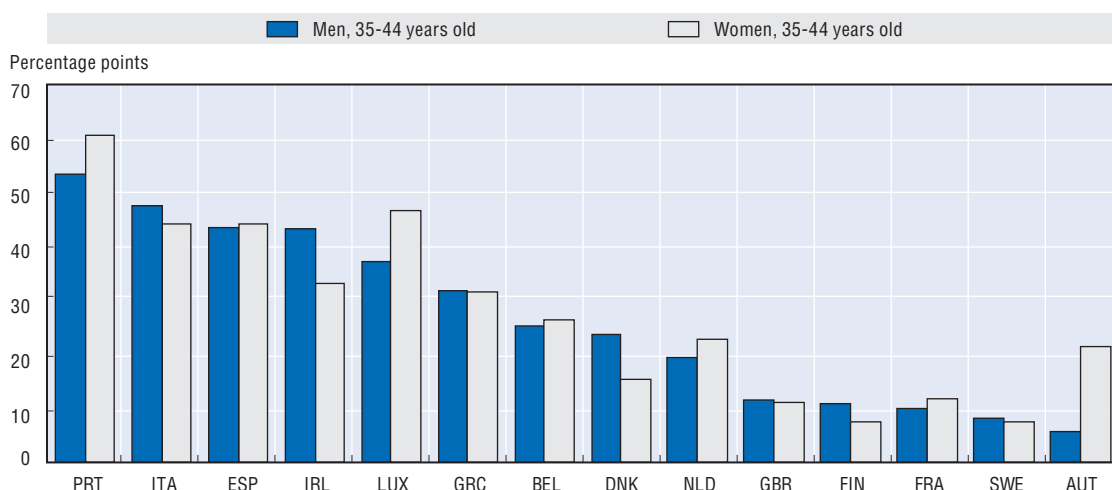
### How do policies and institutions affect intergenerational social mobility?

Policies and institutions are only a few among many factors affecting intergenerational social mobility, but OECD analysis suggests they explain some of the differences in mobility observed across countries. They include policies that affect access to education and those that influence (intra-generational) wage and income inequality.<sup>11</sup>

#### **Mobility depends more on how resources are spent for schooling rather than how much**

The sheer amount of schooling resources and inputs is found to be only weakly associated with student performance. For instance, cross-country evidence suggests that increases in spending on secondary education or in other measurable school inputs (e.g. reductions in class size) do not yield large benefits in terms of reducing the influence of socio-economic background on students' performance in secondary education. By contrast, the ability to prioritise and allocate resources efficiently, as measured for instance by new OECD indicators (Sutherland and Price, 2007) capturing the degree of decentralisation and the existence of mechanisms matching resources to specific needs, are associated with a lower influence of parents' socio-economic background on

Figure 5.6. **Summary measure of persistence in below upper secondary education for some OECD countries<sup>1</sup>**



1. Persistence in below upper secondary education is measured as the distance between the estimated probability to achieve below upper secondary education of an individual whose father also had below upper secondary education and the probability to achieve below upper secondary education of an individual whose father had achieved tertiary education. A larger number implies a larger gap, thus stronger persistence in below upper secondary education or a lower degree of mobility across generations. For details see Causa et al. (2009).

Source: OECD calculations based on the 2005 EU-SILC Database.

StatLink  <http://dx.doi.org/10.1787/784787325068>

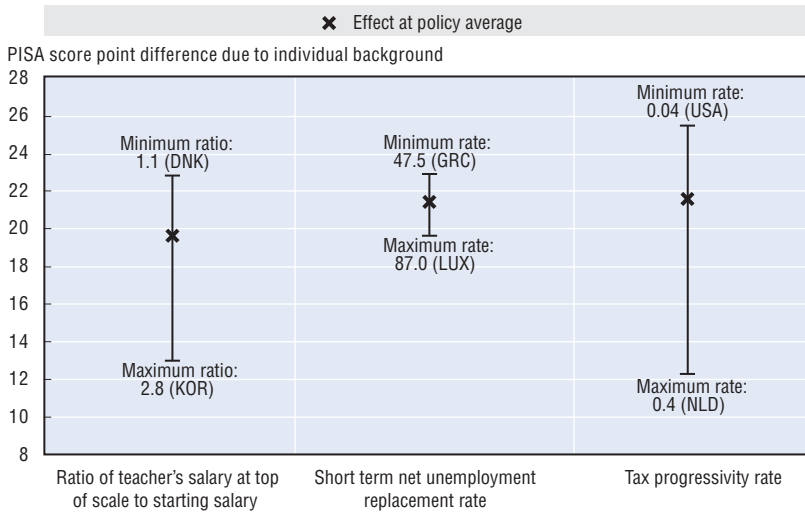
student achievement in secondary education. An exception to the limited role for schooling resources is the gain from lengthening of compulsory education at both ends (see below).

Teacher quality matters not only for average student performance but also for equality of opportunities in secondary education. Frequent suggestions for improving teacher quality include raising overall salary levels, increasing salaries in the most disadvantaged schools and areas, or introducing some type of performance-based pay schedule. Suggestive new evidence from cross-country analysis indicates that the influence of socio-economic background on a student's achievement in secondary school is lower in countries where teachers' wage profiles are steeper over their career, possibly because larger expected wage increases incentivise teachers (Figure 5.7, left).<sup>12</sup> At the same time, practical difficulties in designing and implementing cost-effective, incentive-based pay schedules for teachers should not be underestimated.

### **Early childhood education and care can promote intergenerational social mobility**

There is a rising body of economic and educational research pointing to the importance of early childhood care and education for the development of cognitive skills at later stages in life. Hence, compulsory enrolment in quality early childhood education and care could possibly promote intergenerational social mobility. Indeed, new OECD cross-country empirical evidence suggests that greater enrolment in early childcare and education (day-care and pre-school), as well as higher spending on childcare and early education, are correlated with a lower influence of socio-economic background on students' secondary education achievement (Figure 5.8, left).

Figure 5.7. **Teachers’ pay, social and tax policies shape the effect of individual parental background on secondary education achievement**<sup>1</sup>

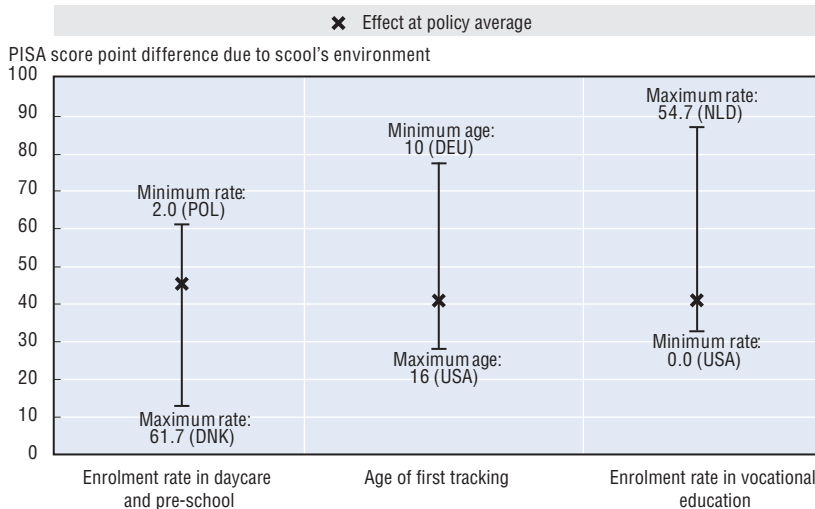


1. Each bar represents the change in the individual background effect associated with a change from the least to the most mobility-friendly level of the policy (based on OECD countries' policies distribution, excluding Mexico and Turkey). The scale of PISA score in this figure differs from that of Figure 5.8. For details see Causa and Chapuis (2009) and Causa and Johansson (2009).

Source: OECD calculations based on PISA 2006 Database.

StatLink <http://dx.doi.org/10.1787/784787325068>

Figure 5.8. **Early childcare and education policies shape the effect of the school socio-economic environment on secondary education achievement**<sup>1</sup>



1. Each bar represents the change in the school environment effect associated with a change from the least to the most mobility-friendly level of the policy (based on OECD countries' policies distribution, excluding Mexico and Turkey). The scale of PISA score in this figure differs from that of Figure 5.7. For details see Causa and Chapuis (2009).

Source: OECD calculations based on PISA 2006 Database.

StatLink <http://dx.doi.org/10.1787/784787325068>

**School practices that group students at early ages tend to undermine social mobility**

School practices or systems that start grouping or “tracking” students early on in their educational curricula are associated with larger socio-economic inequalities in secondary

educational performance, without any gains in average performance. The influence of socio-economic background on students' achievement in secondary education tends to be comparatively higher in countries where tracking and/or ability-grouping within schools occur earlier. OECD evidence suggests that moving from a practice that separates students into different schools at age ten to a practice that separates students at age sixteen would reduce by two-thirds the influence of the school socio-economic environment on students' achievement (Figure 5.8, centre).

Vocational education in secondary education varies across OECD countries in terms of its design and success in equipping individuals with the necessary skills needed on the labour market. This needs to be kept in mind when discussing the concern that vocational education within secondary education could end up grouping “weak/disadvantaged” students into programmes that limit their future learning possibilities in a similar way as tracking. For example, OECD estimates suggest that, on average across countries, higher enrolment in vocational education is associated with a larger influence of socio-economic background on students' performance in secondary education (Figure 5.8, right).

### ***Increasing the social mix of students within schools could enhance mobility***

Housing market and urban planning outcomes sometimes lead to the geographical concentration of disadvantaged households in particular housing estates. In turn, such residential socio-economic separation is often matched by schooling separation, primarily because a large proportion of students tend to attend schools in their own neighbourhood. The tendency of housing prices to internalise school quality further exacerbates this phenomenon. According to suggestive new OECD evidence (Causa and Chapuis, 2009), increasing the social mix of students within schools could increase the relative performance of disadvantaged students, without any apparent negative effects on overall performance. Therefore, education, housing and urban planning policies that encourage the social mix within neighbourhoods could play a role in mitigating educational socio-economic inequalities and raise social mobility.

### ***The design of loan and student support systems can ease financial constraints and promote mobility in tertiary education***

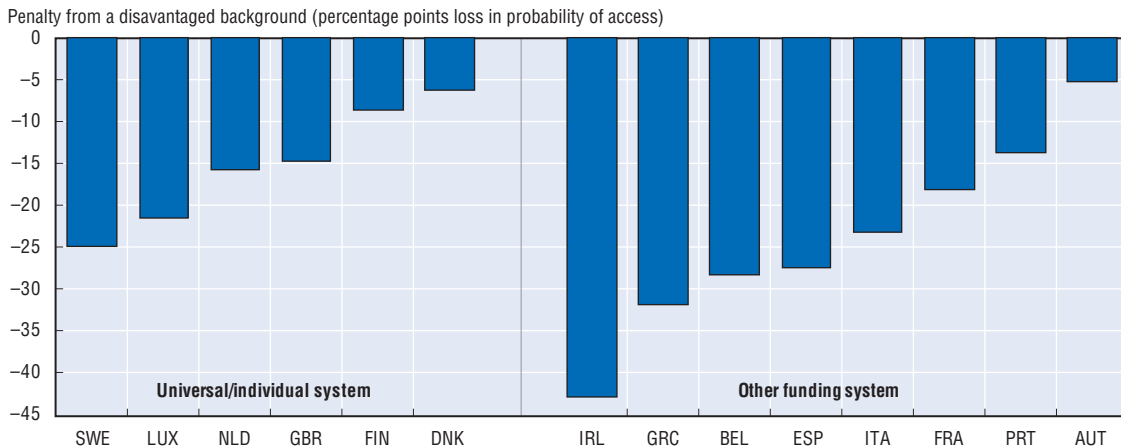
The presence of credit constraints may hold back investment in tertiary education for able individuals from disadvantaged or low-income families and thereby be an obstacle to upward social mobility. The design of student loan and support systems can help mitigate these constraints. In countries where such funding is available to all students (so-called universal/individual systems), the probability for an individual from a lower-educated family to achieve tertiary education is higher compared with the probability observed in countries relying on other types of funding and loan systems (Figure 5.9). This suggests that government-supported loan or grant systems may reduce students' dependence on their families for financing their post-secondary studies and alleviate financial constraints, thus promoting intergenerational social mobility.

### ***Policies and institutions can also influence social mobility by affecting intra-generational income inequality***

The link between intra-generational income inequality and intergenerational social mobility is complex because higher inequality can have conflicting effects on mobility. However, recent research tends to show that higher inequality is associated with lower

Figure 5.9. **Education funding systems matter for access to tertiary education for individuals from disadvantaged backgrounds<sup>1</sup>**

Men, 35-44 years old



1. The figure shows the estimated percentage points decrease in the probability of a son achieving tertiary education given that the son's father had achieved below upper secondary education, relative to a son whose father had upper secondary education. For details see Causa et al. (2009) and Causa and Johansson (2009).

Source: OECD calculations based on the 2005 EU-SILC Database, Oliveira Martins et al. (2007).

StatLink <http://dx.doi.org/10.1787/784787325068>

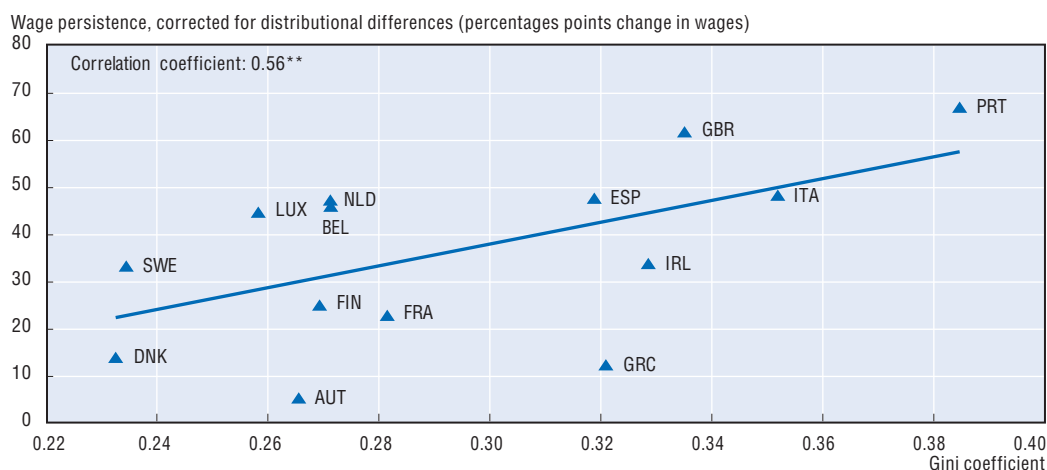
intergenerational mobility (e.g. Björklund and Jäntti, 1997; Solon, 2004; Corak 2006; d'Addio 2007; Andrews and Leigh 2009). One explanation is that with higher wage or income dispersion, returns to education are also higher and this may especially benefit individuals whose investment in education is not constrained by family background.<sup>13</sup> One channel through which public policies and institutions could, therefore, influence intergenerational social mobility is by affecting intra-generational income and wage inequality. Indeed, narrower cross-sectional income inequality (at a given point in time) is associated with lower intergenerational persistence in wages across European OECD countries (Figure 5.10). OECD evidence for a larger set of OECD countries also shows that greater income equality is associated with a lower influence of family socio-economic background on students' achievement in secondary education.

### **Redistributive and income support policies seem to enhance intergenerational social mobility**

Progressive tax systems and social transfer programmes help defray the opportunity costs to parents in poor households of investing in the education of their children. In some countries, there exist social transfer programmes that are specifically directed to paying part of such costs. Such redistributive policies could thus reduce current income inequalities across parents so that their descendants' income would converge more quickly. Cross-country evidence suggests that higher progressivity in the personal income tax schedule correlates with a lower influence of socio-economic background on students' achievement in secondary education, as well as with a lesser influence of fathers' educational attainment on individuals' wages (Figures 5.7 and 5.11, right).<sup>14</sup> In a similar way, higher short-term net unemployment benefits are found to be associated with a lesser influence of socio-economic background on students' achievement in secondary education (Figure 5.7, centre). Consistent with this evidence, European OECD countries with relatively

Figure 5.10. **Intergenerational social mobility tends to be lower in more unequal societies<sup>1</sup>**

Correlation between inequality and intergenerational wage persistence  
Men, 35-44 years old



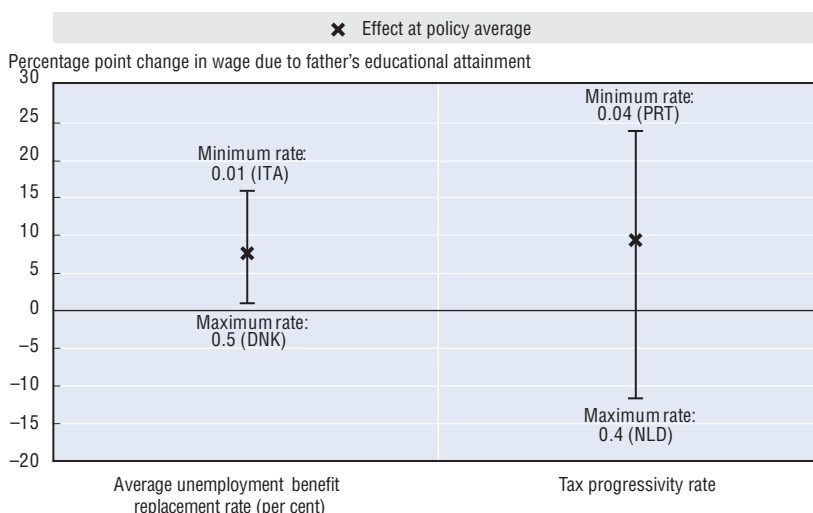
1. Wage persistence is measured as the distance or gap between the estimated wage of an individual whose father had achieved tertiary education and the wage of an individual whose father had achieved below upper secondary education. A larger number implies a larger gap, thus stronger persistence in wages or a lower degree of mobility across generations. The summary measure corrected for distributional differences corresponds to summary measure of wage persistence, multiplied by the ratio of the standard deviation of fathers' education to the standard deviation of sons' or daughters' gross hourly wage. Inequality is measured by the Gini coefficient of disposable household income adjusted for household size.

\*\* denotes significant at 5%. For details see Causa et al. (2009) and Causa and Johansson (2009).

Source: OECD calculations based on the 2005 EU-SILC Database and OECD 2008, *Growing Unequal?*.

StatLink <http://dx.doi.org/10.1787/784787325068>

Figure 5.11. **Social and tax policies also seem to shape the effect of a father's educational attainment on his son's wage<sup>1</sup>**



1. Each bar represents the change in the parental background (father's level of education) effect associated with a change from the least to the most mobility-friendly level of the policy (based on the European OECD countries' policies distribution). For details see Causa et al. (2009) and Causa and Johansson (2009).

Source: OECD calculations based on the 2005 EU-SILC Database.

StatLink <http://dx.doi.org/10.1787/784787325068>

higher levels of average unemployment benefits seem to exhibit higher levels of intergenerational wage mobility (Figure 5.11, left).

## Concluding remarks

In this chapter, intergenerational social mobility is measured in alternative ways (e.g. wage mobility, secondary and post-secondary education mobility), given that no single indicator can provide a comprehensive picture. One pattern that emerges is that a group of countries appears to be relatively immobile along most dimensions (e.g. southern European countries and Luxembourg) while another group tends to be relatively mobile (e.g. Nordic countries). In general, however, the extent of mobility in a given country may differ along these various dimensions. In the United Kingdom, for instance, wage and earnings mobility are found to be low in international comparison compared to mobility in tertiary education. Likewise, in France the influence of family background on students' achievement in secondary education appears to be much stronger than that of parental background on individuals' probability to achieve tertiary education.

Policies that facilitate access to education of individuals from disadvantaged family backgrounds promote intergenerational wage mobility, and are also likely to be good for economic growth. Examples include *inter alia* school practices that start grouping or "tracking" students only late in their educational curricula so as to encourage the social mix within schools, or government-supported loan or grant systems that reduce students' dependence on their families for financing their post-secondary studies.

## Notes

1. Faster economic growth could also have positive feedback effects on intergenerational mobility insofar as the opportunities it creates benefit disproportionately the disadvantaged.
2. The relative importance of "nature" versus "nurture" in explaining intergenerational social mobility is far from established (e.g. Sacerdote, 2002; Plug and Vijverberg, 2003).
3. This chapter is also based on analyses reported in Causa and Chapuis (2009) and Causa, Dantan and Johansson (2009). These papers provide extensive references to the literature on intergenerational social mobility.
4. The implicit assumption is that such attainment is a good proxy for parents' permanent income, which is reasonable given the close link between education and income. Basing the assessment of wage persistence on gross hourly wages means that labour supply decisions are not taken into account, and the obtained persistence measure can be thought to reflect the impact of parental background on productivity.
5. The empirical regression analysis is performed separately for men and women, by cohort (25-34, 35-44 and 45-54 years old) and country. The results are presented for the 35-44 year old cohort in order to reduce life-cycle measurement error in individuals' economic outcomes (Haider and Solon, 2006). Details on the empirical result for other cohorts are presented in Causa et al. (2009).
6. In the analysis, only wage earners are included. This may potentially exaggerate the degree of intergenerational wage mobility, to the extent that the descendants of higher-educated families are less likely to be inactive than those of lower-educated families.
7. Intergenerational social mobility in France measured by the influence of fathers' educational achievement on individuals' wages is higher than mobility measured by the strength of the link between earnings of pairs of fathers and sons. One possible explanation for this could be that the former measure overstates mobility, because the group of fathers with tertiary education does not distinguish between those with a university degree and those with a degree from a "Grande École". It is possible that the wage gain from having a father with a Grande École degree is larger than that from having a university-educated father.



8. The analysis of wage and adult education persistence is based on the SILC poverty module of Eurostat's survey data, which only covers European OECD countries.
9. see Solon, 2004; Blanden et al., 2005, 2006; d'Addio, 2007 for a discussion of the importance of education for intergenerational social mobility
10. Students' socio-economic background is captured here by an index that includes parents' educational attainment as well as a number of other factors shaping the family's social, economic and cultural status.
11. Other potentially relevant policies such as affirmative action could not be considered in the analysis.
12. It should, however, be recognised that such wage profiles may not capture performance-based pay systems, but rather constitute a proxy for cross-country differences in "seniority wage profiles".
13. This effect would appear to override the opposite effects that inequality may have on mobility, for instance by raising incentives to enhance effort and improve productivity.
14. The measure of tax progressivity is the difference between the marginal and average personal income tax rates, divided by one minus the average personal income tax rate, for an average single worker.

### **Bibliography**

- Andrews, D. and A. Leigh (2009), "More Inequality, Less Social Mobility", *Applied Economics Letters*, Vol. 16.
- Björklund, A. and M. Jäntti (1997), "Intergenerational Income Mobility in Sweden Compared to the United States", *American Economic Review*, Vol. 87, No. 5.
- Blanden, J., P. Gregg, and S. Machin (2005), "Intergenerational Mobility in Europe and North America", Report supported by the Sutton Trust, Centre for Economic Performance, London School of Economics.
- Blanden, J., P. Gregg, and L. Macmillan (2006), "Accounting for Intergenerational Income Persistence: Non-Cognitive Skills, Ability and Education", *CEE Discussion Papers*, No. 73.
- Bourguignon, F., Ferreira, F and M. Menendez (2003), "Inequality of Outcomes and Inequality of Opportunities in Brazil", *DELTA Working Papers*, No. 2003-24.
- Causa, O. and Å. Johansson (2009), "Intergenerational Social Mobility", *OECD Economics Department Working Papers*, No. 707.
- Causa, O. and C. Chapuis (2009), "Equity in Student Achievement across OECD Countries: An Investigation of the Role of Policies", *OECD Economics Department Working Papers*, No. 708.
- Causa, O., S. Dantan, and Å. Johansson (2009), "Intergenerational Social Mobility in European OECD Countries", *OECD Economics Department Working Papers*, No. 709.
- Corak, M. (2004), "Generational Income Mobility in North America and Europe", Cambridge, UK: Cambridge University Press.
- Corak, M. (2006), "Do Poor Children Become Poor Adults? Lessons from a Cross Country Comparison of Generational Earnings Mobility", *IZA Discussion Paper*, No. 1993.
- D'Addio, A. (2007), "Intergenerational Transmission of Disadvantage: Mobility or Immobility Across Generations? A Review of the Evidence for OECD countries", *OECD Social, Employment and Migration Working Papers*, No. 52.
- Haider, S. and G. Solon (2006), "Lifecycle Variation in the Association between Current and Lifetime Earnings", *American Economic Review*, Vol. 96.
- OECD (2008), *Growing Unequal? Income Distribution and Poverty in OECD Countries*, Paris.
- Oliveira Martins, J., R. Boarini, H. Strauss, C. de la Maisonnette, C. Saadi (2007), "The Policy Determinants of Investment in Tertiary Education", *OECD Economics Department Working Papers*, No. 576.
- Plug, E. and W. Vijverberg (2003), "Schooling, Family Background, and Adoption: Is it Nature or is it Nurture?", *Journal of Political Economy*, Vol. 111.

- Sacerdote, B. (2002), "The Nature and Nurture of Economic Outcomes", *American Economic Review*, American Economic Association, Vol. 92.
- Solon, G. (2002), "Cross-Country Differences in Intergenerational Income Mobility", *Journal of Economic Perspectives*, Vol. 16.
- Solon, G. (2004), "A Model of Intergenerational Mobility Variation over Time and Place", in Miles Corak (ed.), *Generational Income Mobility in North America and Europe*. Cambridge, UK: Cambridge University Press.
- Sutherland, D. and R. Price (2007), "Linkages Between Performance and Institutions in the Primary and Secondary Education Sector, Performance Indicators", *OECD Economics Department Working Papers*, No. 558.