A Broken Social Elevator? How to Promote Social Mobility

OECD

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BETTER POLICIES FOR BETTER LIVES

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Foreword

The OECD has been at the forefront of documenting the rise of inequality for several decades. The data paint a stark picture: the average disposable income of the richest 10% of the population is now around nine and a half times that of the poorest 10% across the OECD, up from seven times 25 years ago. Wealth inequality is even more pronounced, with the top 10% holding half of total wealth, while the bottom 40% holds only 3%. The financial crisis reinforced these trends, but inequalities still increased and the benefits of growth still mainly benefited the top of the income distribution in OECD countries even during the highest periods of global economic expansion before 2008. In many emerging and developing countries, inequalities remain large despite significant poverty reduction.

We have long emphasised the multi-dimensional nature of inequality. Socio-economic status heavily influences employment prospects, job quality, health outcomes, education, and the other opportunities (including access to relevant networks) that matter to people's well-being. Children whose parents did not complete secondary school have only a 15% chance of making it to university compared to a 60% chance for their peers with at least one parent who achieved tertiary-level education. Disadvantage at the outset can follow children throughout their life. Educational disadvantage typically means not only smaller salaries, but, most worryingly of all, shorter lives. A 25 year-old university-educated man can expect to live almost eight years longer than his lower-educated peer on average across OECD countries; the difference is 4.6 years for women.

The vicious confluence of poor educational opportunities, low skills and limited employment prospects can trap people in situations where they are also are far more likely to be exposed to environmental hazards and violence. As a result of this multidimensional inequality, while some individuals, cities and regions thrive, others fall further behind.

This is not only unacceptable and unsustainable ethically or socially, inequality also impacts the prospects of higher productivity and growth. The OECD report on the Productivity-Inclusiveness Nexus warns that low-income families and lagging regions lack the means to invest in their own future and the assets needed to succeed in life. In this, and other publications, we have looked at how to create an enabling environment that can support people, regions and firms in fulfilling their full potential. This is not only about redistribution policies, but about the whole economic framework that needs to incorporate equity considerations from the beginning.

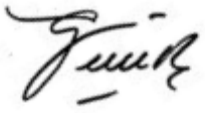
The present report, *A Broken Social Elevator? How to Promote Social Mobility* sheds light on another angle of the inequality challenge, that of social mobility. Its findings confirm the worrisome trends seen in all other dimensions of inequality. Families and communities in many countries seem to be trapped on the bottom rungs of the social ladder, particularly since the early 1980s. This means that children born into the bottom of the income distribution have less chance to move up and improve their occupational status and earnings than their parents and previous generations. Their parents' earnings will be one of the main factors, or the main factor, in explaining their own earnings, accounting for 38% of the result on average, and as much as 70% in some countries, the so-called "sticky

floor". At the other end of the scale, there is a "sticky ceiling" because inequality also means that those at the top of the income distribution may remain there for a long time.

This report is an important part of the OECD response to these challenges and of the Organisation's effort to develop a "people-centred growth model" in which well-being is the metric of success; where everyone has an equal opportunity to prosper; and where equity considerations are important in defining effective economic policies. The report looks at social mobility across generations, in income, education, health and occupation, and at how these are linked to inequality. It also analyses factors shaping and determining social mobility over the life course and shows how a good understanding of the patterns, dimensions and trends of social mobility is crucial for designing better policies that promote more-inclusive growth. The report assesses the implications of reduced social mobility and discusses how education, health and family policies, taxes and transfers, and local and urban policies can best promote equal opportunities for all.

The present volume is the fourth in a series of OECD flagship publications on trends, causes, consequences and remedies for growing inequalities. *Growing Unequal?* (2008) and *Divided We Stand* (2011) analysed the key features and causes of trends in rising income inequality in advanced and major emerging economies. *In it Together* (2015) looked at the consequences of inequality, including how trends in inequality have affected economic growth. It also examined the impact on household income inequality of fiscal consolidation and redistribution policies, of structural labour market changes, and of persistent gender gaps. It is also part of the OECD's broader Inclusive Growth Initiative, that has just released its Framework for Policy Action, with a dashboard of indicators, and policy tools that have been effective at addressing inequalities. We hope that this report, along with the new Framework for Policy Action and the Jobs Strategy will help countries develop and implement policies that improve social mobility and create economies that work for everyone.

Gabriela Ramos



Chief of Staff and Sherpa

In charge of the Inclusive Growth Initiative and of the New Approaches to Economic Challenges Initiative

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Stéphane Carcillo, Head of the OECD Jobs and Income Division, supervised the preparation of this report, and prepared Chapter 1 with Michael Förster drawing on the analyses carried out in the other chapters. Lucy Hulett and Liv Gudmundson prepared the manuscript for publication and Patrick Hamm contributed to the editing of the report.

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In a number of countries, there is a growing perception that social mobility across generations has declined and that, increasingly, parents' fortunes and advantages play a major factor in people's lives. There is also growing pessimism about the chances of improving one's own financial situation over the life course and this trend appeared well before the global financial crisis. These perceptions do somewhat square with actual measures of social mobility in various dimensions, such as income, occupation, health or education. For instance, countries where people are more pessimistic about mobility prospects are often those where parental situations in terms of education or income are more strongly correlated with the situation of sons and daughters. Of course, perceptions and expectations about mobility are influenced by a range of country- and individual-specific factors, but these perceptions matter in themselves, as they have economic, social but also political consequences.

In the context of increased inequalities of income and opportunities, lack of upward mobility at the bottom of the income distribution means that many potential talents are missed out or remain under-developed. It also means that many investment opportunities go unexploited and potential businesses never see the light. This undermines productivity and economic growth as highlighted in the OECD *Productivity-Inclusiveness Nexus*. At the opposite end, a lack of mobility at the top may translate into persistent rents for a few at the expense of the many, due to unequal access to educational, economic or financial opportunities. Success for those at the top and for their children should not be achieved at the expense of others: opportunity hoarding is bad for society and incurs high efficiency costs. More broadly, there is evidence suggesting that prospects of upward mobility also have a positive influence on life satisfaction and well-being. Inversely, high risks of downward mobility and loss of social status tend to reduce life satisfaction and undermine individual self-esteem, social cohesion and people's feeling that their voice counts, particularly among middle- and lower-income people. This reduces trust in the socio-political system with potential negative consequences on democratic participation. This also strengthens political extremisms or populism.

How does social mobility work?

Social mobility is a multi-faceted concept. For one thing, it can be understood as mobility between parents and children or grand-children – the so-called *inter-generational* mobility. Alternatively, the concept can encompass only personal life course perspectives – this is *intra-generational* mobility. This report covers both aspects, although for most people the big picture across generations counts probably more when thinking about mobility than what happens over shorter time periods: when assessing their chances of mobility people tend to compare how they live at present times with how they grew up and how their parents lived.

Besides, the large majority of people understand mobility as *upward* mobility much more than *downward* mobility. But in practice high mobility rates can reflect as much upward opportunities as downward risks. As a matter of fact, there has been substantial upward mobility in most OECD and emerging economies – in *absolute* terms. That is, in many countries we live better than our parents did: we benefit from higher income levels, we often did better studies than them, we often live in better houses and own better appliances, we enjoy better quality services, etc. As economic and social outcomes progress, most people benefit to varying degrees from such improved living conditions, and absolute mobility goes upward. This can potentially keep on for a long time when considering only income, thanks to continuous productivity gains, even though productivity growth has slowed considerably in the OECD area over the past decade. But for other important *dimensions* of mobility there is less scope for further major improvements in advanced economies, while the emerging economies certainly have more margins for improvements. As countries reach high levels of development, progress necessarily slows down in some key dimension, such as education or health: not everybody can or wants to hold a PhD and health cannot improve indefinitely.

Therefore, the issue of *relative* mobility gains more and more importance in the public debate, especially in the more advanced economies: to what extent am I susceptible to reach a better – or worse – *position* in the distribution of income as well as education, occupation or health than that of my peers? This report therefore considers both absolute and relative mobility outcomes, with a special emphasis on the latter. Metaphorically speaking, mobility acts as a set of escalators: everybody goes up, but some groups move faster than others and therefore their relative positions vary upward or downward over time. And we find that the speed of the escalators, and therefore the chances of upward or downward mobility, is not evenly distributed in the population

Key findings

"Sticky floors" prevent people from moving up

Children with a disadvantaged background struggle a lot to move up the ladder, and this is true for many different important aspects of life.

- Having grown up in families with little or no wealth and having parents with poor health are the two main predictors of own poor *health.*
- Four-in-ten people with low-educated parents have lower secondary *education* themselves, and only one-in-ten continues on to tertiary education – compared to two-thirds of children with high-educated parents.
- In terms of *occupation*, about a third of children from manual workers remain manual workers themselves. Furthermore, absolute class mobility tended to decline in half of the countries under study and not change much in the other half, partly because younger generations now face less favourable occupational upward mobility prospects than their parents.
- While two-thirds of people with low-earnings parents succeed to move to a higher status, for almost half among them, upward *earnings* mobility is limited to the neighbouring earnings group. As a result, in an "average OECD country" it would take around *four to five generations* for children from the bottom earnings decile to attain the level of mean earnings.

- Upward mobility for people with lower educated parents tended to increase for individuals born between 1955 and 1975, but then stagnated for those born after 1975 – sticky floors persist.

Opportunity hoarding leads to "sticky ceilings"

Those at the top of the distribution are effective in ensuring that advantages are passed on to their children.

- Individuals with higher *educated* parents tend to have better educational outcomes in terms of literacy and numeracy than those whose parents have low educational achievement. For instance, numeracy scores are almost 20% higher for those with parents with higher socio-economic status, representing more than three years of equivalent additional schooling.
- Children end up in similar *occupations* to their affluent parents. Half of children whose parents are in the managerial class become managers themselves, but only less than a quarter of children of manual workers have a chance to become managers.
- There is also persistence in the top of the *earnings* distribution with four-in-ten sons of rich fathers remaining in the top quartile in all OECD countries. Downward mobility from the top earnings quartile is particularly low in some countries, such as the United States and Germany.

Sticky floors and ceilings also apply to income mobility over the individuals' life course

This report also finds large inequalities across groups in the chances to move along the income ladder over shorter periods of time: sticky floors and sticky ceilings also apply to income perspectives over the individuals' life course.

- Over a four-year period, about 60% of people remain stuck at the bottom 20% of the income distribution. When there is upward income mobility at the bottom, this is largely due to unpredictable income changes, not sustained careers.
- At the top, the persistence of advantages is even stronger – 70% remain there for four years. And those whose parents are at the top are much more likely to remain there for their whole life – in the US and in Germany, almost half of the sons of rich fathers are in the top earnings quartile themselves.
- Since the 1990s, there is a general trend towards *more* persistence of income positions at the bottom and at the top of the distribution. This translates into both lower chances to move upward for those at the bottom, and into even lower risks to fall down from the top. Although income inequality increased since that time, it has not been compensated by greater income mobility.

There are risks and opportunities in the middle

Income mobility is higher for those living in the middle class. This not only translates into more opportunities for them compared with other groups, but also into greater risks to fall down the ladder following unexpected life events such that unemployment or divorce.

- There is thus substantial risk for middle-income households to fall into low income and poverty over their life course: one-in-seven of all middle class households, and

one-in-five of those living closer to lower incomes slide into the bottom 20% over a four-year period.

- There are also signs that these risks have increased over the past two decades. In particular, a further divide among the middle classes appeared in several countries: for those closer to lower incomes and part of the "bottom 40%", the risk to further slide down over the life course has increased.
- At the same time, those closer to the middle and the more affluent members of the middle class today have somewhat lower risks to fall into low income and poverty. There are thus signs that the middle class may be fracturing.

Income inequality does not foster mobility

- There is no evidence that greater inequality would bring higher income mobility to people. Rather, higher mobility over the life course is associated with lower inequality within countries when measured over several years – so called "permanent" inequality.
- Across generations, earnings mobility prospects tend to be usually weaker in countries where income inequality is high, and stronger in countries where inequality is low. Only a few European countries buck this trend, combining both low inequality and low earnings mobility, e.g,. Austria, France, Germany and Hungary.

Mobility patterns vary a lot across countries and country groups

The mobility record varies across countries depending on the dimension of mobility considered, but also whether the focus is on mobility at the bottom or at the top. Some general patterns arise from broad country groupings when considering mobility across generations.

- Social mobility, notably in terms of earnings, occupation and education, is very high in most Nordic countries, and rather low in many Continental European countries, especially in terms of earnings, as well as in emerging economies. For instance, it would take only about two generations for children from the bottom earnings decile to attain the level of mean earnings in the Nordic countries, but between four to six generations in Continental European countries, and many more in emerging economies.
- Most Southern European countries also show relatively low mobility indicators in terms of education or occupation, but fare somewhat better in terms of earnings mobility.
- Some English-speaking countries fare relatively well in terms of earnings mobility (Canada, New Zealand) or occupation (USA, United Kingdom), but performances vary a lot along the other dimensions.
- In Japan and Korea, educational mobility is high but earnings mobility is around average. Both sticky floors and sticky ceilings in terms of earnings persistence over generations are more pronounced in Germany and in the United States than in other countries.

Key recommendations

There is nothing inevitable about socio-economic advantage or disadvantage being passed from one generation to another, or floors and ceilings remaining persistently sticky. Large differences in mobility outcomes across countries suggest that there is room for policies to make societies more mobile and protect households from adverse consequences of income shocks. For instance, countries which in the past spent more on education tend to have higher educational mobility. Similarly, countries which devoted more resources to health tend to feature higher health mobility. What matters is not only the overall public resources devoted to education and health but also their quality, their effective use and targeting to disadvantaged groups. The policy response is therefore not confined to spending more overall but rather to target spending on effective programmes and ensuring their quality and equal access.

Design policies to grant all children equal opportunities

Policies should aim at ensuring equal opportunities for moving up the ladder, even and especially for those at the low end, while preventing the top end from pre-empting advancement. This requires policy actions in several key areas, and prioritising outcomes for low-income families.

- First, education measures to support social mobility and to avoid unequal opportunities in the long run include access to high-quality early education and care, as well as formal education for all, while preventing school drop-out.
- Second, public investment in health has the potential to support social mobility over the life course and across generations, for example by cushioning income losses or necessary labour market changes when health issues arise. A strategy based on greater investment in children targeting those from lower socio-economic backgrounds holds the promise of breaking the cycle of intergenerational disadvantages. In particular, access to sickness insurance for all households is a prerequisite.
- Third, family policies, in particular policies that promote a good work and family balance, early education and care policies and services, can help level the playing fields for all children by compensating disadvantages at home and avoiding the transmission of disadvantages to children. They can also support parents in their participation to the labour market and mitigate the detrimental impacts of financial hardship on children's future outcomes.
- Fourth, policies affecting wealth accumulation and savings behaviour are an important tool for enhancing social mobility. Avenues to rebalance opportunities would be to limit wealth, inheritance and gifts tax avoidance, design progressive tax systems with adequate rates and reduce exemptions.
- Finally, fostering social mobility also requires policies to reduce regional divides and spatial segregation in cities. This necessitates a range of well-coordinated local development and urban planning policies including measures for transport and housing, such as inclusionary zoning policies.

Mitigate the consequences of adverse personal shocks and the undesired effects of income volatility

There is also a need to protect people against the effects of unforeseen personal events or temporary shocks, such as job loss, divorce or childbirth and to foster resilience, notably for middle-class families who face higher risks of downward mobility. The OECD Framework for Policy Action on Inclusive Growth and the new OECD Jobs Strategy recommends a range of policies to achieve that aim while at the same being consistent with better labour market outcomes, notably:

- First, income-support schemes for the unemployed, set at an adequate level associated with active labour market policies and re-training strategies can help cushion the negative impact of life events for individuals from disadvantaged background but also for their offspring, with positive spill-overs in non-income areas.
- Second, labour market policies which strengthen the transition from school to work, address occupational barriers for disadvantaged groups, or ensure that recruitment processes are fair, can make a substantial difference for earnings and occupational mobility throughout the career of disadvantaged workers.
- Finally, in view of the challenges of income volatility brought by new forms of employment, tying social protection entitlements to the individual, instead of the job is a possible way to adapt to mobility between jobs and sectors.

The OECD's Inclusive Growth initiative aims at developing and promoting such a set of policies above which can foster social mobility and thereby create opportunities for all.

Chapter 1. Overview

This introductory chapter gives an overview of the entire report drawing on the analyses carried out in the five subsequent chapters. It documents that a growing share of people is concerned about falling prospects of social mobility in their society. The report provides an in-depth review of social mobility between generations along the key dimensions of income, occupation, education and health. It also looks at patterns, driving forces and trends in income mobility over the life course. The report identifies low levels of mobility for those at the bottom as well as for those at the top of the distribution – "sticky floors" and "sticky ceilings". It discusses the implications of low social mobility and how policies can promote equal opportunities for all and secure sustainable income trajectories for individuals and households.

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.

Introduction

Today's inequalities in economic and social outcomes shape access to opportunities in education, health and labour market, thereby affecting the potential for social mobility. This is one of the lessons learnt from the results of the OECD (2015a) report *In It Together – Why Less Inequality Benefits All*. While there is no general consensus across countries on the desirable level of inequality of *outcomes,* for example by redistributing income or wealth, there is widespread agreement on the need to promote equality of *opportunities* – i.e. that all should have the same life chances, regardless of their initial conditions.

This report analyses the main device linking inequality of outcomes with access to opportunity: social mobility within and across generations. The report shows that high and/or increasing levels of inequality of outcomes, as observed in many OECD and emerging economies, tend to be an obstacle to income and social mobility. In this context, it is not surprising that there is a growing perception in opinion surveys that societies and economies have become less mobile and this is fuelling growing dissatisfaction with the economic system and hindering social cohesion and political enchantment.

The report provides an extensive account of social mobility within and across generations in OECD and emerging economies. It also reviews policies to foster more socially mobile societies. Identifying and promoting such policies is a central aspect of OECD's Inclusive Growth initiative which is a broader strategy to achieve growth that creates opportunities for all and distributes the dividends of prosperity fairly. The main challenge is to ensure opportunities for upward mobility for talented people at the bottom, while at the same time preventing the top end from pre-empting advancement. Much can also be done to promote mobility over the life course, in particular by protecting against the effects of unforeseen personal events or temporary shocks while at the same time providing targeted interventions to help disadvantaged groups.

1.1. Social mobility: Why policy makers should care

1.1.1. Perceptions on social mobility

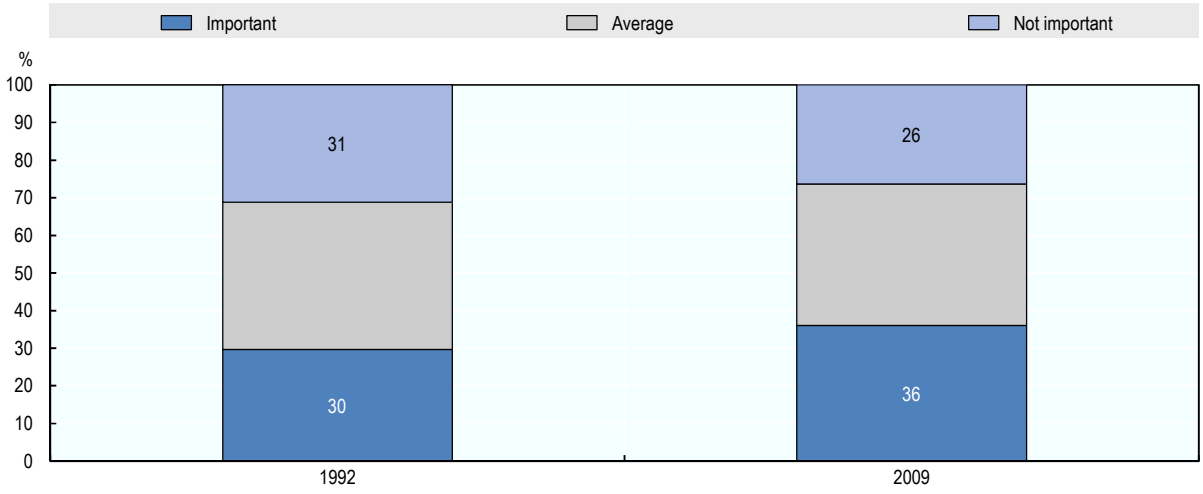
In a number of countries, there is a growing perception that social mobility has declined. Perceptions and expectations about mobility are influenced by a range of country and individual circumstances, but these perceptions matter in themselves, as they have economic, social but also political consequences.

When people are asked about their job and compare it with the status or prestige of their father's job when they were 16, the share of those who find that their father had a better job that they do increased in the past two decades, from 16% to 21% on average across OECD countries. Perceptions of falling down the ladder – downward mobility – is becoming a greater risk in almost all OECD countries. At the same time, perceptions about climbing up the jobs ladder – upward mobility – tend to diverge across countries: it is up in some countries (e.g. the Nordic countries) but down in others (e.g. Australia or the United States).

The decline in perceived mobility is also associated with a perceived decline in meritocracy: a growing number of people think that parents' fortune and advantages play a major factor in people's lives. While the majority of people see that "having a good education oneself" and "hard work" are either essential or very important, 36% of people believe that having well-educated parents is essential or very important to get ahead – up from 31% in 1992 (Figure 1.1). More than half of the respondents believe that good parental education is crucial to get ahead in Chile, Germany, Poland and Spain, but only 20% or less in Nordic countries and Japan.

Figure 1.1. More people think it needs well-educated parents to get ahead than two decades ago

Share of people who believe how important is having well-educated parents to get ahead



Note: Calculations have been done for the same set of countries available in all three years: Both in 1992 and 2009: Australia, Austria, Canada, Germany, Czech Republic and Slovak Republic (Czechoslovakia in 1992), Hungary, Italy, Norway, Poland, Slovenia, Sweden, United Kingdom and United States.

Source: OECD calculations based on International Social Survey Program (ISSP).

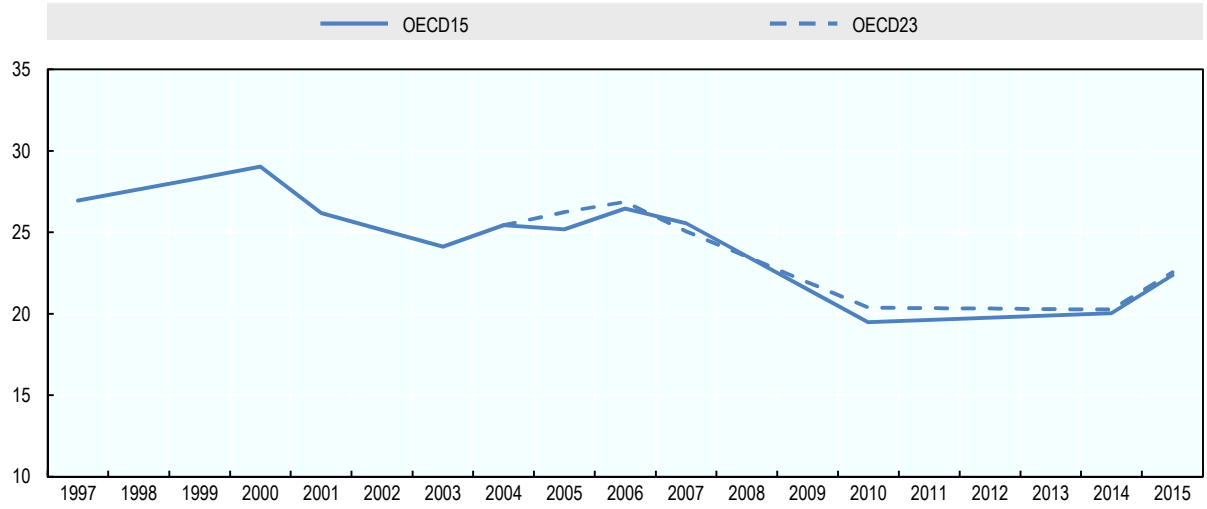
StatLink http://dx.doi.org/10.1787/888933761834

There is also growing pessimism about the chances of own upward income prospects and improving the own financial situation over the short-term and over the life course. Importantly, this trend appeared well before the global financial crisis (Figure 1.2). During the early 2000s, expectations of financial improvement decreased in a large majority of European OECD countries for which data are available, and especially in southern and northern Europe, and this trend then was reinforced during the recent crisis. Some slight optimism about the own financial situation occurred only in 2015 but the share of those expecting financial improvement is still well below the levels of the 1990s.

These perceived barriers to social mobility do somewhat square with actual measures of mobility, notably when considering earnings or educational achievements across generations (Figure 1.3). For instance, countries where people are more pessimistic about mobility prospects are often those where parental situations in terms of education or income determine more strongly the situation of sons and daughters. Examples among Europeans countries are France and Germany and, among non-European countries, Chile and South Africa. At the other side of the spectrum, in the Nordic countries and, to a lesser extent, Japan the perception of a more fluid society is matched by greater actual earnings mobility between fathers and sons.

Figure 1.2. Fewer and fewer people are expecting their incomes to rise in the short term

Share of individuals expecting improvement of the financial situation of their household for the next twelve months



Source: OECD calculations based on the Eurobarometer survey. OECD15 refers to the unweighted average among Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom. OECD23 is the average among these 15 countries as well as Czech Republic, Estonia, Hungary, Latvia, Poland, Slovakia, Slovenia and Turkey.

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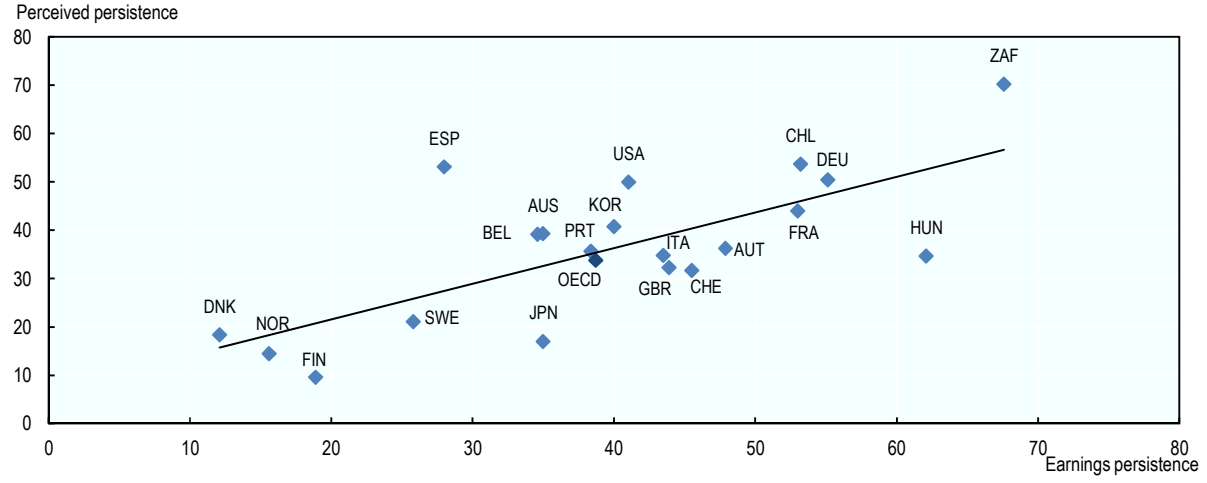
Figure 1.3. Perceived and actual mobility of earnings over one generation



Note: Perceived persistence corresponds to the share of people who believe that it is important to have well-educated parents to get ahead. Earnings persistence corresponds to the elasticity of earnings between fathers and sons. The higher the elasticity, the lower is intergenerational mobility. Perception data refer to 2009. Earnings persistence data refer to earnings of sons in the early 2010s, with regard to fathers earnings.

Source: OECD calculations based on International Social Survey Program (ISSP), and Chapter 4.

StatLink http://dx.doi.org/10.1787888933761872

1.1.2. The lack of social mobility can have important consequences

First and foremost, lack of social mobility can hurt the foundations of economic growth. Lack of upward mobility at the bottom of the income distribution means that many potential talents are missed out on or remain under-developed. It also means that many investment opportunities and potential businesses will never see the light. Poor people may not take advantage of investment opportunities because of borrowing or liquidity constraints, a lack of information about investment opportunities, or insufficient availability of family resources to insure against possible downside risks of the investment. This undermines productivity and potential economic growth at the national level.[1] At the opposite end, lack of mobility at the top may translate into persistent rents for a few at the expense of the many, due to unequal access to educational or economic opportunities. Success for those at the top and for their children should not be achieved at the expense of others: opportunity hoarding is bad for the society and incurs high efficiency costs.

Second, there is evidence suggesting that prospects of upward mobility have a positive influence on life satisfaction and well-being. In the United Kingdom for example, it has been shown that individuals who have achieved long-range upward mobility compared to their parents tend to fare better than those who remained stuck in the working class on a wide range of dimensions (participation in civic associations, contact with parents, close personal relationships, social support, subjective well-being). Inversely, high risks of downward mobility and loss of social status tend to reduce life satisfaction and undermine social cohesion.[2] In fact, much of the effect of social mobility on happiness is due to changes in the perception of financial security, which affects subjective well-being through pathways such as stress (and the related unhealthy behaviours); prosperity concerns (with people's expectations on future outcomes influencing the current behaviours); and identity (through comparison with a reference group). Besides, at least over shorter time periods, upward and downward mobility may not have symmetrical impacts: – "one dollar lost matters more than one dollar gained": downward mobility tends to affect negatively well-being and mental health outcomes more durably than upward mobility.[3]

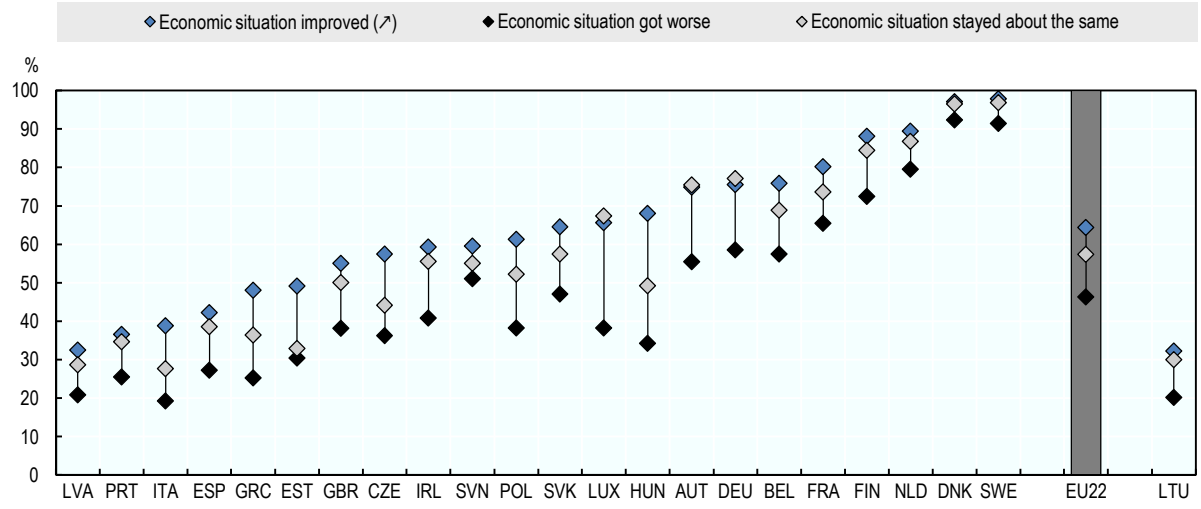
Third, in addition to dampening well-being, a "broken social elevator" can have serious societal and political consequences. For one thing, perceived equal opportunities can reduce the probability of social conflicts. Higher rates of class movement are thought to weaken economic discontent and class struggle, even among those who are not mobile themselves. In contrast, stagnant societies do not offer much hope for change, and tend to create feelings of exclusion among disadvantaged groups. This fosters strong group identities and a division against those who are better-off.[4] In the context of emerging economies, this is one of the reasons why the OECD inclusive growth framework (OECD, 2015b) includes social mobility as one of its essential pillars because a cohesive society offers opportunities for upward mobility to all its members and does not divide people based on socio-economic or other factors.

Besides, high risks of downward mobility and loss of social status also tend to reduce people's feeling that their voice counts, particularly among middle- and lower-income people. There is evidence that social mobility directly influences the feeling that one's voice counts at the country level (Figure 1.4): individuals perceiving that their financial situation or job situation has worsened are also less likely to feel that their voice counts at the country level, all other things being equal (including economic resources, age, overall implication in politics and income level). The feeling that one's voice counts is itself positively associated with trust in government. This suggests that social mobility can have an impact, at least indirectly, on trust and social cohesion.

In addition, low chances of upward mobility may reduce democratic participation. Voter turnout among the upwardly mobile is higher compared to their group of origin, and lower compared to their group of destination. The opposite holds for the downwardly mobile individuals. This can be directly related to the fact that mobility influences people's feeling that their voice counts. Low upward mobility may also strengthen political extremisms or populism. Indeed, low mobility prospects reduce people's endorsement of the political system as fair and meritocratic,[5] and people's vote is in part determined by their assessment of their prospects for social mobility relative to the rest of the society.[6] As a result, downward mobility – or more specifically its perception – and loss of social status are associated with a stronger attraction to extreme or radical voting behaviour, especially when trust in political institutions is weak.

Figure 1.4. People with a deteriorating economic situation over the past five years are less likely to feel that their voice counts at country level

Share of respondent agreeing that their voice counts at national level by overall assessment of their economic situation over the past five years (improved, stayed the same or is worse), everything else being equal



Note: Control variables include age, household composition, overall feeling about life, political interest index.

Source: OECD calculations based on Eurobarometer 86, Nov. 2014.

StatLink http://dx.doi.org/10.1787/888933761891

1.2. How does social mobility work? Concepts and measurement

1.2.1. Own mobility over the life course vs. mobility of children compared to parents

Social mobility is a multi-faceted concept. For one thing, it can be understood as mobility between parents and children or grand-children – the so-called *inter-generational* mobility. Alternatively, the concept can encompass only personal life course perspectives – this is *intra-generational* mobility. Inter-generational mobility looks at the individual status in terms of earnings and income, but also occupation, health or education, compared with that of one's parents. Intra-generational mobility describes how individuals' incomes and income positions change over life time.

This report covers both aspects, although for many people the big picture across generations counts probably more than what happens over shorter time periods. Indeed, when assessing their chances of mobility people tend to compare how they live at present times with how they grew up and how their parents lived.

1.2.2. Absolute vs. relative mobility

Besides, the large majority of people understand mobility as *upward* mobility much more than *downward* mobility. But in practice high mobility rates can reflect as much upward opportunities as downward risks. As a matter of fact, there has been substantial upward mobility in most OECD and emerging economies – in *absolute* terms. That is, in many countries we live better than our parents did: we benefit from higher income levels, we often did better studies than them, we live in better houses and own better appliances, we enjoy better quality services, etc. As economic and social outcomes progress, most people benefit to varying degrees from such improved living conditions, and absolute mobility goes upward. This can potentially keep on for a long time when considering only income, thanks to continuous productivity gains, even though productivity growth has slowed considerably in the OECD area over the past decade. But for other important dimensions of mobility there is less scope for further major improvements in advanced economies: not everybody can or want to hold a PhD and health cannot improve indefinitely. In this respect, the emerging economies certainly have more margins for improvements in absolute mobility.

Take absolute upward mobility in education as an example: 42% of today's 55-64 year-olds have a higher educational status than their parents. This fell to some 34% on average for the 25-34 years-olds. There is a crowding-out effect here: as more people are now higher-educated, their children have larger chances to remains so, decreasing absolute upward mobility in education.

As countries thus reach higher levels of development, progress necessarily slows down in some key dimension of absolute mobility. Therefore, the issue of *relative* mobility gains more and more importance in the public debate, especially in the more advanced economies: to what extent am I susceptible to reach a better – or worse – *position* in the distribution of income as well as education, occupation or health than that of my peers? To take education as an example again, relative mobility looks at whether adults who rank high or low in terms of education also had parents who ranked high or low.

So, in a nutshell, *absolute* mobility indicates by how much living standards have increased/decreased, or the extent to which people do better/worse than their parents, in terms of income, occupation, education, health or other dimensions. *Relative* mobility is the extent to which an individual's chances to do better depend on where herself or her parents were ranked in the social ladder. High relative mobility in this sense encompasses the idea that regardless of your background, you are given the same opportunities and chances to progress in your career and life as everyone else.

This report therefore considers both absolute and relative mobility outcomes, with a special emphasis on the latter. Metaphorically speaking, mobility acts as a set of escalators: everybody goes up, but some groups move faster than others and therefore their relative positions vary upward or downward over time. And we find that the speed of the escalators, and therefore the chances of upward or downward mobility, is not evenly distributed in the population.

1.3. What have we found? New evidence from the OECD and emerging economies

1.3.1. Mobility across generations

Social mobility varies a lot across countries. The report documents measures of intergenerational persistence in socio-economic outcomes across generations, which explain how closely related an offspring's economic status is to that of his or her parents. If this measure (also called "elasticity") is zero, that means that a child's adult outcomes are not related at all to parental status and that there is highest relative mobility, while if it is 100%, it will mean that all outcomes are fully determined by the parents' status and that mobility is lowest.

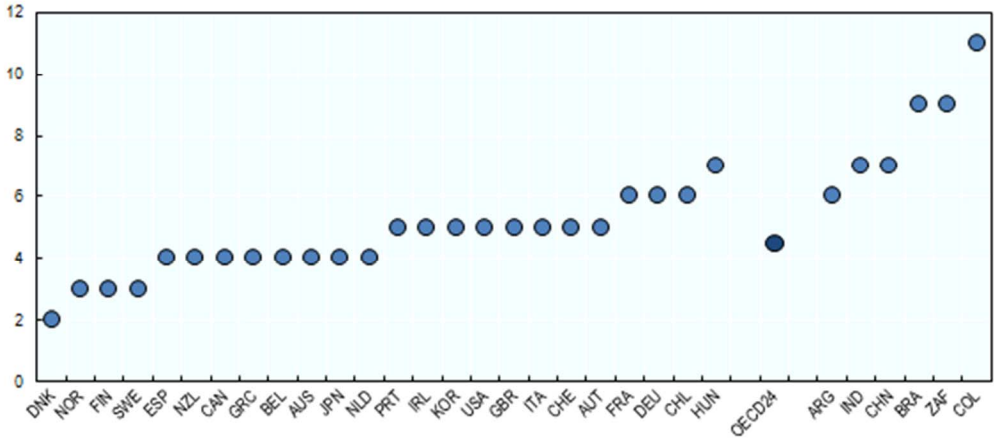
In terms of earnings across generations, the intergenerational persistence amounts to around 40% on average in the OECD area, from below 20% in the Nordic countries to 70% or more in some of the emerging economies. These figures imply that if a richer father had twice the earnings of another father, the richer father's child would then have about 40% more earnings than the child of the poorer father in an average OECD country, while the earnings would be 20% more in Finland and 70% more in Brazil.

Put differently, 20 to 70% of the earnings differences between fathers carry over to the next generation. Over time, the relative earnings of high-income families will fall, and those of low-income families rise, toward the average – a phenomenon called "regression to the mean" – but this process can take much longer than these figures might suggest at first sight. Looking at a "typical OECD country", and taking the 38% average earnings persistence ("elasticity") and the average ratio between the bottom 10% income and the mean income (about 1:3.5), it would take around four to five generations for children from the bottom decile to attain the mean.

There are, however, very large variations in such income mobility across OECD countries (Figure 1.5). In low-inequality and high-mobility countries such as the Nordic countries it would take at least four generations – more than 100 years – for those born in low-income families to approach the mean income in their society. But in high-inequality and low-mobility countries such as some of the emerging countries – Brazil, Colombia and South Africa – this would take even nine generations or more, if these probabilities of earnings mobility are not to change. In Colombia, where persistence is the highest, it would take at least 300 years for offspring of low-income families to reach the mean.

Figure 1.5. At the current level of intergenerational mobility, it takes on average four to five generations for the offspring of a low-income family to reach the average income

Expected number of generations it would take the offspring from a family at the bottom 10% to reach the mean income in society



Note: These estimates are simulation-based and intended to be illustrative. They should not be interpreted as giving the precise time that a person from a low-income household will need to reach the average income. They are based on earnings persistence (elasticities) between fathers and sons and the current level of household incomes of the bottom decile and the mean, assuming constant elasticities, following Bowles and Gintis (2002). Low-income family is defined as the first income decile, i.e. the bottom 10% of the population.

Source: Chapter 4 and *OECD Income Distribution Database*.

StatLink http://dx.doi.org/10.1787/888933761910

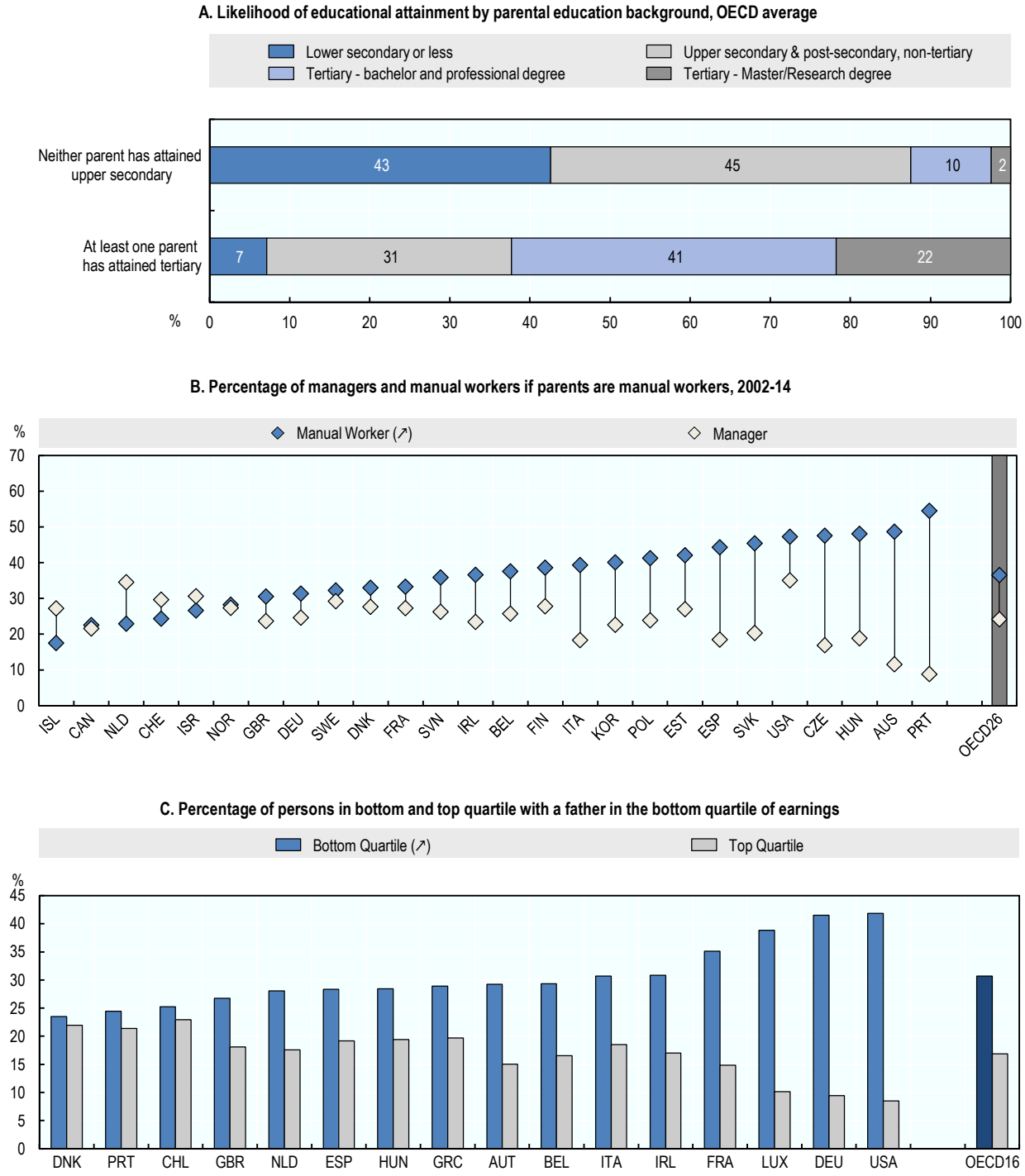
Social mobility is not evenly distributed across all groups. This report finds that some groups tend to move at even lower paces along the ladder of economic and social progress. Those born from families at the bottom of the ladder have little chances to move upward – *sticky floors* prevent movement from one generation to the other. At the same time, those born in richer families are much less likely to move downward along the ladder – *sticky ceilings* protect children from affluent families.

1.3.1.1. Sticky floors at the bottom

Children from disadvantaged background struggle a lot to move up the ladder, and this is true for many different important aspects of life – not only earnings. Inequalities in *health* status persist in most OECD countries from one generation to the next, in part because health endowments and behaviours are transmitted from parents to children. Having grown up in families with little or no wealth and having parents with poor health are the two main predictors of own poor health. Also access to quality healthcare services is poorer for low-income groups, as highlighted in the OECD's Framework for Policy Action on Inclusive Growth (OECD, 2018a). The lack of health mobility affects the intergenerational transmission of inequalities also in other dimensions.

Four in ten people with low-educated parents have lower secondary *education* themselves, and only twelve in hundred obtain a tertiary degree, and only two in hundred reach a Master's level or higher (Figure 1.6). In southern European countries and most emerging economies, such sticky floors for education mobility are even stronger. High inequality hinders the ability for individuals from low economic backgrounds to invest in their children's human capital, both in terms of level and quality of education.

Figure 1.6. Sticky floors in education, occupations and earnings



Source: Chapter 4 and 5.

StatLink http://dx.doi.org/10.1787/888933761929

The report documents that the chances of relative upward mobility for people with lower educated parents tended to increase for individuals born between 1955 and 1975, but then stagnated for those born after 1975 – sticky floors remain.

What are the prospects to escape the lower end in terms of *occupation* and *earnings*? Around two-thirds of people whose parents are manual workers and around 70% of people with low-earnings parents succeed to move to a higher status (Figure 1.6). That said, for almost half among them, upward earnings mobility is limited to the neighbouring earnings group. Furthermore, absolute class mobility tended to decline in half of the countries under study and not change much in the other half, partly because younger generations now face less favourable occupational upward mobility prospects than did their parents.

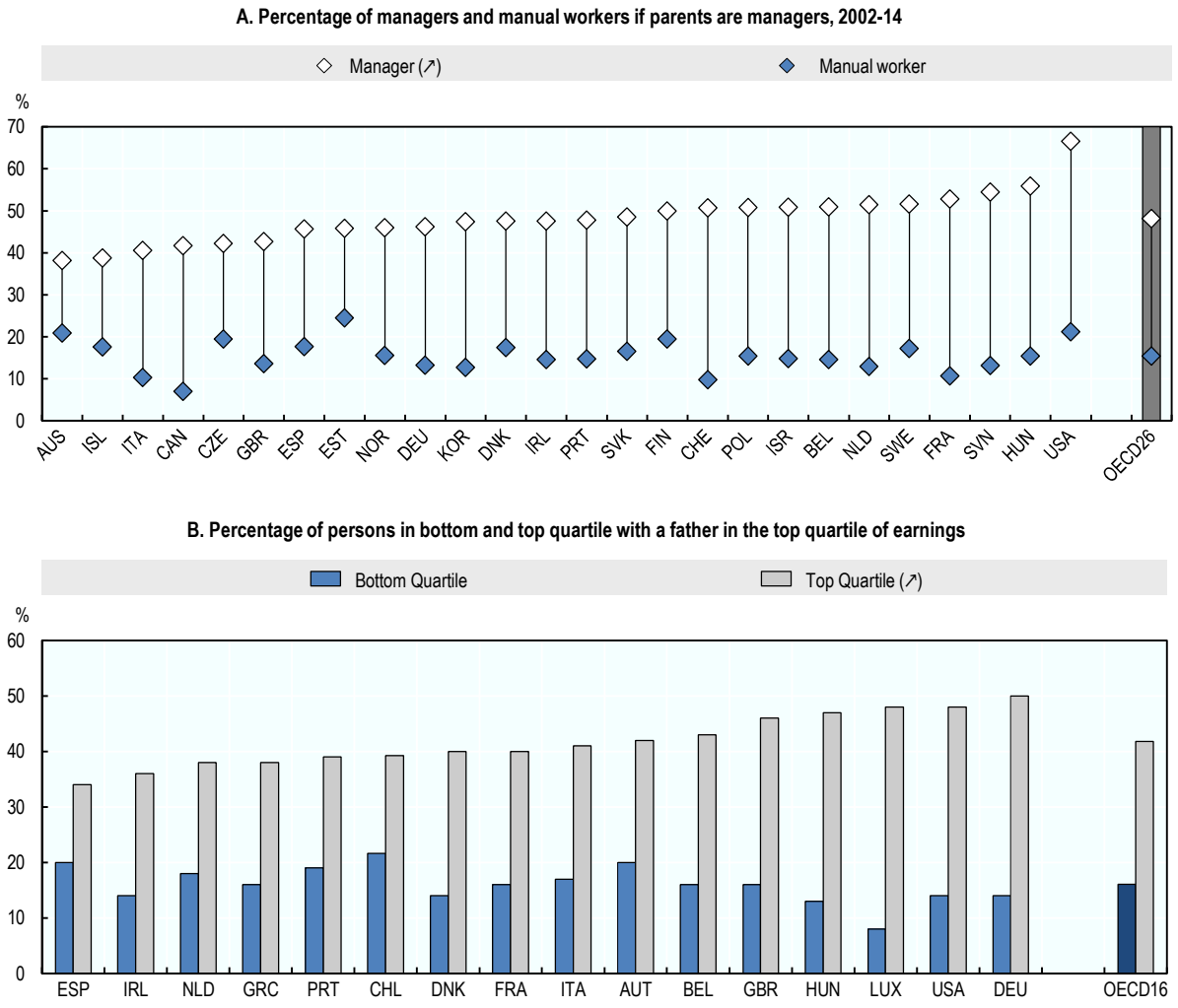
1.3.1.2. Sticky ceilings at the top

Those at the top of the distribution are effective in ensuring that advantages are passed on to their children. Opportunity hoarding starts with *education*. There is a low risk of downward mobility for those with higher educated parents: children from more educated families seem protected from quitting school at lower secondary level or before: it concerns some 7% among them, compared to 43% of children of lower educated parents.

Individuals with higher educated parents tend to have better educational proficiency scores (literacy, numeracy; OECD, Adult Skills Survey) than those whose parents have low educational achievement. For instance, numeracy scores are almost 20% higher for those with parents with higher socio-economic status, representing more than three years of equivalent additional schooling. At the same time, those from advantaged family backgrounds are found to be more likely to be highly educated than the cognitive skills assessments would predict.

Children also end up in similar *occupations* to their affluent parents. For example, half of children whose parents are in the managerial class become managers themselves, but only less than a quarter of children of manual workers have a chance to become managers. There is also persistence in the top of the *earnings* distribution with four-in-ten sons of rich fathers remaining in the top quartile in all OECD countries. Downward mobility from the top earnings quartile is particularly low in some countries, such as the United States and Germany (Figure 1.7).

Figure 1.7. Sticky ceilings in occupations and earnings



Source: Chapter 4.

StatLink http://dx.doi.org/10.1787/888933761948

1.3.2. Mobility over the life course

This report also finds similar patterns of mobility across groups over shorter periods of time: sticky floors and ceilings also apply to income perspectives over the individuals' life course.

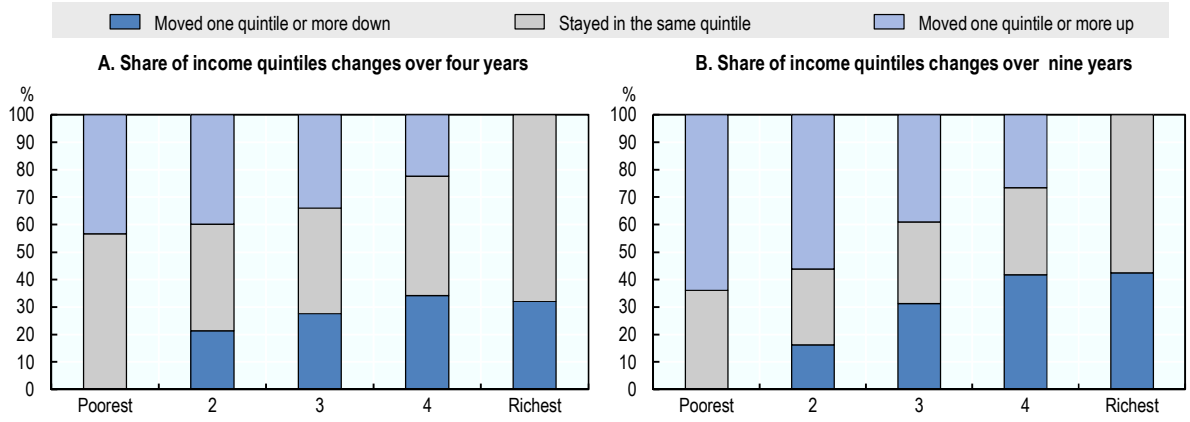
1.3.2.1. Persistence at the bottom and at the top

Over a four-year period, almost 60% of people remain stuck at the bottom 20% of the income distribution. At the top, the persistence of advantages is even stronger – 70% remain there for four years (Figure 1.8). After nine years, still close to 40% of people remain at the bottom 20% and two-thirds at the top. Sticky ceilings prevent those with high incomes from falling down the income distribution, while sticky floors prevent those with low income from moving upward. When there is upward income mobility at the bottom, this is rather largely due to unpredictable income changes, not sustained careers. A

particular challenge in some countries is the recurrence of low-income spells despite short-term upward mobility, if increases in people's income are not stable over time and they fall back into poverty.

Figure 1.8. A majority of people remain stuck at the bottom – and at the top of the income distribution

Share of individuals moving up, moving down, or staying in the same income quintile, early 2010s or latest



Note: Data refer to the working-age population (18-65).

Source: Chapter 2.

StatLink http://dx.doi.org/10.1787/888933761967

The high persistence of low incomes can be first and foremost explained by long spells of unemployment, but, in some countries it can also be explained by significant persistence in low-wage for those at work. Low-income persistence can be a threat to social cohesion, especially in highly unequal countries.

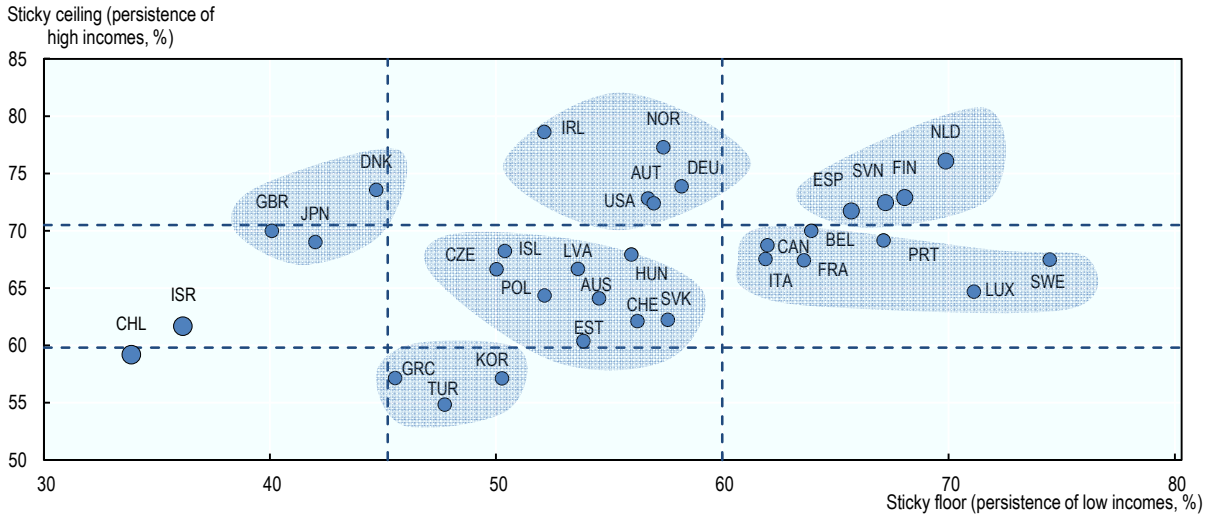
Besides exits from unemployment, other factors associated with a higher upward mobility from low incomes include transitions from temporary to open-ended contracts. In Denmark, for instance, the higher level of upward mobility at the bottom goes in pair with a high transition rate from temporary to permanent contracts, while the opposite is the case in the Netherlands and Spain.

Upward and downward income mobility trends over the period of the early 2010s are influenced by country-specific post-crisis and recovery developments. That said, a consistent finding across time and countries is that there is a greater persistence in the top income groups than in the bottom income groups. Countries with the largest persistence of top incomes in the upper quintile over four years include Ireland, Norway and the Netherlands (above 75%).

There is no "automatic" combination of persistence at the bottom and at the top of the income distribution across countries. Rather, several country patterns emerge, suggesting different policy challenges (Figure 1.9). For their own income perspectives, people in some countries experience stronger persistence at the bottom than at the top (e.g. Luxembourg, Sweden), while other countries have mainly to cope more with persistence at the top (e.g. Ireland, Norway). In Denmark, Japan and the United Kingdom, sticky ceilings are more significant than sticky floors, while the Netherlands, Finland, Slovenia and Spain combine both sticky floors and ceilings.

Figure 1.9. Low-income and high-income persistence over four years across OECD countries

Share of individuals in the lowest (resp. highest) income quintile staying in the same income group after four years
Early 2010s or latest data available



Note: Data refer to the working-age population (18-65). Data refer to 2011-14 for all countries except Israel (2012-16), Switzerland, Germany, Ireland, Japan and the United Kingdom (2010-13), Turkey (2008-2011), the United States (2009-12), Canada (2007-10) and Chile (2006-09).

Source: Chapter 2.

StatLink http://dx.doi.org/10.1787/888933761986

1.3.2.2. Trend

Since the 1990s, there is a general trend towards *more* persistence of income positions at the bottom and at the top of the distribution. This means that people at the bottom are now less likely to move up, and that people at the top are even less likely to slide down. Although income inequality increased since that time, it has not been compensated by greater income mobility.

In the late 1990s, 53% of individuals in the bottom income quintile stayed there over four years, compared to 58% in the early 2010s. 65% of individuals in the upper income quintile stayed persistently there, compared to 70% in the latest data. The low-educated have a *higher* risk than in the past to stay persistently in the bottom income quintile, and the high-educated have *less* chances to become part of the top income quintile. Floors and ceilings are becoming thicker and more and more difficult to trespass over a lifetime.

Overall, there is more income mobility over shorter time spans at the top and especially at the bottom of the income distribution in most emerging economies than in OECD countries. In particular Indonesia, South Africa, China and, to some extent, Brazil appear as more mobile societies among the set of emerging countries. There are accordingly more chances to move up to the middle part of the distribution when in the first income quintile. However, over time, income mobility has also slightly declined in emerging economies.

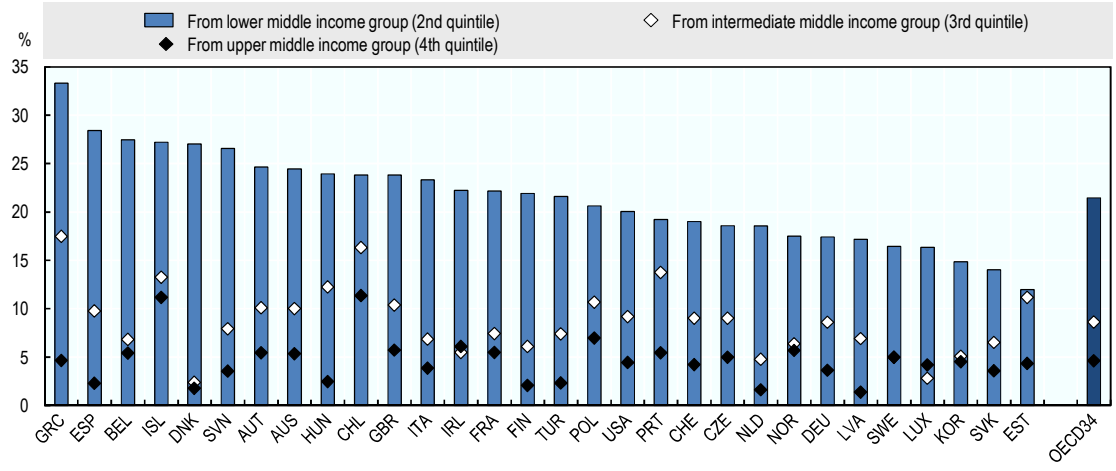
Across OECD countries, income persistence has increased both at the top and bottom of the income distribution in Korea, Austria, Spain, the Netherlands and the United States. It has increased more at the top in Denmark, Belgium, Ireland and Germany; and more at the bottom in Canada, Finland, Italy and Portugal.

1.3.2.3. Risks and opportunities in the middle

Income mobility is higher for those living in the middle class. This not only translates into more opportunities for them compared with other groups, but also into greater risks to fall down the ladder, sometimes to the very bottom of the distribution, following unexpected life events such as unemployment or family dissolution. Many middle-class households are vulnerable in that they lack the financial assets needed to maintain a minimum living standard for at least three months. There is a substantial risk for middle-income households to fall into low income and poverty over their life course: one-in-seven of all middle class households (those in the second, third and fourth income quintile), and one-in-five of those living closer to lower incomes (those in the second quintile) slide into the bottom 20% over a four-year period (Figure 1.10).

Figure 1.10. Risk for lower-, middle- and higher-middle income households to slide down to the bottom

Share of individuals in the middle income quintiles moving to the bottom quintile after four years
Early 2010s or latest



Note: Data refer to the working-age population (18-65).

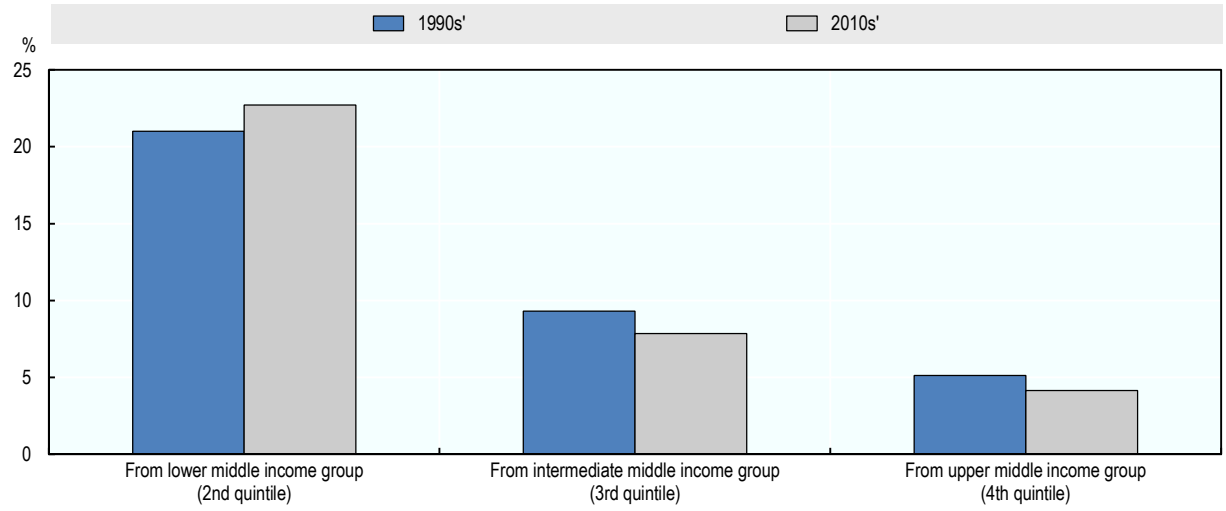
Source: Chapter 2.

StatLink http://dx.doi.org/10.1787/888933762005

There are also signs that these risks have increased over the past two decades. The risk of working-age individuals from the lower-middle income group (second quintile, and part of the "bottom 40%") to further slide down over the life course has slightly increased on average and the probability to reach the top quintile has decreased. By contrast, those from the middle and upper-middle class are slightly less vulnerable today than during the late 1990s to fall to the bottom (Figure 1.11).

Figure 1.11. Risks to slide down to low income and poverty, by income quintile, OECD average, 1990s and 2010s

Share of individuals in the middle income quintiles moving to the bottom quintile after four years



Note: Data refer to the working-age population (18-65).

Source: Chapter 2

StatLink http://dx.doi.org/10.1787/888933762024

There are thus signs of a middle-class divide between the lower and the upper middle classes since the 1990s. This pattern of an increasing divide is particularly pronounced in Austria, Spain, Portugal and the United Kingdom where the probability to fall into the bottom quintile increased by three points or more for the lower-middle class. As for upward mobility, there are fewer chances for people moving from the middle-income to the top income quintiles today. This is especially the case in Ireland, Austria, Denmark, Spain and Portugal.

1.3.3. Country differences and country groupings

1.3.3.1. Does income inequality foster mobility?

Income inequality would be more acceptable socially if it was associated with higher mobility across as well as within generations. However, there is no evidence that greater inequality would bring higher income mobility of people over their life course. Rather, mobility is associated with lower inequality within countries when measured over several years – so called "permanent" inequality.

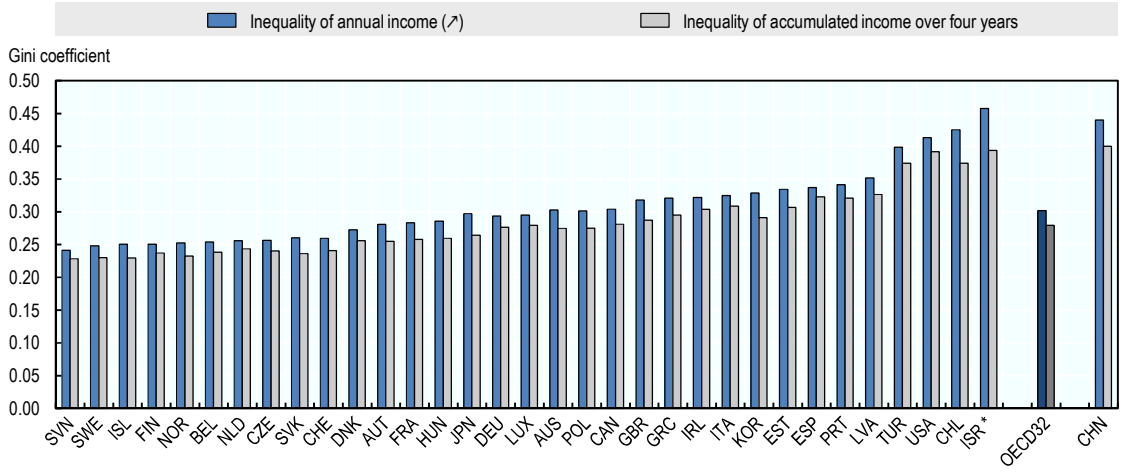
When pooling individuals' incomes over a four-year period, the level of inequality (measured by the Gini coefficient) would be lower, but only slightly, namely 2.3 points (Figure 1.12). Over a longer time frame of nine years inequality is lower by three to seven points in the eight countries for which data are available. For comparison, the average OECD Gini coefficient increased by approximately three points over the past three decades. The longer the time frame taken into account, the greater are the chances to observe income changes, and hence to capture a stronger impact of such changes on inequality. Estimates on long durations (over ten years) suggest that inequality declines less and less after more

than ten years and would then converge and be about 30% lower than the level of inequality measured annually.

Because of sticky floors and sticky ceilings, such smoothing of inequality over time does not alter the large differences in inequality levels observed across countries. The reduction of inequality that stems from mobility is somewhat greater in more unequal countries, but not to an extent that would change the ranking of countries regarding cross-sectional inequality. Compared to the 1990s, mobility is less effective today to decrease levels of income inequality: the difference between long-term and cross-sectional Gini coefficients was about half a point higher in 1990s.

Figure 1.12. Inequality of incomes aggregated over several years is lower than in any one year – but not by that much

Early 2010s or latest



Source: Chapter 2.

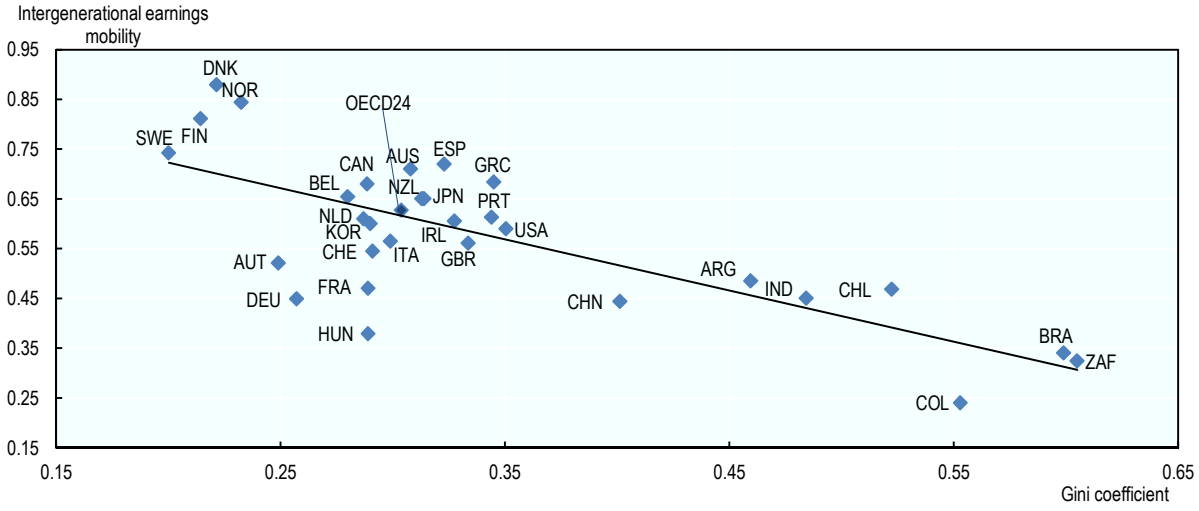
StatLink http://dx.doi.org/10.1787/888933762043

Across generations, earnings mobility prospects tend to be usually weaker in countries where inequality is high, and stronger in countries where inequality is low. Earnings mobility is negatively correlated with overall levels of income inequality a generation ago: this is the so-called "Great Gatsby curve" (Corak, 2006; OECD, 2008). At one end of the spectrum, the Nordic countries have high earnings mobility and low inequality; at the other side, Chile and some other Latin American countries as well as South Africa and emerging economies have low mobility and very high inequality levels (Figure 1.13). The picture is, however, more nuanced for some European countries: Hungary, France, Germany and Austria combine both lower inequality and lower earnings mobility. At the same time, there are no countries which combine high inequality with high mobility.

As put forward by OECD (2015a), such negative overall correlation can to a large extent be explained by human capital channels: family income affects access to education of children because of capital market constraints, or because rich parents can choose to live in neighbourhoods with better schools. Hence, the ability to take advantage of the higher returns to education will largely be limited to children of richer households. OECD work on The Productivity-Inclusiveness Nexus (OECD, 2016a) points out that such intergenerational effects risk becoming self-reinforcing: children from low-income families not only spend less time in education in countries where income inequalities are high, they

also have lower skills *for any given level of education*. The quality gap in education is hence even larger than the income gap.

Figure 1.13. In most countries, earnings mobility across generations is higher when income inequality is lower



Note: Earnings mobility is proxied by 1 minus the intergenerational earnings elasticity of fathers with sons. Gini coefficients refer to the mid-1980s/early 1990s.

Source: Chapter 4.

StatLink http://dx.doi.org/10.1787/888933762062

1.3.3.2. Mobility patterns

The mobility record varies across countries depending on the dimension considered – in terms of income, earnings, health, education or occupation –, but also whether the focus is on mobility at the bottom or at the top. Table 1.1 presents a dashboard of indicators of mobility. Countries are shown by increasing level of underlying income inequality. Some general patterns arise from broad country groupings when considering mobility across generations.

- Social mobility, notably in terms of earnings, occupation and education, is very high in most Nordic countries, and rather low in many continental European countries especially in terms of earnings, including in France and Germany, as well as in emerging economies.
- Most southern European countries also show relatively low mobility indicators in terms of education or occupation, but fare somewhat better in terms of earnings mobility.
- Some English-speaking countries fare relatively well in terms of earnings mobility (Canada, New Zealand) or occupation (United States, United Kingdom), but performances vary a lot along the other dimensions.
- In Japan and Korea, educational mobility is high but earnings mobility is around average.

- Both sticky floors and sticky ceilings in terms of earnings persistence over generations are more pronounced in Germany and in the United States than in other countries.

The extent of sticky ceilings at the top and sticky floors for own income mobility – over the life course – is not necessarily linked to the degree of earnings mobility across generations. In the Nordic countries, for instance, mobility of income at the top and at the bottom within a generation is rather low, while social mobility across generations is very high. The former can partly be related to the high level of social protection in these countries (i.e. limited downward mobility at the bottom). By contrast, mobility of own income at the top and at the bottom is rather low in southern European countries (except Greece), while earnings mobility across generations is medium or high. The larger impact of the global financial crisis on household incomes in some of these countries helps partly explain this pattern.

Men and women also have different prospects for social mobility, depending on the country where they live. For instance, the mobility of educational attainments between mothers and daughters tends to be lower than the mobility between fathers and sons, in particular in southern Europe and the emerging economies. In absolute terms, occupational mobility is also lower for women than for men, meaning that parents influence their daughters' social positions more than their sons'. At the same time, in relative terms, intergenerational earnings mobility for daughters tends to be more similar to that for sons.

Table 1.1. Dashboard of relative mobility across different dimensions

		Social mobility across generations				Own income mobility			
Country	Income Inequality level	Earnings	Occupation	Education	Health	Bottom	Changes since 1990s	Top	Changes since 1990s
ISL	Low	-	High	High	-	High	-	Medium	-
SVN	Low	-	Medium	Medium	Low	Low	-	Low	-
SVK	Low	-	Medium	Medium	-	Medium	-	High	-
DNK	Low	High	High	High	High	High	→	Low	↘
CZE	Low	-	Medium	Medium	Low	High	-	Medium	-
FIN	Low	High	Low	Medium	-	Low	↘	Low	→
BEL	Low	Medium	Medium	Low	High	Low	→	Low	↘
NOR	Low	High	High	Medium	-	Medium	-	Low	-
AUT	Low	Low	-	-	Medium	Medium	↘	Low	↘
SWE	Low	High	Medium	High	High	Low	-	Medium	-
LUX	Low	-	-	-	Low	Low	↘	High	↗
HUN	Medium	Low	Low	Low	High	Medium	-	Medium	-
DEU	Medium	Low	Medium	Low	Medium	Medium	→	Low	↘
POL	Medium	-	Low	Low	Low	Medium	-	High	-
FRA	Medium	Low	Low	Medium	Medium	Low	↘	Medium	↗
KOR	Medium	Medium	Low	High	Low/medium+	High	↘	High	↘
CHE	Medium	Low	Medium	Medium	High	Medium	-	High	-
IRL	Medium	Medium	Medium	Medium	Low	High	→	Low	↘
NLD	Medium	Medium	High	Medium	High	Low	↘	Low	↘
CAN	Medium	High	-	High	High+	Low	↘	Medium	→
ITA	Medium	Medium	Low	Low	Medium	Low	↘	Medium	→
JPN	Medium	Medium	-	High	-	High	-	Medium	-
EST	Medium	-	High	High	Low	Medium	-	High	-
PRT	High	Medium	Low	Low	Low	Low	↘	Medium	→
AUS	High	Medium	Low	High	Medium+	Medium	-	High	-
GRC	High	High	-	-	High	High	↗	High	↗
ESP	High	High	Low	Low	Medium	Low	↘	Low	↘
LVA	High	-	-	-	-	Medium	-	Medium	-
ISR	High	-	High	High	Low	-	-	-	-
NZL	High	High	-	-	-	-	-	-	-
GBR	High	Low	High	Low	Medium+	High	↗	Medium	→
USA	High	Medium	High	High	Low/medium+	Medium	↘	Low	↘
TUR	High	-	-	-	-	High	-	High	-
CHL	High	Low	-	Medium	High+	High	-	High	-
MEX	High	-	-	Low	-	Medium*	-	Low*	-
RUS	High	-		-		Low*		Low*	
BRA	High	Low		-		High*		Medium*	
IND	High	Low		Low		-		-	
CHN	High	Low		High		High*		High*	
COL	High	Low		-		Medium*		Medium*	
IDN	High	-		Low		High*		High*	
ZAF	High	Low		Low		High*		High*	

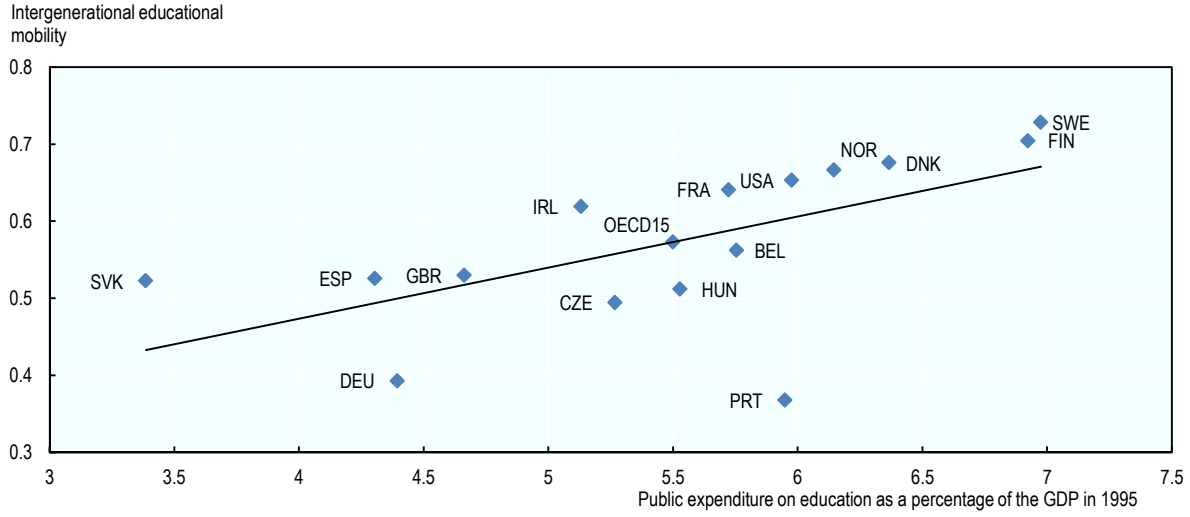
Note: Countries are ranked by level of income inequality (Gini coefficient), in ascending order. Each sub domain refers to a specific indicator or regression coefficient assessing inter-generational of intra-generational social mobility. The level of mobility for each domain is assessed on a qualitative way, by looking at the distribution of each indicator in each domain. For instance, countries are defined as having low level of income inequality if their Gini coefficient falls within the first one-third of the cross country distribution of Gini coefficients.

Source: Chapters 2, 4 and 5.

1.4. What can be done to foster social mobility?

There is nothing inevitable about socio-economic advantage or disadvantage being passed from one generation to another, or floors and ceilings remaining persistently sticky. Large differences in mobility outcomes across countries suggest that there is room for policies to make societies more mobile and protect households from adverse consequences of income shocks. For instance, countries which in the past spent more on public education tend to have higher educational mobility (Figure 1.14). Similarly, countries which devoted more resources to health tend to feature higher health mobility (Figure 1.15). Of course, such correlations are not evidence of causal relationships, and what matters is not only the overall public resources devoted to education and health but also their effective use and targeting to disadvantaged groups, and there is substantial evidence of the impact of well-targeted programmes and policy measures in these areas. The policy response is therefore not confined to spending more overall but rather to target spending on effective programmes. This section presents and discusses a number of country-specific examples of such effective programmes and initiatives.

Figure 1.14. Educational mobility is higher in countries where public spending on education were higher

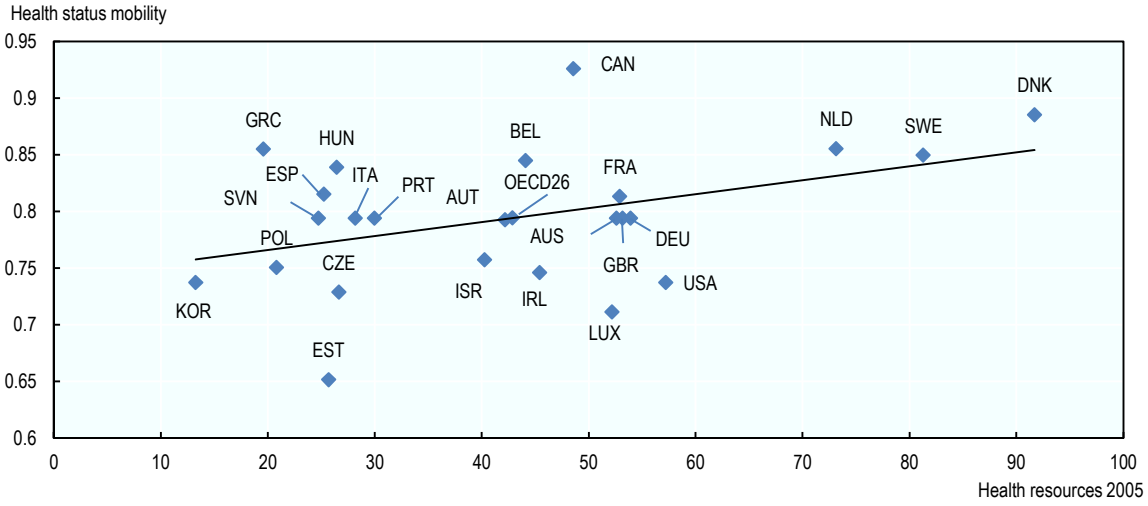


Note: Intergenerational educational mobility is measured as 1 minus the intergenerational educational persistence, defined as the regression coefficient between parental and children's years of schooling at age 30-55.

Source: Chapters 5 and 6.

StatLink http://dx.doi.org/10.1787/888933762081

Figure 1.15. Health mobility is higher in countries where health and social employment is higher



Note: Health resources defined as total health and social employment in 2005 per 1000 persons. Intergenerational health mobility is measured as 1 minus the intergenerational health persistence, defined as the regression coefficient between parental and children's self-assessed health status.

Source: Chapter 5 and *OECD Health Statistics* (http://dx.doi.org/10.1787/health-data-en).

StatLink http://dx.doi.org/10.1787/888933762100

To promote equal opportunities for all and secure income trajectories, policies need to strengthen the key dimensions of welfare, such as security, equity, redistribution and inclusion. But more is needed to face today and tomorrow's challenges. Individual empowerment, capacity-building and the expansion of individual options are needed to face the increasing number of changes in individuals' trajectories and alleviate the burden of unfavourable starting conditions in life. This section presents a set of policies facilitating upward mobility and creating equal opportunities for all. These policy strands are important building blocks of the OECD's Inclusive Growth strategy (OECD, 2015b, 2018a).

1.4.1. Designing policies to grant all children equal opportunities

Ensuring equal opportunities, even and especially for those at the low end, while preventing the top end from pre-empting advancement require policy actions in several key areas along the life course, from early childhood to inheritance.

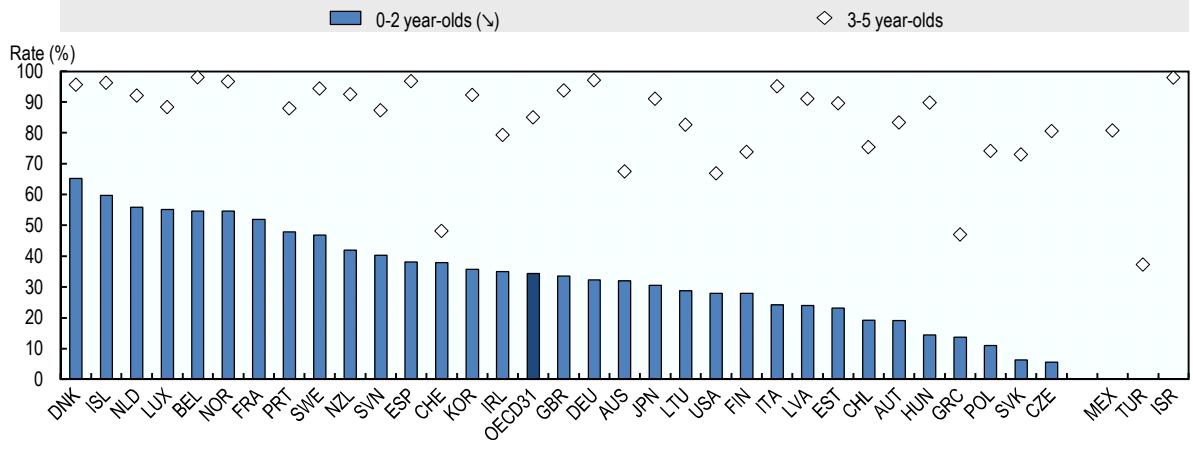
1.4.1.1. Providing quality early childhood education and care to compensate social gaps

Improving access to good-quality care and preschool programmes for children from disadvantaged backgrounds is essential. Good-quality affordable childcare can be instrumental in giving children the best start in life and reduce early gaps in speaking and other cognitive skills. Preschool attendance can make a large difference for later educational and learning outcomes. Evidence from an expansion of childcare or preschools in several countries (e.g. Norway, France) shows improved learning outcomes, especially among children with low-income parents.[7] On average across OECD countries, just over a third of children under age three participate in formal ECEC, but this varies largely across countries, from around 6% in the Czech and Slovak Republics to as high as 65% in Denmark (Figure 1.16). Pre-primary education is offered to all children as a statutory right

from the age of three in many OECD countries, and services are frequently subsidised or provided for free. As a result, in most OECD countries, more than 80% of 3-5 years-old are enrolled in pre-primary education or primary schools and in many, with much less country variation.

Figure 1.16. Participation in ECEC varies across OECD countries, particularly among very young children

Participation rates for 0-2 year-olds in formal childcare and pre-school services, and enrolment rates for 3-5 year-olds in pre-primary education or primary school, 2014 or latest available year



Note: Participation rates for 0-2 year-olds concern children up to and including 2 years of age and generally include children in centre-based services (e.g. nurseries or day care centres and pre-schools, both public and private), organised family day care, and care services provided by (paid) professional childminders. Enrolment rates for 3-5 year-olds include children enrolled in pre-primary education (International Standard Classification of Education [ISCED] 2011 Level 2) and primary education (ISCED 2011 Level 1).

Source: *OECD Family Database* Indicator PF3.2, http://www.oecd.org/els/family/database.htm.

StatLink http://dx.doi.org/10.1787/888933762119

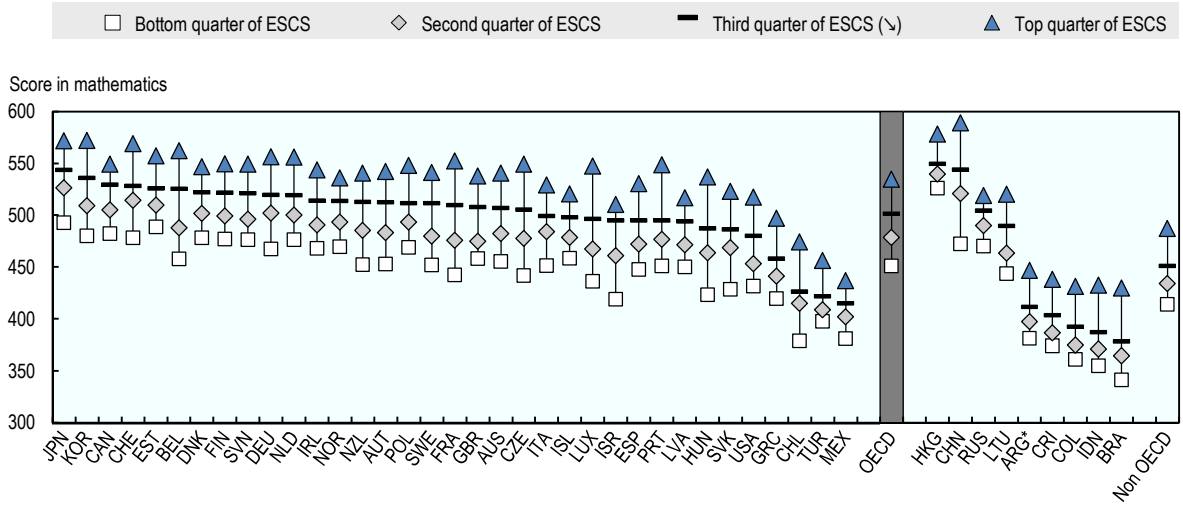
Early childhood home education programmes are also important components to improve parenting skills and children's socio-emotional skills. Effective interventions include support for maternal health during the perinatal period, parenting support programmes and specialist parent support programmes for high-risk groups. In the United States for instance, the Perry Preschool Program, which featured a low number of children per member of staff and focused on disadvantaged families, evaluated the impact of early childhood education and care on individual pathways over several decades. It demonstrated that personality traits can be shaped in ways that favour beneficial lifetime outcomes. One of the benefits of the Perry Preschool Program was that it changed durably the family environment through regular visits to parents.[8] This pilot inspired the Head Start national programme which serves over 1 million disadvantaged children and their families each year. Similarly, in the Scottish Pilot programme for two-year-olds, also parents showed improved parenting capacity compared to parents in the comparison group.[9]

1.4.1.2. Offering equal educational opportunities to school-age children

Children with parents of a lower socio-economic status have lower educational performance, e.g. PISA mathematics scores are about one-fifth lower than for those with highly educated parents, which represents more than three years of equivalent additional

schooling. But this average result hides substantial country differences: countries with similar scores can actually have very different gaps in performance between children from low-status and high-status families, highlighting how educational policies could contribute to exacerbating or reducing educational differences. As examples, France – when compared to Sweden and the United Kingdom – or Germany – when compared to Slovenia and the Netherlands – have similar average scores as their country group but much higher disparities between the scores of students with lower and higher socio-economic backgrounds (Figure 1.17).

Figure 1.17. Score in mathematics by socio-economic status of parents, 2015



Note: ESCS refers to the PISA (Programme for International Student Assessment) index of economic, social and cultural status.
*Argentina: Coverage is too small to ensure comparability.

Source: Chapter 5 and PISA 2015.

StatLink http://dx.doi.org/10.1787/888933762138

Public authorities should develop supportive learning environments through concerted efforts of investing more in low-performing schools and schools in marginalised communities. Disadvantaged schools tend to have larger class sizes; they are also more likely to suffer from shortages in, or an inadequacy of, educational materials and physical infrastructure than schools in more well-off neighbourhoods. Formula funding, balancing the amount of local and national funds, such as "Preferential School Subsidy" (*Subvención Escolar Preferencial*) in Chile or the National Plan for School Improvement "Better Schools" in Australia, can be effective by combining both horizontal and vertical equity: similar schools receive similar funding, but schools with higher needs receive greater resources.

Developing a more supportive learning environment also comes through recruiting and training teachers and fostering effective learning strategies. For a majority of countries, a larger proportion of more experienced teachers teach in less challenging schools than in more challenging schools. Getting the best teachers to teach in disadvantaged schools requires stronger incentives, including attractive pay, and supporting them in professional development. In Korea low socio-economic status students are actually more likely than high socio-economic status' students to be taught by high quality mathematics teachers thanks to multiple incentives offered to teachers such as additional salary, smaller class size, less instructional time, promotions or the ability to choose their next assignment

(OECD, 2012). Granting schools greater autonomy can be one option for improving learning outcomes. For instance, in Finland, teachers are entitled to a large degree of autonomy to adapt the pace of teaching to the pace of learning. In the United States "charter schools" receive public funding but enjoy greater freedom to manage staff, design curricula and organise teaching time. Many of these schools are located in disadvantaged neighbourhoods and have lasting impact on educational attainment and the later employment of disadvantaged youth (OECD, 2016b).

How students spend their time outside of school matters for outcomes and social mobility. Inequalities in extra-curricular attendance reinforce differences in non-cognitive skills. Governments need to provide additional resources for free-of-charge tutoring in disadvantaged schools and programmes to develop social and emotional skills. The provision of extra-curricular activities in Latvia, where "interest-education", offers attractive opportunities for young people to engage in sports, take music classes or do handicraft and other practical activities is a policy example in this direction. The institutionalised system of that can contribute to building social and professional skills (OECD, 2015e).

1.4.1.3. Promoting equality of opportunities in education

Earlier OECD work (OECD, 2012) made several recommendations to support disadvantaged students such as eliminating grade repetition, avoiding early tracking and deferring student selection to upper-secondary education. Designing a school system that is fair and inclusive includes limiting early tracking based on their ability because it appears to considerably reduce mobility. In Finland's upper secondary schools, modular curriculum units are used instead of grades so that students can build their own learning schedules from a menu of courses offered in their school and a student may repeat only those courses that were not passed satisfactorily. Similarly, in Canada, New Zealand and the United States, retention is usually restricted to the specific classes that the student failed. Countries like Sweden or Spain do not track students during compulsory education.

Additional policies to improve equity include: manage school choice to avoid segregation and increased inequities, make funding strategies responsive to students' and schools' needs and design a variety of equivalent upper secondary education pathways, such as vocational training or apprenticeships, to ensure completion among practically minded youth who cannot or do not want to stay in the general system.

1.4.1.4. Preventing early drop-out

Fighting early school leaving is essential to address mobility barriers. Improving performance for disadvantaged students requires a coherent approach at school: developing and supporting specialised school leadership; fostering a positive and supportive school environment; training, recruiting and retaining competent teachers; ensuring effective learning strategies; and finally linking parents and communities with schools for sustainable improvement.

Low-performance needs to be tackled early by identifying the low performers at the beginning of the school year and providing targeted support throughout the year. If poor school performance and absenteeism are caused, or aggravated, by non-educational factors, such as family-related, income or housing problems, these need to be addressed. Specialised support staff such as trained psychologists or social workers in schools can help to quickly identify and address the challenges.

Educational authorities or social services should moreover attempt to reach out quickly to students who disengage from school to provide the support they need and prevent them from slipping into inactivity. This strategy requires a strong coordination and seamless exchanges of information between schools and social / employment services. In Norway, country-level "Follow-up Services" track and contact all young people up to the age of 21 who leave school without an option in upper-secondary education or employment to ensure that they are offered education or training or to connect them with the welfare services (OECD, 2018b). In some municipalities, services are located in schools. In a similar vein, in Belgium, Flanders authorities have adopted the *interne leerlingenbegeleiding* (internal care structure), that functions within schools to provide extra care to pupils in need and affected by non-educational factors.

1.4.1.5. Strengthening the link between school and home to help disadvantaged parents

Schemes that combine after-school activities for underprivileged youth with a mentoring component can contribute to make sure disadvantaged youth stay enrolled and supplement skills not acquired at home. Social and emotional learning school-based programmes have also shown to improve both behavioural and academic outcomes. Mentoring programmes can help fill the gaps for youth who may lack guidance and positive role models at home. The "Big Brothers Big Sisters" network in the United States, which for more than 100 years has matched adult volunteers ("Bigs") and children ("Littles"). In Toronto, the Pathways to Education programme provides after-school tutoring, mentoring and financial assistance and has helped to reduce drop-out rates (OECD, 2016b).

Enhancing parental involvement can also improve learning if interventions include coordination between teachers, schools and governments have an opportunity to increase parental involvement. Successful programmes include training programmes to promote the psycho-social health necessary for good parenting which were integrated fully into the schools development plan, such as the ERPA (Engaging Parents to Raise Achievement) project in the United Kingdom and the National Network of partnerships in the United States, where the plan also involved teachers and members of the community.

1.4.1.6. Granting all young people a right start

More should also be done also to help disadvantaged youth make a better start in the labour market to avoid poor careers characterised by intermittent spells of low-paid work and unemployment. The OECD Action Plan for Youth recommends a set of measures to tackle high youth unemployment, including second-chance programmes, encouraging employers to expand quality apprenticeships or internship programmes, and expanding active labour market strategies to enhance employability and job opportunities and remove barriers to stable and rewarding work.

Apprenticeship training, i.e. combining work and study within a firm-based approach from day one, are particularly effective in smoothing school-to-work transitions (OECD, 2016b), which is essential to promote intergenerational mobility. In order to improve social mobility, apprenticeships need to focus more on attracting and retaining "at-risk" youth for whom securing internship programmes might be harder. Successful apprenticeship programmes need to be designed in a way that they encourage the participation of different age groups, disadvantaged youth and women, and cover multiple sectors and occupations. They must include a strong on-the-job training component and be well integrated in the formal schooling system.

Pre-apprenticeship programmes can also be very useful for high-school dropout who lack a professional project and need to catch up on basic skills. These programmes also familiarise young people with the work routine, and even give them short spells work experience. In Germany, those who cannot find an apprenticeship can apply for pre-vocational training lasting up to one year. Pre-apprenticeships are also an important feature of Australia's VET system.

For those who dropped out of high school, second-chance programmes such as the Job Corps in the United States or the Folk Schools in Sweden are particularly useful. They typically offer a flexible learning environment for school leavers outside mainstream schools, with a strong non-cognitive training component aimed at strengthening motivation, building conscientiousness, and coaching young people in interpersonal skills. An obstacle to the large-scale roll-out of second-chance learning programmes is that they are very costly. To be successful, they require a good targeting and well-trained and highly motivated staff able to provide intensive support and supervision. Despite their high immediate costs, second-chance programmes have proven cost-effective for specific groups in the medium and long run.[10]

1.4.1.7. Improving equal access to higher education

Underrepresentation of students from less advantaged socio-economic backgrounds in higher education, especially in more selective or prestigious universities, requires a range of policy to address barriers. Outreach policy actions in upper secondary schooling can help as in many cases differences in application stem from a lack of preparation and self-confidence from the from less advantaged socio-economic backgrounds students themselves. 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 but with lower labour-market prospects. The French Programme "*Pourquoi Pas Moi*" initiated by the ESSEC Business School and now available in 130 top universities, representing 34% of the *grandes écoles* (Cordées de la Réussite, ONPV, 2016), offers high school students a mentoring programme and workshops. A similar initiative in the United States, the College Coach Program, is implemented in twelve Chicago public high schools.

Policies to address socio-economic inequalities should also include additional measures for encouraging recruitment such as differential admission policies. One possibility is class-based affirmative action or contextual admission as a way to curb intergenerational economic disadvantage. In addition to contextual admission, diversifying entry routes for the promotion of those more disadvantaged to best schools is another option to promote social mobility. In France, as an attempt to tackle the inequalities faced by the disadvantaged youth in accessing to the most selective universities, new methods are explored. For instance, the University Sciences Po has a special pathway (*Convention d'Education Prioritaire*) for students from disadvantaged schools and monitors its progress in this area on a quantitative basis.

Social mobility in higher education brings the need for policy intervention that goes well beyond the first day of university and promotes retention and completion. Student services, counselling and tutoring, especially on certain subjects, might be targeted to prevent drop-out, particularly during or toward the end of the first year. The First Generation Programme at the University in Colorado Boulder, for instance, helps first-generation students to transition from college to university and to get assistance for a range of academic and social resources. Diversity in higher education is related to funding issues

as well and individuals from a disadvantaged background need certainty in what they can expect to receive in terms of financial aid prior to applying.

1.4.1.8. Addressing other occupational barriers for disadvantaged youth

Even students from disadvantaged backgrounds who do well in school may face difficulties in obtaining good jobs, due to a lack of network, informal behavioural codes, appropriate work experience or information. Improving the school-to-work transition for disadvantaged youth is an avenue to address inequalities in earnings. Improving careers advice and links between education and employers should help providing better information to more disadvantaged students about the steps required to build a career especially in the most selective professions. Mentoring and careers advice through various organisations can help in the application and job-hunting process and compensate for less help from parents. The United Kingdom has recently set up the *Careers and Enterprise Company*, an employer-led organisation established by the government to prepare students for the workplace; it hopes to provide young people with direct support from businesses to boost social mobility.

Other barriers include a lack of access to the professional networks via parents or the inability to gain skills through unpaid internships or accessing liberal professions because of credit constraints. Initiatives from social mobility organisations such as the Sutton Trust and the Social Mobility Foundation in the United Kingdom run a number of programmes designed to encourage young people from low-income backgrounds to gain internship places in top firms. In the United States, the Year Up programme provides support to disadvantaged high school graduates who have troubles finding work, providing a combination of courses in professional skills, work experience, mentoring, job search training and ultimately placement. Interventions to lower entry barriers to liberal professions help to make the access to the liberal profession fairer, for instance offering financial support to start a new business or introducing programmes to help new liberal professionals to get a network of customers. Recent suggestions under consideration in this field in the United States included to subject new licensing proposals to cost-benefit analysis and to reclassify certain licensed occupations – in the United States, for about 30% of occupations the government establishes qualifications required to practice a trade or profession – to a system of certification or no regulation.

1.4.1.9. Investing in health early to provide an equal footing in life

Health status is another key dimension which may be inherited form on generation to the next with consequences on education and professional pathways. By taking action on health inequalities for adults and their children, governments can contribute to upward social mobility.

To break the cycle of disadvantage and promote social mobility, early intervention is key: government programmes need to help even before birth, during pregnancy. Programmes that provide pre-natal and post-natal care to low-income families and which deliver health-related services at home to address barriers to take-up for mothers are associated with increases in child well-being and improved long-term outcomes (e.g. Children in New Zealand Early Start Program or the Family Nurse Partnership [FNP] in the United States). Overall, a strategy based on greater investment in children targeting those from lower socio-economic backgrounds holds the promise of breaking the cycle of intergenerational disadvantages.

Addressing harmful behaviours, including poor diet and lack of physical activity, obesity, and smoking, which often pass from one generation to the next and are more

prevalent among lower socio-economic groups, is important to reduce health inequalities which inhibit social mobility. Physician/dietician counselling appear to have the largest effect, followed by food-advertising and food-labelling regulations and fiscal measures, while mass media campaigns and worksite interventions produce the lowest decrease in health inequality (OECD, 2010a). Restrictions on the advertising of potentially unhealthy products to children have also found support in many countries. Chile, Iceland, Ireland and Mexico, among others, ban on the advertising of foods and beverages on TV during the time children are the main audience.

Health problems among youth can also contribute to the process of disengagement from education. Young people who are unemployed or inactive are five times more likely to have poor health than young people who are employed or in education (OECD, 2016b). It might be difficult for young teenagers to seek advice about their physical or mental health problems, when they can only talk to their parents or teachers. In Australia, a network of external health centres has been rolled out particularly in remote or disadvantaged areas (Australian National Youth Mental Health Foundation). These centres have been designed to be conveniently located and practice open-door policy, allowing young people and their families to drop in (OECD, 2016b).

1.4.1.10. Give a boost to disadvantaged families to compensate early disadvantage

Family policies are another key tool to boost social mobility and ease stickiness at the bottom. Children growing up in low-income families are less likely to achieve higher education, upper-occupation status or high-earning jobs.

The lack of investment in children can have long-term (and potentially irreversible) negative consequences. There is a wide literature looking at the causal impact of parental income – and income shocks – on children's health, schooling and other outcomes. Available evidence suggests that money *in itself* does matter for children's outcomes such as cognitive development and school attainment, as well as social, emotional and behavioural development. But additional money spent has a significantly larger impact for lower-income households, which speaks in favour of an effective targeting of child benefits towards families with lower incomes. Providing additional money to low-income parents, for instance in the form of earning tax credits or in-work bonus could therefore contribute to substantial reductions in outcome differences between low-income children and others, even if it might not be enough to entirely close these gaps.

In emerging economies, conditional cash transfer programmes, which target poor households and make payments conditional on children' health and education participation, have resulted in improved education, housing and well-being. Such programmes can increase the take-up of social and employment services (e.g. *Prospera* in Mexico, *Bolsa Familia* in Brazil or *Chile Solidario*). Effective programmes usually target mothers, as they tend to allocate more resources to their children than fathers do. Indeed, this logic influenced the initial design of Progresa (now Prospera) in Mexico to target benefits to mothers. To produce results, conditionality requires a good service quality, however. Changes in parental behaviour moreover depend on designing incentives appropriately, and the programmes can negatively affect female labour force participation if mothers have to free up too much time for doctors' visits and checks.

1.4.1.11. Work and family balance

Inasmuch as situations of poverty are more frequent among one-earner families with children, the labour market status of mothers also can have lasting consequences on future generations. Women often miss out on crucial labour-market opportunities during the early

stages of their careers, which coincide with the arrival of children in the household, and rarely fully catch up with men afterwards (OECD, forthcoming).

Policies that reconcile work and family balance, early education and care policies and services, can help level the playing fields by compensating disadvantages at home, allowing women progress in their careers and avoiding the transmission of disadvantages to children. They can also support parents in their participation to the labour market and mitigate the detrimental impacts of financial hardship on children's future outcomes. France and the Nordic countries, for example, provide a continuum of publicly provided reconciliation support for parents during the early years of their child's life, and they have been able to combine high female employment with high fertility rates, carrying a demographic dividend with them into the future. Norway and the United Kingdom have expanded or introduced free childcare hours.

The inability to combine work and care often starts in infancy. While the evidence on the relationship between paid leave and child outcomes is mixed, much research has found that paid leave is associated with lower infant mortality and a lower likelihood of low-weight birth.[11] Evidence from several OECD countries suggests that the provision of father-specific leave may have considerable effects on fathers' behaviours and tend improve children's cognitive and social outcomes (OECD, 2012). Low-income families might have more difficulties in combining work and family life because of irregular or non-standard work, while leave policies require a record of regular employment and earnings. They are also less likely to have workplace flexibility with their scheduled hours or location than do more highly-skilled workers.

1.4.1.12. Reducing spatial segregation

The concentration of poor families in disadvantaged neighbourhoods is another challenge for public policies, since it tends to reinforce the mechanisms that replicate disadvantages across generations. Governments need to promote urban planning policies that support a human and social capital infrastructure which guarantees equal access to public services, quality education and employment opportunities.

A variety of policies can help reduce spatial segregation in terms of education and improve social equity in school choice schemes. Controlled school choice schemes and school voucher programmes, for example, can help low-income children pursue quality education and expand opportunities for all in cities. Controlled choice programmes, also called flexible-enrolment plans, introduce mechanisms that ensure that children are allocated to schools more equitably (e.g. in terms of parental socio-economic status, ethnic origin, etc.). In the event of oversubscription to some schools, this type of scheme prevents disadvantaged students from getting crowded out (e.g. system of double waiting lists in Rotterdam, to enrich ethnic and socio-economic mix in schools). Public authorities may also consider a number of financial incentives for all schools to enrol disadvantaged students. Some countries, such as the Netherlands, Australia, Canada and Chile provide more funding to schools that accept low-performing students to offset the additional costs to educate them through progressive voucher schemes or weighted student funding ("virtual vouchers").

Projects targeted at the working-poor in communities are also important to enhance mobility (e.g. comprehensive, community-based programmes set out to tackle in-work poverty in Calgary, Edmonton, Toronto and Saint John in Canada). Other promising initiatives are measures for inclusive business practices, including targeted support for vulnerable workers through childcare, transport and housing support, progressive hiring practices to ensure diversity, opportunities for workers with disabilities, and transparent

performance reporting (e.g. Social Business Centre and Community Investment Fund of the City government of Calgary, CPRI, 2013).

Quality health care is one of the most important dimensions and policies need to ensure access to it independent of a person's place of residence. A range of policy levers may influence the choice of practice location of physicians, including: 1) the provision of financial incentives for doctors to work in underserved areas; 2) increasing enrolments in medical education programmes of students coming from specific social or geographic background, or decentralising the location of medical schools; 3) regulating the choice of practice location of doctors (for new medical graduates or foreign-trained doctors); and 4) re-organising health service delivery to improve the working conditions of doctors in underserved areas and find innovative ways to improve access to care for the population.

1.4.1.13. Improving housing and transport

Access to good-quality affordable housing is important for achieving a number of social policy objectives, including poverty reduction, equality of opportunity and social inclusion. Better targeted housing allowances can help promote mixed-income urban neighbourhoods. Housing allowances, compared with social rental housing (discussed below) are less likely to harm residential and labour mobility.

Some initiatives actually focus on helping lower income households to move to higher income neighbourhoods. For instance, housing vouchers to encourage mixed neighbourhoods were used in the United States with the "Moving to opportunity" experiment whereby the children of families in five U.S. cities (Baltimore, Boston, Chicago, Los Angeles, New York) who moved from high-poverty to low-poverty area had increased earnings and college attendance.[12] Such housing vouchers were effective because they were targeted to families with young children and required families to move to better neighbourhoods with low-poverty. Housing allowances also have limitations as they cannot guarantee good housing quality and may perversely affect rent prices. Another issue of such housing voucher programmes, in particular, was that while the aim was to help households move from low-income areas to more prosperous locations, most families chose to stay close to their original location or move to an area with similar characteristics.

Social rental housing and inclusionary zoning policies may help low-income families but also increase segregation. National legal frameworks sometimes impose a minimum target of social housing on local authorities but it is not always respected: for instance, in France, some well-off areas escape their obligations and pay a fine instead of meeting the social housing target. In practice, social rental housing often concentrates low-income households in deprived urban neighbourhoods that offer low-quality public services and little access to job opportunities, which exacerbates urban social exclusion. Municipalities, especially those with a large share of low-income households and a high share of unemployment, may not have the financial and organisational capacity to supply and maintain social housing. Inclusionary zoning, which exist notably in several US states, as well as Germany and Sweden, requires developers to build a specified share of affordable housing units within otherwise market-rate residential developments, in exchange for a relaxation of regulations on development or other incentives (OECD, 2016a). This policy aims to increase the supply of housing affordable to lower income households while encouraging the spatial inclusion of low-income households in higher opportunity areas. In practice, thresholds for qualifying income levels are set relatively high and can exclude the lowest income households.

Desegregating and connecting all groups of effective transport networks needs to be at the core of urban transport planning. People in disadvantaged communities often have less

well-maintained infrastructure – notably roads, lesser access to reliable public transport services, and are less likely to own a private car. Recent research by the International Transport Forum suggests that targeted subsidies (as opposed to generalised ones) allow transport operators to charge fares that are close to cost-recovery rate for most of the population while cheaper fares are set for vulnerable groups (ITF, 2016).

An integrated public investment strategy can help improve people's access to affordable, equitable and sustainable infrastructure, and expand opportunities for socio-economic mobility in cities. For example, narrowly conceived urban and environmental regeneration initiatives may drive housing prices up and put pressure on the transport network, thereby pushing lower income households out of regenerated neighbourhoods while attracting wealthier residents and high-end businesses. Urban governance systems characterised by higher administrative fragmentation are associated with a higher income segregation of households (OECD, 2016a). More effective governance to integrate policies combining key sectors such as land regulation, housing and transport at the metropolitan scale can help fight income segregation in cities.

1.4.1.14. Wealth taxation, savings and access to credit to foster intergenerational mobility

Policies that affect wealth accumulation and savings behaviour are an important tool for enhancing social mobility. Wealth influences intergenerational mobility, as parents often use their fortunes to support their children by investing in their education or by transmitting part of their wealth to their children before or after the end of their lives. However, wealth is much more unequally distributed than income, and wealth deprivation often goes hand in hand with income poverty (OECD, 2015a; Balestra and Tonkin, forthcoming). Wealth is therefore likely to be a strong driver of "sticky floors" and "sticky ceilings".

Since gifts and inheritances play an important role in wealth accumulation, the taxation of such transfers will affect social mobility. Inheritance and gift taxes commonly take the form of estate taxes imposed on the wealth left by the decedent, inheritance taxes imposed on the wealth received by the beneficiary, or gift taxes imposed on *inter vivos* transfers. From the perspective of social mobility, taxing inheritances is preferable to taxing estates since what matters is how much a person receives from others, not how much a person leaves to others.

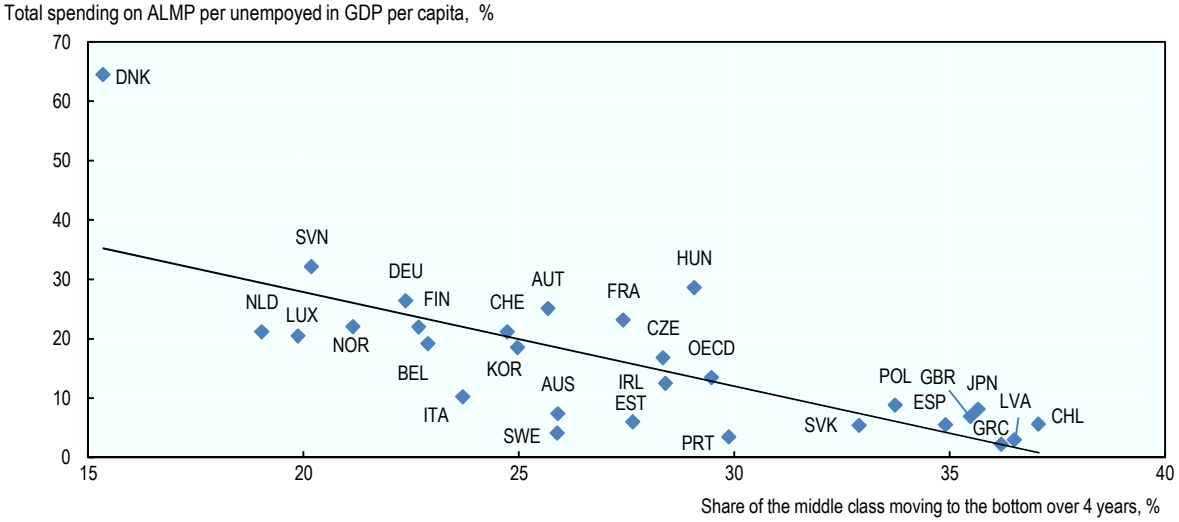
However, revenues from inheritance and gifts taxes have been very low and declining over time, reflecting the fact that tax bases are narrowed by exemptions and deductions, and tax rates are often low. Avoidance opportunities are also widely available. On average across the OECD, revenues from taxes on wealth transfers have declined from 1.1% of total taxation in 1965 to 0.4% today (OECD, 2018c). First avenues to rebalance opportunities would therefore be to limit avoidance, design progressive tax systems with adequate rates and reduce exemptions.

1.4.2. Smoothing the consequences of adverse personal shocks

Policies can also play an important role in affecting mobility over the life course. In particular, they can protect against the effects of unforeseen personal events or temporary shocks which can trigger downward mobility, such as job loss, divorce or childbirth and to foster resilience, notably for middle-class families who face higher risks of downward mobility. As underlined in the new OECD Jobs Strategy, well-designed insurance and assistance schemes, if associated with active labour market policies as well as strategies to foster labour demand, can be very effective in protecting against these shocks while at the same being consistent with better labour market outcomes. As such, countries which spend

more on active labour market programmes tend to have a lower share of middle income households moving down to the bottom of the income distribution over a four year period (Figure 1.18).

Figure 1.18. The share of middle income households moving down to the bottom is lower in countries spending more on active labour market programmes



Note: ALMP: Active labour market programmes. Data on ALMP spending refers to spending per unemployed in GDP/capita in 2015. Total spending on ALMP for Greece do not include public employment services. Data for shares of middle-income households moving down refer to early 2010s.

Source: Chapter 2, *OECD Employment Database* www.oecd.org/employment/database and *OECD Annual National Accounts Statistics (http://dx.doi.org/10.1787/na-data-en).*

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1.4.2.1. Effective transfers ensuring people to recover quickly from economic hardship

Transfers can significantly mitigate the undesired effects of income volatility. It is crucial for mobile societies to ensure that people in economic hardship quickly recover from income shocks. The design of transfer programmes such as unemployment insurance, in-work benefits or family benefits can shape the persistence of income shocks and thereby impact income mobility. In this respect, an effective combination of last-resort income-support schemes with well-designed in-work benefits is likely to support returns to employment and avoid long-term benefit dependency. Unemployment insurance reduces earnings volatility mainly at the bottom of the earnings distribution and feeds longer-term mobility by preventing further social exclusion (OECD, 2015c). The re-distributional impact of unemployment insurance may be particularly important when measured in terms of life-time earnings. However, recent evidence suggests that the unemployment-benefit coverage has been decreasing throughout the recent economic crisis, and that this trend has continued in the recovery period (OECD 2018e, forthcoming). This is a matter of concern as unemployment benefit coverage is especially important for non-standard workers and those durably excluded from employment.

Well-designed permanent in-work benefits or earned income tax credits can be effective to make work pay and induce the right financial incentives for low-pay workers to climb up the earnings ladder, while supporting living standards of low-income families. However,

these schemes can also exert downward pressure on wages. Binding wage floors can increase the effectiveness of these schemes by providing a minimum level below which wages cannot fall. In the United States, the Earned Income Tax Credit (EITC) has contributed to reduce in-work poverty and is also related to better health of children in recipient families through three channels: family income, maternal employment, and health insurance coverage patterns (Cooper and Stewart, 2013). In the Netherlands, taxpayers with earned incomes and children below 12 are entitled to an income-dependant combination rebate.

1.4.2.2. Taxes smoothing income shocks

Tax policies do not only redistribute incomes between individuals and households but also contribute to smooth income volatility among the same households. The role of taxes and transfers in mitigating the impact of a permanent income loss on consumption and lowering the cost of income variability is significant (Blundell, 2014; Bibi et al., 2013).

In some cases, however, tax systems – at least in their current design – contribute to amplifying income disparities over the life cycle because of the time lag between earnings and taxation. For example, taxation of annual income tends to disproportionately burden lower-income families who are more likely to face large ups and downs over the years, and thus pay higher taxes than they would have paid with a stable equivalent income. Measures smoothing taxes or tax credits over multiple years can help mitigate such income fluctuations. Ensuring that the payment of taxes is close in time to earnings helps to avoid unexpected burdens. This can reinforce income stability, in particular among the middle class.

Various forms of tax expenditures targeted at low-income taxpayers can have significant impacts on intergenerational mobility: mortgage interest deductions, deductions of local income taxes, as well as other forms of tax credits are all positively correlated with intergenerational mobility (Chetty et al., 2015).

1.4.2.3. Reducing adverse labour market shocks and helping people back to work

Preventing unemployment spells is the safer road to avoid its long lasting impact on career and skills. Some policy tools can contribute to prevent unemployment spells and job displacement. They must be paired with early intervention measures preventing the unemployment spell to spread in time (OECD, 2018e, forthcoming). Proactive measures, which can begin during the notice period before the layoff occurs, can ensure a smoother transition in case of job displacement (OECD, 2018e, forthcoming). For instance, in Sweden job security councils, managed by social partners, provide transition services and guidance to employees who facing collective redundancies in the form of information about trainings, labour market opportunities, business start-up support, etc.

Close collaboration between employers, unions and labour market authorities, can also result in better co-ordination of collective bargaining arrangements and facilitate adjustments in wages and working time so that layoffs can be avoided. In some countries, working-time reductions are uncompensated so that they result in proportional reductions in earning (e.g. Sweden), while in others they may be partially compensated through the use of short-time work schemes (e.g. Germany, Japan).

Effective active labour market policies, implemented within a mutual obligations framework of rights and duties, are instrumental in integrating jobseekers into good-quality employment and preventing unemployment spells to hamper future mobility. Policies to promote job-search are important to limit the long-term impact of unemployment on

income trajectories. The OECD framework for activation strategies focuses on the best ways to connect people with jobs (OECD, 2015c) by combining measures for the *motivation* of jobseekers to search actively and accept suitable jobs, *opportunities* (e.g. job-search assistance, direct referrals, subsidised employment) and interventions to increase the *employability* of the least employable (e.g. training and work-experience programmes).

Addressing the lack of mobility requires preventing people in employment to remain stuck at the bottom of the income distribution. For hard-to-place workers, the provision of these services requires intensive counselling and skillful case management, whose effectiveness is typically enhanced by low staff caseload. In order to cope with scarce resources, effective profiling tools must therefore be used sufficiently early in the jobless spell as a way to efficiently allocate jobseekers to less or more intensive service streams.

1.4.2.4. Balancing labour market adaptability and promoting career mobility

Addressing labour market segmentation is important for income mobility over the life course. While temporary jobs can be stepping stones to more stable employment, they may be replacing stable jobs instead of encouraging job matching. In some countries, the likelihood of moving to a stable job when occupying a temporary job is low. As fixed term jobs are often likely to bear on youth and the less skilled, they can act as a huge barrier to mobility. Temporary workers often benefit less from training and their work experience is less recognised by employers (OECD, 2015a; Cahuc et al., 2017) because of high segmentation in the labour market, highlighting the importance of having more homogenous employment protection legislation across workers of different types of contracts.

1.4.2.5. Lifelong learning to build capacity throughout the lifetime

Improving adult competencies, beyond those who are unemployed, is an essential component to ensure the continuous employability of workers and promote their career progression and upward mobility. Financial incentives, well-targeted interventions to help people out of low-skills/low-income traps, basic skills programmes can all contribute to enhancing social mobility.

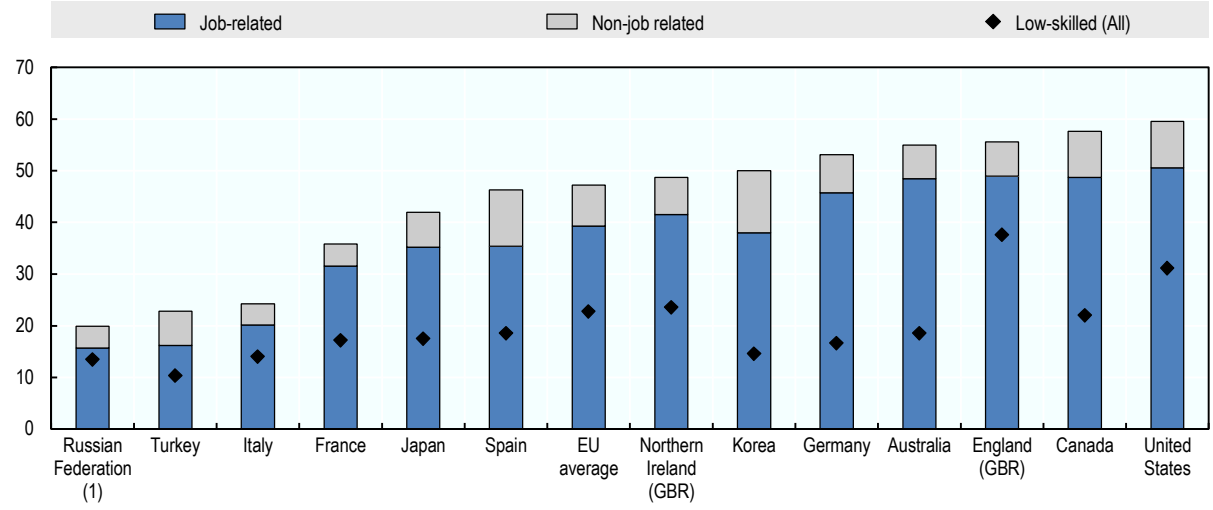
A rapidly changing world of work affected by globalisation, digital transformation and demographic changes makes lifelong learning even more essential, but also requires new approaches to update skills. Access to training among the low-skilled is typically much lower than among the high-skilled, so that most life-long learning system tend de facto to reinforce skills disparities observed when people leave education (Figure 1.19). In the United Kingdom, the Union Learning Fund, organised by trade unions, offers training programmes which mainly target low-skilled workers and activities that they identify as important for their members, in consultation with stakeholders. Union learning representatives engage directly with low-skilled workers to recruit their participation. Low-skilled learners achieve the most significant outcomes, with over two-thirds of learners with no previous qualification moving to a higher qualification level (Stuart et al., 2016).

The validation or recognition of non-formal and informal learning also provides an incentive for low-skilled individuals to further invest in learning by allowing them to capitalise on the skills they already have. This process of Recognition of Prior Learning is particularly important in countries with high levels of under-qualification where workers possess skills required for the job but lack a qualification to prove this.

In addition, individual trajectories in the labour market are more and more diversified with individuals changing jobs and type of employment and require training models which are not tied to the individual employer, e.g. individual learning accounts. France recently introduced the *Compte Personnel d'Activité* which provides funding for training to all working-age individuals, independently of their labour market status, with additional funding for the low-skilled. The advantage of such accounts is that they provide individuals with a training subsidy that gives them more responsibility and control, allowing for a better match between the individual needs and appropriate training (OECD, 2016c).

Addressing skills mismatch is also important because about one-third of workers in OECD countries do not have a job matching their skills (OECD, 2013), while the majority of them are under-skilled. Having the right skills for a job has long-lasting effects on wages and employment throughout workers' careers, reducing the chances of mobility. Employers need to work with education and training institutions to ensure the provision of relevant skills, provide on-the-job training to facilitate the upgrading and adaptation of skills and adopt forms of work organisation that make the most of existing skills.

Figure 1.19. Incidence of training among adults, by skill level



Note: Percentage of adults who participated in adult education and training during year prior to the survey. EU average refers to the unweighted average of training incidence in the 19 EU countries covered by the Survey of Adult Skills PIAAC.

Source: Survey of Adult Skills (PIAAC), 2012, 2015.

StatLink http://dx.doi.org/10.1787/888933762176

1.4.2.6. Further adapt family policies to changing household patterns

Divorce and partnership dissolution have a significant impact on incomes, in particular for women; and divorce is often a "trigger event" leading to poverty, which can persist several years. The most direct channel for income recovery after divorce remains participation to the labour market. However, family benefits and taxes play a critical role in cushioning the impact of divorce on ex-partners.

The payment of child support by the non-custodial parent is a legal obligation in most OECD countries. Non-payment (or delayed payment) of alimony is frequent. National responses to the non-payment of child maintenance by the non-custodial parent can range

from enforced payment, salary deductions, seizure of assets and bank accounts. Child support can be guaranteed in some countries by the State (e.g. Austria, Estonia, Germany, Hungary, Italy and Sweden); by local authorities (e.g. Czech Republic, Denmark and Finland); by special funds (e.g. Latvia, Lithuania, Luxembourg, Poland and Portugal); or by a special administrative agency (e.g. France, the Netherlands and the United Kingdom).

1.4.2.7. Universal access to health care as a first-level buffer against adverse circumstances

Health conditions can have significant consequences on household incomes, either because they can lead to difficult access to or early withdrawal from the labour market and/or because they imply increased expenditures if out-of-pocket payments are high. Access to sickness and disability insurance for all households is a prerequisite to avoid the long-term negative impact on income trajectories of adverse health shocks, while efforts are needed to promote reintegration of those who can into the labour market. Health insurance systems should pay attention to the coverage of the poorest segments of the population to prevent any risk of downward intra-generational mobility. In addition, in order to keep the link with the labour market, disability benefits should be designed to favour activity rather than inactivity in the long run. In France, all legal residents are covered by social health insurance (99.9% of the population), following the 2000 Universal Health Coverage Act (*Couverture Maladie Universelle*, CMU), which changed the public insurance entitlement criterion from professional activity to residence. This allowed a small but growing share of the population who were not previously covered to benefit from the same rights as the rest of the population. In the Netherlands, the Inclusive Redesign of Work Processes (IHW) guides employers in redesigning the work processes to create employment opportunities for young people with a disability, especially if they are low-qualified or low-educated. This implies, for example, reallocating simple tasks from qualified workers to create a position that can be filled by a worker with lower qualifications.[13]

1.4.2.8. Paving the way for tomorrow's social mobility: The challenges of the new forms of employment

The transformation of economies resulting from technological progress, demographic change and globalisation requires that workers remain protected against labour market risks in a world where non-standard forms of work may increase. This includes ensuring that everybody has access to social protection and is covered by basic labour market regulations. Non-standard workers often have limited or no access to certain forms of social protection, such as workplace accident and unemployment insurance.

Policy solutions do exist across OECD countries – non-standard workers can be incorporated in "standard" social protection systems, or social protection systems could be reformed to either become more individualised or more universal (OECD, 2018d). Possible approaches for extending social protection coverage include: creating new, specially-designed benefit schemes for unemployment, pension, accidents, etc. or expanding the role of non-contributory schemes. Tying social protection entitlements to the individual, instead of the job is a possible way to adapt to mobility between jobs and sectors. A few OECD countries are currently planning to introduce "individual activity accounts" that collect entitlements at the individual level, and aim to provide individuals with more choice as to how/when they want to use their accumulated funds.

Untying social protection from the employment relationship – that is, defining individual entitlements to tax-financed benefits – would remove coverage gaps, as well as the necessity of tracking entitlements across jobs and over the lifecycle. A more radical

solution currently discussed in some OECD countries would be to introduce a universal basic income. Simulations suggest however that it is unlikely that such scheme could provide effective protection to all individuals without significantly raising fiscal pressure or making some people worse off. A possible solution could be to develop intermediate forms of support that adopt key aspects of a comprehensive basic income while avoiding some of its drawbacks. One option is to have a basic income at levels below guaranteed minimum income standards, while leaving parts of the existing benefits – this could be desirable for instance if the main aim of such a reform was to more equally share the benefits of globalisation or technological progress rather than to address gaps in existing income protection systems. A gradual move towards greater universality may also be desirable in countries where poorer population groups receive relatively small shares of overall benefit expenditures. Another alternative would be to keep mild eligibility conditions in place or have durations of basic income payments capped. A further option could be to introduce it gradually to different groups, such as future cohorts of young adults (OECD, 2017b; Browne and Immervoll, 2017).

All in all, governments have various policy tools at hand that, depending on the country-specific conditions, can help them address one of the defining challenges of our time: promoting social mobility, within and across generations, and to give everyone a chance to fully express their talent and potential. This is key to fostering a more dynamic, innovative, and most importantly, inclusive and fairer economy and society.

Notes

1. For a discussion of these mechanisms, see Cingano, 2014; OECD, 2015; Becker and Tomes, 1986; Hassler et al., 2002, Sullivan, 2008, Bradbury and Triest, 2015)
2. See Nikolaev and Burns, 2013; Chan, 2017.
3. See Tversky and Kahneman, 1991; Dolan and Lordan, 2013; Nikolaev and Burns 2014.
4. See Clark and Lipset, 1991; Ravazzini and Chavez-Juarez, 2015.
5. Evidence from Latin American countries shows that people who think that their situation improved compared to their parents are significantly more likely to support democracy (Daude and Melguizo, 2010). See also Lahtinen et al., 2017; Mayer et al., 2015; Day and Fiske, 2017.
6. For instance, the best predictor of voting behaviour at the European elections in 2014 has been found to be the assessment by the respondents of their social position *and* their upward or downward trajectory (Mayer et al., 2015). See also Benabou and Ok 2001; Clark and D'Angelo, 2013; Gest et al. 2017; Dostal, 2015.
7. See Havnes and Mogstad, 2015, Caille, 2001, Goux and Maurin, 2010, Shuey, forthcoming.
8. See Heckman, et al. 2010.
9. See Woolfson and King, 2008.
10. See Schochet, Burghart and McConnell, 2008.
11. See Adema et al., 2015.
12. See Chetty et al., 2016.
13. See Scharle and Csillag, 2015.

References

Adema, W. et al. (2015), "Paid Parental Leave: Lessons from OECD Countries and Selected U.S. States", *OECD Social, Employment and Migration Working Papers*, No. 172, OECD Publishing, Paris. http://dx.doi.org/10.1787/5jrqgvqqb4vb-en

Atkinson, A.B. (2015), *Inequality,* Harvard University Press.

Becker, G.S., and N. Tomes, (1986), "Human Capital and the Rise and Fall of Families." *Journal of Labor Economics*, Vol. 4, pp. S1-S39.

Benabou, R. and E.A. Ok (2001), "Social mobility and the demand for redistribution: the poum hypothesis", *Q J Econ,* Vol. 116/2, pp. 447-487.

Balestra, C. and R. Tonkin (forthcoming), "Inequalities in household wealth across OECD countries: Evidence from the OECD Wealth Distribution Database", *Statistics and Data Working Papers*, No. 2018/1, OECD Publishing, Paris.

Bibi, S., J.Y. Duclos and A. Araar (2014), "Mobility, taxation and welfare". *Social Choice and Welfare*, Vol. 42/3, pp. 503-527.

Blundell, R. (2014), "Income Dynamics and Life-cycle Inequality: Mechanisms and Controversies". *The Economic Journal*, Vol. 124/576, pp. 289-318.

Bowles, S. and H. Gintis (2002), "The Inheritance of Inequality", *Journal of Economic Perspectives*, Vol. 16/3, pp. 3-30.

Bradbury, K. and R. Triest (2016), "Inequality of opportunity and aggregate economic performance", *Russell Sage Foundation Journal of the Social Sciences,* Vol. 2, pp. 178-201.

Browne, J., and H. Immervoll (2017), Basic Income as a Policy Option: Illustrating costs and distributional implications for selected countries. *Technical background note* http://www.oecd.org/employment/future-of-work.htm.

Cahuc, P and S. Nevoux (2017), "Inefficient Short-Time Work". Centre for Economic Policy Research, London, https://www.cepr.org/active/publications/discussion_papers/dp.php?dpno=12269

Caille, J. (2001), "Scolarisation à 2 ans et réussite de la carrière scolaire au début de l'école élémentaire", Éducation et formations, pp. 7-18.

Chan, T.W. (2018), "Social mobility and the well-being of individuals". *The British Journal of Sociology*, Vol. 69/1, pp. 183-206.

Chetty, R., N. Hendren, O. Kline and E. Saez (2015), *The Economic Impacts of Tax Expenditures: Evidence from spatial variation across the US*. Mimeo

Chetty, R., and N. Hendren (2016), The impacts of neighborhoods on intergenerational mobility i: Childhood exposure effects (No. w23001). National Bureau of Economic Research.

Cingano, F. (2014), "Trends in Income Inequality and its Impact on Economic Growth", *OECD Social, Employment and Migration Working Papers*, No. 163, OECD Publishing, Paris, http://dx.doi.org/10.1787/5jxrjncwxv6j-en.

Clark, A.E.; E. D'Angelo (2013), "Upward Social Mobility, Well-being and Political Preferences: Evidence from the BHPS". *RePec Working Paper* 33.

Clark, T.N. and S.M. Lipset (1991), "Are Social Classes Dying?" *International Sociology,* Vol. 6/4, pp. 397-410.

Corak, M. (2006), "Do Poor Children Become Poor Adults? Lessons for Public Policy from a Cross Country Comparison of Generational Earnings Mobility." *Research on Economic Inequality*. Vol. 13, Dynamics of Inequality. Elsevier, The Netherlands.

Cooper, K. and K. Stewart (2013), "Does money affect children's outcomes?", https://econpapers.repec.org/paper/cepsticar/casereport80.htm (accessed on 21 November 2017).

CPRI (2013), "Enough for all: Unleashing our communities' resources to drive down poverty in Calgary", final report of the Calgary Poverty Reduction Initiative, Vol. 1.

Day, M.V. and S.T. Fiske (2017), "Movin'on up? How perceptions of social mobility affect our willingness to defend the system". *Social Psychological and Personality Science*, Vol. 8/3, pp. 267-274.

Daude, C., Á. Melguizo and A. Neut (2010), "Fiscal Policy in Latin America: Countercyclical and Sustainable at Last?", *OECD Development Centre Working Papers*, No. 291, OECD Publishing, Paris, http://dx.doi.org/10.1787/5km8zdcp7j41-en.

Dolan, P. and G. Lordan (2013), Moving up and sliding down: An empirical assessment of the effect of social mobility on subjective wellbeing.

Dostal, J.M. (2015), "The Pegida Movement and German Political Culture: Is Right-Wing Populism Here to Stay?". *The Political Quarterly*, Vol. 86/4, pp. 523-531.

English, J. (2014), "*The "Finnish Way" to Optimize Student Learning*"; http://www.globaleducationproject.org/.

Gest, J., T. Reny and J. Mayer (2017), Roots of the Radical Right: Nostalgic Deprivation in the United States and Britain. *Comparative Political Studies*.

Goux, D. and E. Maurin (2010), "Public school availability for two-year olds and mothers' labour supply", *Labour Economics*, Vol. 17/6, pp. 951-962, http://dx.doi.org/10.1016/J.LABECO.2010.04.012.

Hassler, J., J. Moar and J. Zeira, (2017), "Inequality and mobility," *Journal of Economic Growth*, Vol. 12, pp. 235–259.

Havnes, T. and M. Mogstad (2015), "Is universal child care leveling the playing field?", *Journal of Public Economics*, http://dx.doi.org/10.1016/j.jpubeco.2014.04.007.

Heckman, J., S. Hyeok Moon, R. Pinto, P. Savelyev and A. Yavitz, (2010), "The Rate of Return to the Highscope Perry Preschool Program", *Journal of Public Economics,* Vol. 94/1-2, p. 114-128.

ITF (2017), "Income Inequality, Social Inclusion and Mobility", ITF Roundtable Report 164. OECD Publishing, Paris, https://www.itf-oecd.org/income-inequality-social-inclusion-mobility.

Kast, F. and D. Pomeranz (2014), Saving More to Borrow Less: Experimental Evidence from Access to Formal Savings Accounts in Chile. National Bureau of Economic Research, Cambridge, MA, http://dx.doi.org/10.3386/w20239.

Lahtinen, H., H. Wass and H. Hiilamo (2017), "Gradient Constraint in Voting: The Effect of Intra-generational Social Class and Income Mobility on Turnout", *Electoral Studies*, Vol. 45, pp. 14–23.

Mayer, N., A. Rovny, J. Rovny and N. Sauger (2015), "Outsiderness, Social Class, and Votes in the 2014 European Elections". *Revue européenne des sciences sociales*, Vol. 53-1/1, pp. 157-176.

Nikolaev, B. and A. Burns (2014), "Intergenerational mobility and subjective well-being—Evidence from the general social survey". *Journal of Behavioral and Experimental Economics*, Vol. 53, pp. 82-96.

OECD (2008), *Growing Unequal? Income Distribution and Poverty in OECD Countries*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264044197-en.

OECD (2010a), *Obesity and the Economics of Prevention: Fit not Fat*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264084865-en.

OECD (2012), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264130852-en.

OECD (2013), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264204256-en.

OECD (2015a), *In It Together: Why Less Inequality Benefits All*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264235120-en.

OECD (2015b), *All on Board: Making Inclusive Growth Happen*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264218512-en.

OECD (2015c), "Activation policies for more inclusive labour markets", in *OECD Employment Outlook 2015*, OECD Publishing, Paris, http://dx.doi.org/10.1787/empl_outlook-2015-7-en.

OECD (2015d), *Back to Work: Canada: Improving the Re-employment Prospects of Displaced Workers, Back to Work,* OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264233454-en.

OECD (2015e), *Investing in Youth: Latvia*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264240407-en.

OECD (2016a), *Making Cities Work for All: Data and Actions for Inclusive Growth*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264263260-en.

OECD (2016b), *Society at a Glance 2016: OECD Social Indicators*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264261488-en.

OECD (2016c), "New Forms of Work in the Digital Economy", *OECD Digital Economy Papers*, No. 260, OECD Publishing, Paris. http://dx.doi.org/10.1787/5jlwnklt820x-en

OECD (2017a),*The Productivity-Inclusiveness Nexus*, OECD Publishing, Paris

OECD (2017b), Basic income as a policy option: can it add up?, *Policy Brief on the Future of Work*, http://www.oecd.org/els/emp/Basic-Income-Policy-Option-2017.pdf

OECD (2018a), The Framework for Policy Action on Inclusive Growth – The MCM 2018 Report on Inclusive Growth, C(2018)33/REV2.

OECD (2018b), *Investing in Youth: Norway*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264283671-en.

OECD (2018c), "The Role and Design of Net Wealth Taxes in the OECD", *OECD Tax Policy Studies*, No. 26, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264290303-en.

OECD, (2018d), "The future of social protection: What works for non-standard workers?" *Policy brief on the future of work,* www.oecd.org/employment/future-of-social-protection.pdf.

OECD (2018e, forthcoming), *Employment Outlook 2018,* OECD Publishing, Paris

ONPV (2016), Rapport de l'Observatoire National de la Politique de la Ville, 2016.

Piketty, T. (2014), Capital in the 21st Century.

Ravazzini, L. and F. Chávez-Juárez (2015), Which inequality makes people dissatisfied with their lives? Evidence of the link between life satisfaction and inequalities.

Scharle A. and M. Csillag (2015), Disability and Labour Market Intergration, Analytical Paper, European Commission.

Schochet, P.Z., J. Burghart and S. McConnell (2008), "Does Job Corps Work? Impact Findings from the National Job Corps Study", *American Economic Review*, Vol. 98, No. 5, pp. 1864-1886.

Shuey, E.A. and M. Kankaras (forthcoming), "The Power and Promise of Early Learning", *OECD Working paper*.

Sullivan, J.X. (2008), "Borrowing during unemployment unsecured debt as a safety net", *Journal of human resources*, Vol. 43/2, pp. 383-412.

Tversky, A. and D. Kahneman (1991), "Loss aversion in riskless choice: A reference-dependent model". *The quarterly journal of economics*, Vol. 106/4, pp. 1039-1061.

Woolfson, L. and J. King (2008), Evaluation of the extended pre-school provision for vulnerable two year olds pilot programme-Final report. The Scottish Government.

Chapter 2. Income dynamics and income mobility over the life course[1]

This chapter considers social mobility from an intra-generational perspective and analyses income mobility over the life course. The chapter explores to which extent levels of income inequality change when taking income mobility into account – so called "permanent inequality". It identifies the extent of income persistence at both ends of the income distribution in OECD countries and selected major emerging economies – "sticky floors" and "sticky ceilings". The chapter provides evidence on trends in income mobility between the late 1990s and the early 2010s. It also analyses the structure of income changes and the role of unpredictable "income shocks" for explaining those changes, in particular at the bottom of the income distribution.

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.

Introduction

There is a large variation in the level of income inequality across OECD countries, with Gini coefficients ranging from 0.25 to 0.45. However, income indicators are typically measured at a particular point in time on an annual basis. Even if such indices are computed for a number of successive periods, they do not reflect individual trajectories and dynamics. Over time, both income values and individuals' positions on the income ladder are likely to change. That is why a society with a given level of income inequality where household incomes are mobile will not face the same challenges as a society with the same level of income inequality but where income positions are "stuck" over time. The purpose of the present income mobility analysis is to look at these individual income trajectories, i.e. income changes of a given person over time, in order to understand how they link with overall inequality and what this implies for policies.

To identify a "desirable" level of income mobility for a society is not straightforward (Jäntti and Jenkins, 2015). On one side, income mobility as such can be desirable from a social welfare point of view. A highly mobile society can be seen as a goal in itself, a sign of an open society and a fluid income distribution. A society where household incomes are mobile and where individuals have a high chance to move up through their efforts and capabilities may be socially preferable to a society where income positions are stuck over time. Ensuring that the poorest people do not persistently stay poor and enabling sufficient income mobility can help to prevent long spells of poverty and their damaging impact, for example in terms of social exclusion. In that sense, income mobility provides "a short way from rags to riches" (Jenderny, 2016). A society where people ranking in the top incomes are not persistently the same can be preferred to a society where there is no turnover among people ranking at the top.[2] Similarly, if inequality reflects discrimination against certain groups or the results of cultural, ethnic or family backgrounds, it is likely that income mobility can contribute to a more equal society.

On the other side, some aspects of income mobility are not desirable from a social welfare point of view. "Excessive" income mobility, in the sense of frequent and uncertain income changes, can also be associated with greater income insecurity. As people are generally averse to losses, stable disposable incomes can therefore be seen as a desirable outcome per se from a social policy point of view, and policy measures actually work in this direction, for example via insurance that in the case of unemployment compensates losses that are linked to former employment income levels.

The patterning of income mobility is an important aspect of how societies function. It describes the ability of people to move up or down the economic ladder, over the lifetime or within a more limited horizon of time, and their economic vulnerability. A better understanding of income changes – their sizes, persistence, drivers, and the role policy institutions play in the process – is key to improve the effectiveness of policies, foster more stable and resilient income paths and promote equal opportunities. Countries that exhibit similar levels of overall income mobility may contrast greatly in terms of the underlying forces driving mobility processes. A low level of income mobility may be a result of market inefficiency (lack of opportunity) in one country, while a result of generous welfare (stability) in another (Jäntti and Jenkins, 2015).

Income mobility describes the movements of a given individual through the distribution of income over time, by either relating one's current income to one's past income levels – which will be referred as absolute income mobility – or relating one's

current income position in the income distribution (for instance, a given income quintile) to one's past position – which will be referred to as positional income mobility.

The purpose of this chapter is to assess the size and forms of intra-generational income mobility. It concentrates on income changes over (working-age)[3] individuals' "life course", ranging from medium-term income mobility (four years) to longer-term income changes (nine years). The chapter first identifies how taking account of income mobility changes our assessment of existing levels of income inequality. It focusses in particular on the bottom and top of the income distribution, the two parts of the income distribution where there is the least mobility in terms of position in the income ladder. The chapter then analyses how income mobility evolved between the late 1990s and the early 2010s. It also examines positional mobility in some of the major emerging economies. Last, the chapter provides an analysis of the structure of income changes and disentangles the effects prevailing at country level into different components and drivers: benefits of overall economic growth, returns of experience, returns of unobserved individual characteristics and unpredictable income changes. The chapter highlights that "unequal mobility" can occur when unpredictable income changes combine with low levels of long-term (upward) income mobility and when this concerns mostly the most vulnerable population groups.

The following main findings emerge:

- There is no trade-off between inequality and income mobility. The most unequal countries do not have greater levels of mobility. And some among the most equal countries have large levels of income mobility.
- On average across OECD countries, in the early 2010s, 50% of individuals stay in the same income quintile over four years, and almost 40% over nine years – a figure that is relatively stable across countries. Income persistence is higher at the bottom of the distribution (almost 60%) and, in particular, at the top (70%). Sticky ceilings prevent those with high incomes from falling down the income distribution, while sticky floors prevent those with low income from moving upward.
- Compared to poorer and richer households, the middle class appears more mobile, as only 40% remain in their respective income position after four years (and 30% after nine years). For these households, even small absolute income changes can lead to a change of their income position. Such changes are not neutral in terms of well-being and life satisfaction, as people tend to pay considerable attention to their own income positions with respect to others.
- There is a trend towards more persistence of income positions today compared to the late 1990s. This translates into both lower chances to move upwards for those at the bottom and lower risks for those at the top to move downwards. Although overall income inequality increased since that time, it has not been compensated by greater income mobility.
- There are signs of a divide among the middle classes in many countries: for those closer to lower incomes and part of the "bottom 40%", the risk to further slide down over the life course has increased in many countries. At the same time, those closer to the middle and the more affluent members of the middle class today have somewhat lower risks to fall into low income and poverty. If this trend continues, there is a risk that the middle class may be fracturing.

- Income mobility in emerging economies is slightly higher than in a typical OECD country. There is, however, no sign of a trend towards greater mobility since the early 2000s – rather the opposite.
- Overall, individuals' income changes depend on four components: aggregated income growth, life-cycle effects, heterogeneous individual trends and unpredictable income changes. Measured over a four-year time period, unpredictable income changes ("shocks") matter most to explain income changes, and these are more frequent among individuals in the bottom of the income distribution.

2.1. Income mobility and inequality

Income inequality varies greatly across OECD countries (OECD, 2015a). Today, the Gini coefficient – a common measure of income inequality that scores 0 when everybody has identical incomes and 1 when all the income goes to only one person – stands at an average of 0.315 in the OECD countries, approaching 0.4 in the United States and Turkey and exceeding 0.45 in Chile and Mexico. Over the past three decades, income inequality has risen in most OECD countries, reaching in some cases historical highs.

However, having a widening gap between "the rich" and "the poor" from one date to another does not mean that "the rich" and "the poor" between these two dates are the same individuals. Between two extreme scenarios – one in which from one point in time to another the richest person became the poorest, and vice versa, one where the poorest remains the poorest and the richest the richest – many intermediate cases occur in reality. The degree and form of such mobility has concrete implications for our assessment of income inequality across countries.

The purpose of this section is to assess the level of inequality prevailing when incomes are averaged over a longer time frame than one year. In a nutshell, it shows that the current level of income mobility in OECD countries is not of sufficient size to offset the effects of an overall increase in income inequality.

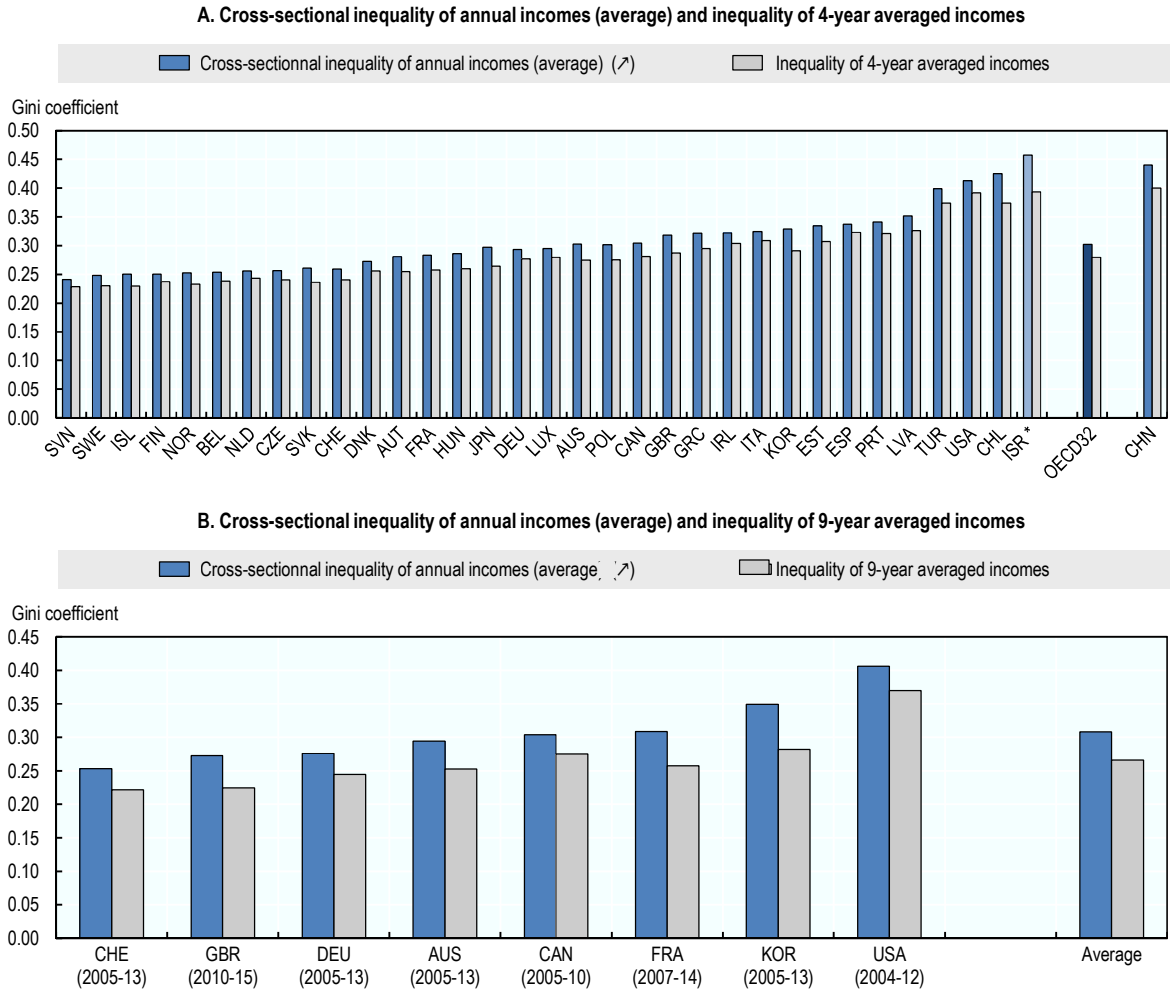
People's incomes change regularly, frequently and significantly. Inequality measures observed at one point in time therefore reflect only a snapshot of levels of inequality among individuals. If for example a significant share of low-income individuals manage to reach the lower middle class after some years, or if the richest people do not stay the richest on average over some years, then the cross-sectional measure of income inequality is partial, especially when comparing societies with different institutions and mobility patterns.

A measure of average incomes over a longer period is better reflecting individuals' welfare than an instant snapshot (Shorrocks, 1978; Fields, 2010). If one were to pool individuals' incomes over four years, the level of inequality would be lower, but only slightly. For example, the Gini coefficient of incomes pooled over four years in the beginning of the 2010s (2011-2014 for most countries) would be 2.3 points lower than the average of yearly inequality measures over the same period[4] (Figure 2.1, Panel A). On a longer time frame, here a decade, inequality is lowered on average by 3 to 7 points in countries for which data is available (Figure 2.1, Panel B). For the sake of comparison, the Gini coefficient increased by approximately 3 points between 1985 and 2015. The longer the time frame taken into account, the greater are the chances to observe income changes, and hence to capture a stronger impact of such changes on inequality. Some estimates on long durations (over ten years) suggest that inequality declines steadily as

the reference period is extended, although less and less after more than ten years. Permanent inequality would then converge and be about 30% lower than the level of inequality measured annually (Jenkins, 2011).

Figure 2.1. Cross-sectional inequality and "permanent" income inequality

Early 2010s or latest



* For Israel data refer to income before taxes.

Reading note: In the OECD on average, the Gini index of yearly incomes for the working-age population (18-65 years old) stood at 0.302 on average between 2011 and 2014. The Gini index of averaged 4-year incomes was slightly lower, at 0.279, indicating that income mobility decreased the level of inequality by 2.2 points.

Notes: Inequality is measured by the Gini coefficient, a standard measure of income inequality which takes values between 0 (where every person has the same income) and 1 (where all income goes to one person). In Panel A, data refer to 2011-14 for all countries except Australia, Germany, Ireland, Korea, Switzerland and Turkey (2010-13), Canada (2007-10) and Chile (2006-09). For the United States, as data is collected on a biannual basis, the result is based on the average between results for a 3 year- and a 5 year-panel. Data for China refer to the age 25-55 population and cover a period of 5 years. In Panel B, data refer to 2007-14 for France, to 2005-13 for Australia, Germany, Korea and Switzerland, 2004-12 for the United States and 2005-10 for Canada.

Source: OECD calculations based on the CNEF; EU-SILC; SRCV (France - 8 years); KHPS-JHPS (Japan), Panel Casen Survey (Chile), SILC (Turkey), Israeli Longitudinal Survey and Chan et al. (forthcoming) for China. See Annex 2.A1 for details on the data sources.

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While the ranking among countries is not altered when incomes are assessed over a four-year span, some important differences between countries can be observed. Income mobility lowers long-term inequality especially in Chile, Korea and Japan, in the United Kingdom, and in the Central Eastern and Baltic European countries. Income mobility lowers inequality less in Slovenia, the Netherlands, Finland and Spain (less than 1.5 Gini points over four years). In China, inequality is lowered to a greater extent than in most OECD countries.

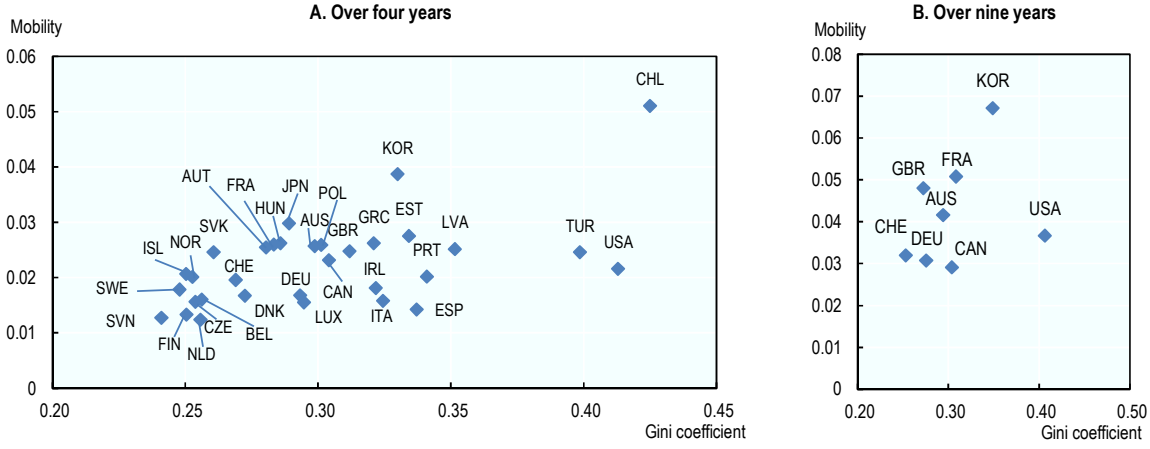
The reduction of inequality that stems from income mobility is somewhat greater in more unequal countries, but not to an extent that changes the overall ranking of countries regarding cross-sectional inequality. The difference between inequality of averaged ("permanent") incomes and the average of cross-sectional inequality is a proxy indicator of mobility and gives an idea of how much inequality is lowered by the passage of time. There is only a weak correlation, if at all, between this indicator of mobility and inequality (Figure 2.2).

The literature distinguishes opposing views on the link between inequality and income mobility. Some argue that wider inequality is the result of large-scale mobility processes. As such, inequality would not be an issue *per se*, as long as large mobility compensates for it (e.g. Friedman, 1962; 2009). Others suggest that a wider income distribution implies bigger steps to climb up, which income and social mobility do not compensate (e.g. Krugman, 1992; Aaberge et al., 2002; Jenkins, 2011).

An extensive literature has examined whether the higher level of inequality in the United States could be mitigated by a higher level of income mobility, in particular by comparing the United States and Europe (see Burkhauser and Couch, 2009, for a review) and found that greater inequality is weakly linked to greater intra-generational mobility. Aaberge and Mogstad (2014) found that there is only a slightly higher level of mobility in the United States than in Nordic countries, although inequality is much higher in the former. Such results are consistent with numerous findings in the literature. Gangl (2005), comparing European countries and the United States during the 1990s, notes that there is little difference in the country ranking once inequality is calculated for multi-period individual incomes and given there is not more income mobility in the United States than in Europe. A similar finding emerges from Chen (2009), who compares the United States, Canada, Great Britain and Germany during the 1990s. Alves and Martins (2012) focus on European countries in 2005-09 and conclude that income mobility does not substantially alter the income inequality ranking of EU countries, pointing to a significant fraction of permanent inequality in all EU countries. For China, Chan et al. (forthcoming) and Clement (2016) suggest that income is more unequally distributed but more mobile than in the United States, Germany and Great Britain.

Figure 2.2. Cross-sectional inequality and mobility in terms of Gini reduction

Gini coefficients for cross-sectional annual incomes and for averaged incomes (early 2010s or latest)



Note: Mobility is defined as the difference between the average of cross-sectional inequality and the inequality of the averaged ("permanent") incomes (Gini coefficients). Data refer to the working-age population (18-65). In Panel A, data refer to 2011-14 for all countries except Australia, Germany, Ireland, Korea, Switzerland and Turkey (2010-13), Canada (2007-10) and Chile (2006-09). For the United States, as data is collected on a biannual basis, the result is based on the average between results for a 3 year- and a 5 year- panel. In Panel B, data refer to 2007-14 for France, to 2005-13 for Australia, Germany, Korea, Switzerland, 2004-12 for the United States and 2005-10 for Canada.

Source: OECD Secretariat calculations based on CNEF, EU-SILC, SRCV (France, 8 years), KHPS-JHPS (Japan), SILC (Turkey) and Panel Casen Survey (Chile). See Annex 2.A1 for details on the data sources.

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2.2. Positional mobility: Sticky floors at the bottom, and sticky ceilings at the top

This section focuses on people's position in the income ladder and investigates income mobility by relating one's current income position in the income distribution to one's past income position. This is referred to as positional mobility. As individuals tend to value their well-being by comparison to the rest of the society, positional mobility matters. Falling behind others is generally perceived negatively, even when there is little change in real living standards, and moving ahead is perceived as desirable (see Box 2.1).

The relevance of positional mobility measures is rooted in a sociological approach to income mobility. How well individuals feel that they are doing in society is typically affected more by their relative position than by their absolute wealth or income (Duesenberry, 1949; Hirsch, 1995; Pavlopoulos et al., 2010). This is often pictured by the "keeping up with the Joneses" metaphor.[5] Evidence suggests that, while at any point in time, richer people tend to be happier than the poorer, the proportion of people reporting that they are happy does not increase with increases in society's average income (known as the Easterlin Paradox, Easterlin, 1973; 1995). This phenomenon is found to be exacerbated in more unequal countries (Cheung and Lucas, 2016).

Box 2.1. Is positional mobility a zero-sum game?

Mobility is often seen as a zero-sum game: if some people move up, others will have to move down. However, positional mobility deserves more attention for at least two reasons. First, the number of people moving down is not necessarily equal to the number of people moving up, nor is the magnitude of changes in individuals' income positions. Second, the outcome of these changes will not be treated similarly by policy makers, depending on whether it applies to those already in hardship, in the middle or at the top. As any individual moving up is counterbalanced by one or several moving down, a great variety of situations can occur within this "zero-sum game". An individual experiencing a strong upward positional mobility can for example be "compensated" (in terms of social welfare) by many individuals experiencing small positional losses or by a few experiencing strong symmetric downward mobility and stability among most of the remaining population.

Obtaining a better understanding of the distribution of gains and losses and their magnitude can also help to explain individual perceptions of overall well-being. For example, during recessions, smaller but more widespread income losses are preferred over larger losses concentrated on a few individuals (Wodon, 2001). The distribution of "winners" and "losers" translates into different concerns for policy makers, as one can suppose that in the latter case described above, the situation of those losing a lot will require either strong adaptation (in times of economic crisis) or support to benefit from the fruits of economic growth in economic upturns. Based on the nature of the income changes, policies can be envisaged to better share the brunt of economic and social changes, for example by providing support to re-skilling if a given sector is hurt, or by ensuring wide coverage of social insurance.

2.2.1. Moving up and down the income ladder

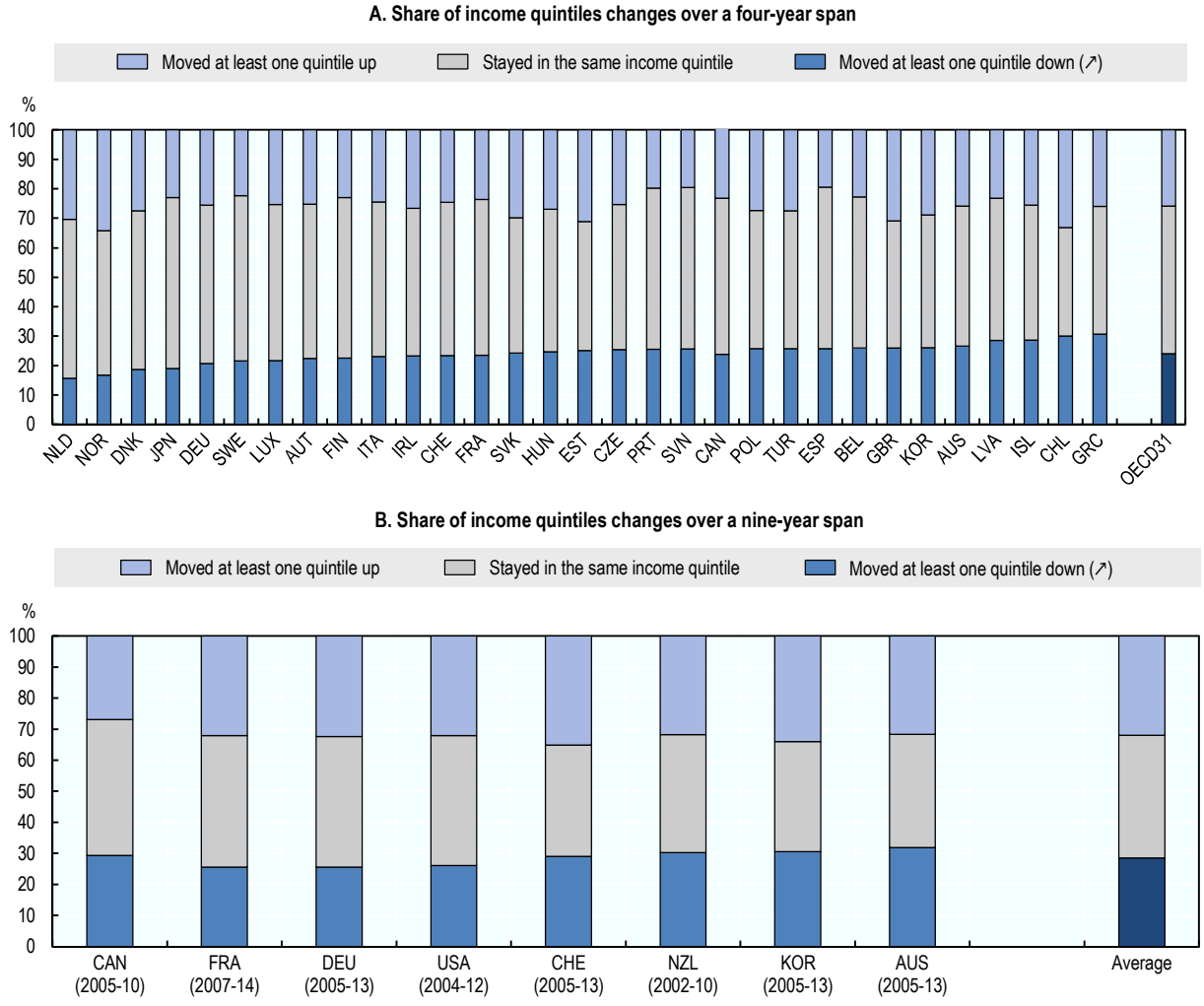
A simple way to summarise the extent of mobility is by analysing the association between an individual's initial position in the income distribution in a given year and the position some years later (four or nine here). On average across OECD countries, half of individuals stayed in the same income quintile[6] over four years; 26% moved one quintile up, and 24% moved one quintile down. With a longer time frame of nine years, the movements are larger: some 38% of people stayed in the same income quintile, 32% moved at least one quintile up, and 30% moved at least one quintile down (Figure 2.3).

The share of those staying in the same income quintile is broadly similar across countries. The countries with the least income mobility include Finland, Spain, the Netherlands and Sweden, with about 55% people staying in the same income quintile over four years. The most mobile countries, as measured by positional mobility, are Korea, the United Kingdom, Turkey and Greece, where only 40% to 44% of individuals stayed in the same quintile over four years. Among countries for which longer run data are available, France, Germany and the United States have lower levels of changes in income position, while Korea and Australia have higher ones.

Across countries, there is not necessarily a perfect balance between upward and downward movements. In the Netherlands for example, 30% of the population went at least one quintile up and 16% at least one quintile down between 2011 and 2014. A reason for this gap is either that mobility is not at the same level and/or that mobility occurs at different places in the income distribution. By contrast, in the United Kingdom and Korea, the share of people moving to an upper income quintile is the same (30%) but the share of people moving down is about ten points higher, around 25%, picturing a case combining large income gains for some with large income losses for others.

Figure 2.3. Share of income quintiles changes over time

Early 2010s or latest



Note: Data refer to the working-age population (18-65). In Panel A, data refer to 2011-14 for all countries except Australia, Germany, Ireland, Korea, Switzerland and Turkey (2010-13), Canada (2007-10) and Chile (2006-09). For the United States, as data is collected on a biannual basis, the result is based on the average between results for a 3 year- and a 5 year-panel. In Panel B, data refer to 2007-14 for France, to 2005-13 for Australia, Germany, Korea and Switzerland, 2004-12 for the United States and 2005-10 for Canada.

Source: OECD Secretariat calculations based on the CNEF, EU-SILC, SRCV (France), KHPS-JHPS (Japan), SILC (Turkey) and Panel Casen Survey (Chile). See Annex 2.A1 for details on the data sources.

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2.2.2. The starting position in the income ladder shapes income mobility

Mobility prospects are not equally shared throughout the income ladder. There is much more persistence at both ends of the income distribution. The vast majority of those starting at the *bottom* (first income quintile) have low prospects to move up the income distribution over time: on average, 57% remain in their position four years later, and 41% nine years later (Figure 2.4, Panels A and B). That said, large *absolute* income changes often occur at the bottom of the income distribution, with many people experiencing income increases. However, these increases are often insufficient to allow individuals to move up the income ladder significantly.

There is even more persistence at the *top* of the income distribution, with 68% of the people belonging to the richest quintile of the population staying there over four years, and 53% after nine years. A greater persistence at the top than at the bottom is also often reported in the literature (Kopszcuck et al., 2010; Alves and Martins, 2012). Symmetrically to the situation at the bottom, the top income group is a group where large absolute income changes can occur – however, again, they do not necessarily translate into significant re-ranking in the income ladder – hence, the high persistence also at the top.

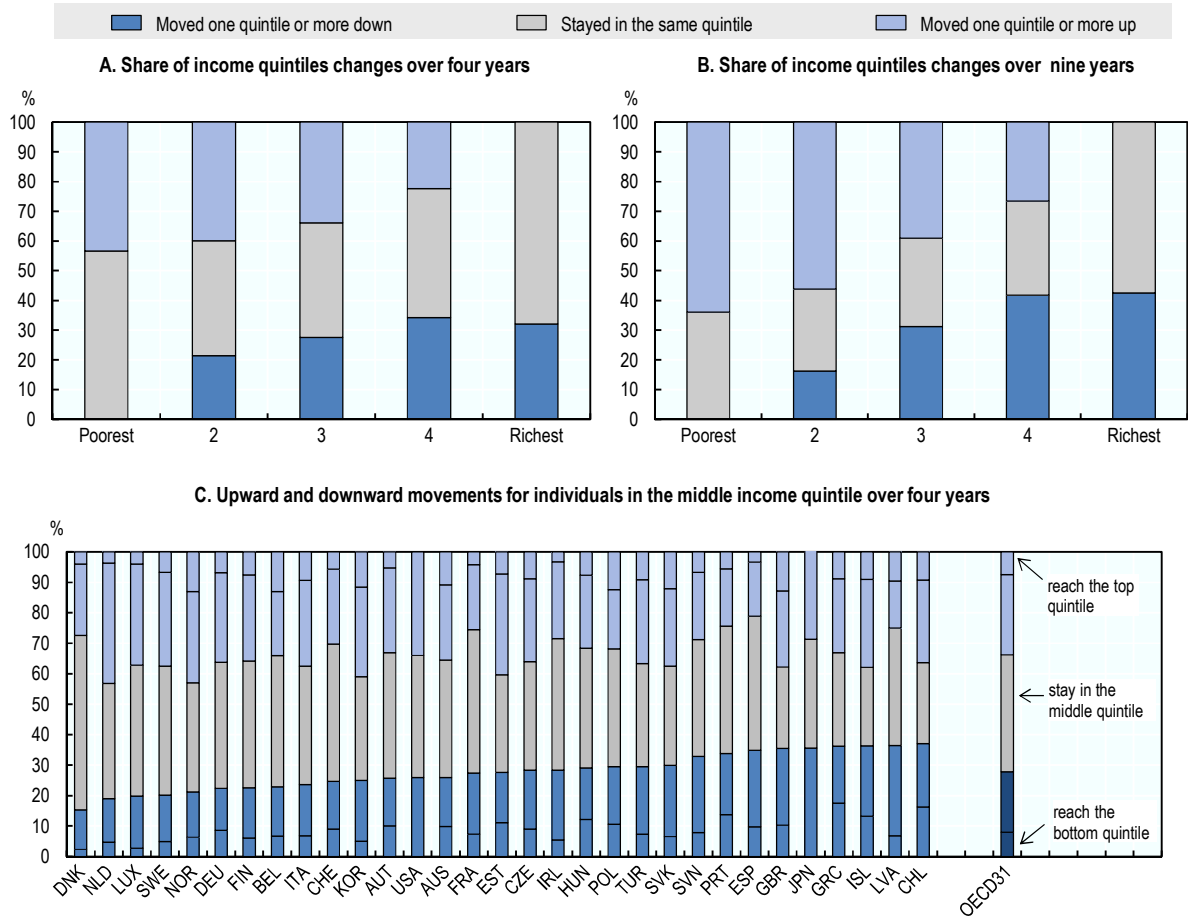
Compared to poorer and richer households, the middle class (working age adults in the 60% of people in the middle of the income distribution) is more mobile in terms of income positions. On average, only a minority remain in their respective income quintile: some 40% after four years, and 30% after nine years. The middle class is an income group where absolute income changes are smaller than at the bottom or the top of the income distribution. However, as incomes are generally much more concentrated in the middle of the distribution, even a small income change (in absolute terms) can lead to a change of income quintiles. Such positional change is not neutral in terms of well-being and life satisfaction, as people tend to pay considerable attention to their own income positions with respect to others.

When focussing on people around the median income (the third income quintile) as a reference, upward and downward mobility differs across countries (Figure 2.4, Panel C). Four country groups can be distinguished:

- In some countries, both the chances to move upward and the risks to move downward for those around the median are large (Chile, Iceland, Greece and the United Kingdom).
- By contrast, in another subset of countries, the chances for both upward and downward mobility are low, and the main scenario is stability within the quintile (Denmark, Germany and Switzerland).
- Others combine higher chances for upward mobility with lower risks for downward mobility for middle-income households (the other Nordic countries, the Netherlands and Luxembourg)
- Finally, and perhaps the most undesirable feature, in some countries (Slovenia, Portugal, Spain, France, Ireland), there are larger chances to move downward, and smaller chances to move upward. Chapter 3 expands further on the drivers of income changes at different points of the income distribution.

Figure 2.4. Positional income mobility by initial income quintile

Early 2010s or latest



Reading note: In the OECD on average, over four years, 57% of working-age individuals in the first income quintile stayed in the same income quintile and 43% moved up. Data refer to the working-age population (18-65). In Panel A, data refer to 2011-14 for all countries except Australia, Switzerland, Germany, Ireland, Turkey and the United Kingdom (2010-13). For the United States, as data is collected on a biannual basis, the result is based on the average between the results for a 3 year- and a 5 year-panel. In Panel B, data refer to 2006-14 for France, to 2005-13 for Australia, Germany, Korea and Switzerland, and to 2004-12 for the United States.

Source: OECD Secretariat calculations based on the CNEF, EU-SILC, SRCV (France) and KHPS-JHPS (Japan). See Annex 2.A1 for details on the data sources.

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2.2.3. Sticky floors: Persistence in the bottom quintile

Persistence of low incomes can have long-lasting impacts on material deprivation, health and labour-market performance (via stress, cognitive skills, skills deprecation). At the same time, low persistence at the bottom of the income distribution can generate other challenges for policy makers, for example recurrence of low-income spells, or increased exclusion of those permanently at the very lowest parts of the bottom (Fouarge and Layte, 2005). A better understanding of the persistence of low income – the sticky floor phenomenon – can inform policies to alleviate poverty in a given country through the

right channels – for example, by focussing measures on long-lasting poverty or recurrent spells of poverty.[7]

The persistence of low incomes measured over four years is especially high in Sweden, Luxembourg, the Netherlands and Finland – around 70% – as well as in Slovenia, Portugal and Spain (around 65%, Figure 2.5). When measured over a longer time period, the United States has the largest share of low-income people stuck at the bottom. Long-term unemployment is one main explanation for the strong low-income persistence. Escaping situations of low income is mostly driven by transitions from unemployment towards employment (Chapter 3). But it can also be explained by significant low-wage persistence for those at work, as for example in the Netherlands (Pavlopoulos et al., 2012; Chapter 3).

The persistence of low incomes is lowest in Chile, the United Kingdom, Japan, Denmark and Greece when measured over four years, and in Korea when measured over nine years. The mobility of low incomes might be explained on one side by relatively low unemployment levels, allowing quicker returns to employment (such as in Japan, Denmark and the United Kingdom) and larger chances to escape low pay (Pavlopoulos et al., 2012; Plum, 2016), and, on the other side, by strongly asset-tested assistance benefits (in the case of the United Kingdom and Korea), implying that temporarily jobless people may receive no or low benefit payments.

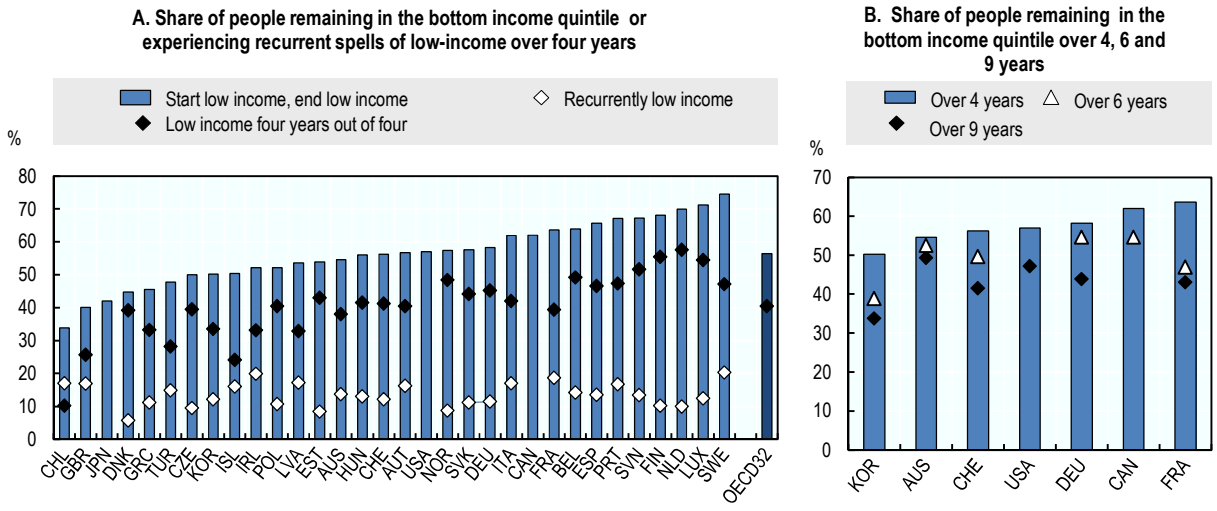
In countries with a low persistence of low incomes, the challenge may nevertheless be the *recurrence* of low-income spells, if increases in people's income are not stable over time and they fall back into poverty (Figure 2.5, Panel A). This is for example the case in Chile, where a large share of poverty was found to be transient or recurrent, and explained by a relatively flat income distribution at the bottom (Neilson et al., 2008). As regards the United Kingdom, the contrast with other countries (for example, Denmark) with similar levels of persistence in low incomes is explained by a much larger share of the population experiencing recurrent low-income spells over four years (Shildrick et al., 2010; Fouarge and Layte, 2005), and a broader tendency for people to remain stuck at the bottom in Denmark (during the whole four-year period, see Figure 2.5, Panel A).

The relation between inequality and the persistence of low incomes is therefore not straightforward. Low-income persistence can be large among the most equal countries, such as Finland, the Netherlands, Norway or Sweden,[8] as well as in more unequal countries, such as in southern Europe. The welfare implications can be different in the two cases of low- and high-inequality regimes. Low-income persistence can be a threat to social cohesion, especially in highly unequal countries. A high level of inequality can make the height of the step to climb up appear too high to individuals who are stuck at the bottom.

The persistence of low income is driven by a complex web of factors. Long–term unemployment, a lack of skills and segmentation of the labour market leading to poorly paid employment and lower prospects to move ahead are associated with the persistence of low income. However, other factors also enter into play. For example, low-earners might be lifted out of poverty because of their partner's income. Factors associated with greater labour market instability might also create more churning and instability at the bottom of the income distribution, and therefore be more associated with low low-income persistence. Chapter 3 investigates the drivers of income changes at the individual level, in particular in terms of income sources and links with employment transitions, taxes and benefits.

Figure 2.5. Sticky floors: Persistence in the bottom income quintile

Percentage of people of working-age remaining in the bottom income quintiles over four, six and nine years (early 2010s or latest)



Note: The figures represent the likelihood for an average individual in the lowest quintile to stay in the same income group after four years; to experience both spells of low-income and non-low income (recurrence) and to experience only low-income throughout the period. Data refer to the working-age population (18-65).Data refer to 2011-14 for all countries except Australia, Germany, Ireland, Korea, Switzerland, Turkey and the United Kingdom (2010-13) , Canada (2007-10) and Chile (2006-09). For the United States (2008-12), as data is collected on a biannual basis, the result is based on the average between results for a 3 year- and a 5 year-panel.

Source: OECD Secretariat calculations based on CNEF, EU-SILC, SRCV (France), KHPS-JHPS (Japan), SILC (Turkey) and Panel Casen Survey (Chile). See Annex 2.A1 for details on the data sources.

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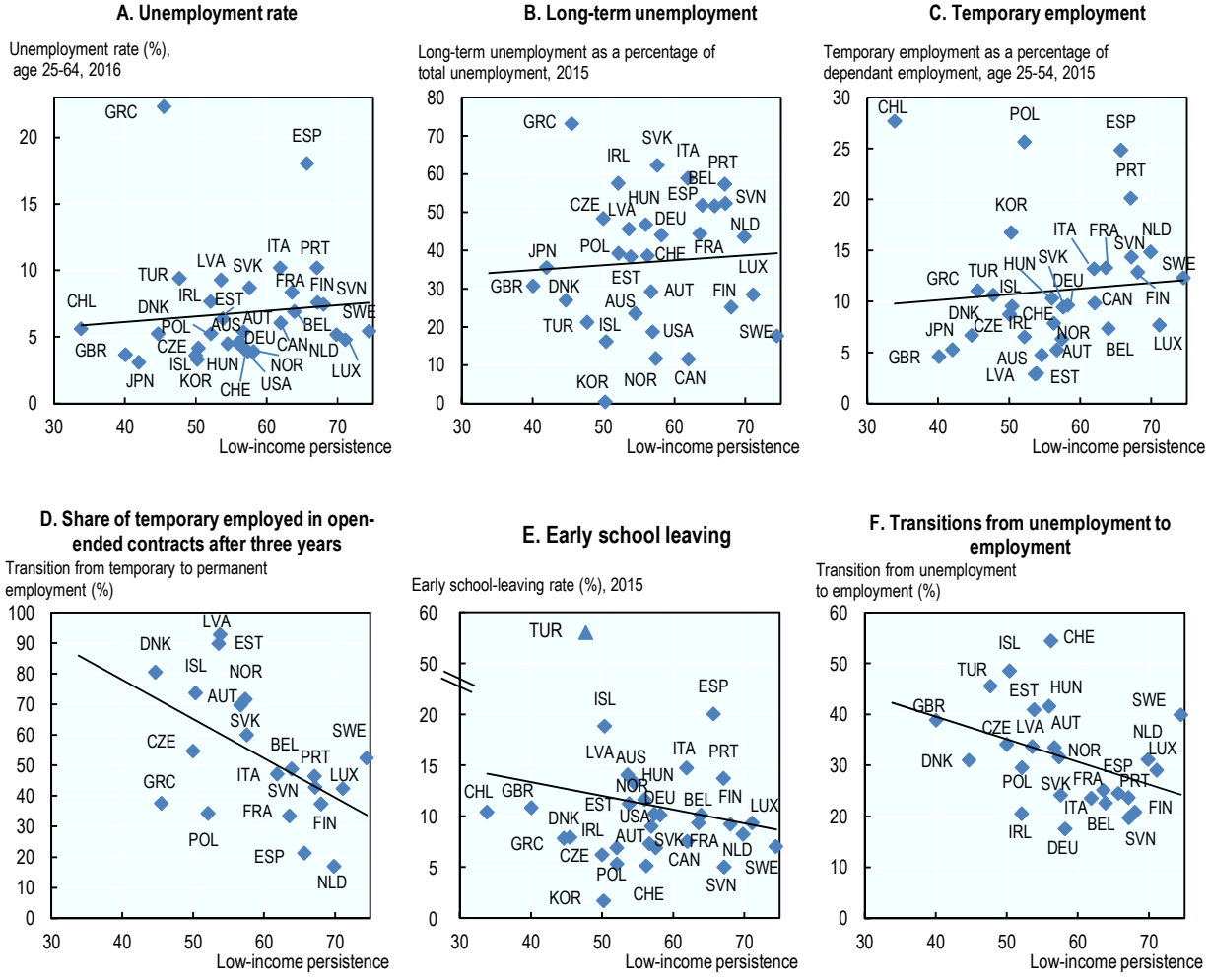
The set of factors driving the persistence of low income varies across countries (see Figure 2.6). In Slovenia, Portugal and Italy, the high persistence of low income is related to high levels of long-term unemployment (Panels A and B). Among factors associated with a higher upward mobility of low incomes, labour market transitions, such as exits from unemployment (Panel F) and, in particular, transitions from temporary to open-ended contracts (Panel D), are strongly correlated with the share of low-income persistence. In Denmark, for instance, the low level of low-income persistence goes in pair with a high transition rate from temporary to permanent contracts, while the inverse is the case in the Netherlands and Spain.

Figure 2.6. Persistence of low income: Link with economic drivers

Percentages, early 2010s or latest



Note: Transitions from unemployment to employment refers to the share of the working-age population unemployed or inactive during a given year and employed one year later. Data refer to the working-age population (18-65). Persistence is measured over the latest 4-year spell available for the country.

Source: OECD Secretariat calculations based on the EU-LFS, CNEF, EU-SILC, SILC (Turkey) and Panel Casen Survey (Chile). See Annex 2.A1 for details on the data sources.

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2.2.4. Sticky ceilings: Persistence in the top quintile

Rising income inequalities have often been associated with the surge of top incomes; these tend to be more volatile than those of the rest of the population, especially at the very top of the distribution (Förster et al., 2014). Less is known, however, about whether this surge of top incomes is accruing to the same individuals, or whether it associated with some individuals outperforming those at the top and replacing them, i.e. to what extent the income distribution is stratified or mobile in its upper part.

A society with low mobility at the top is more likely to lack fairness in terms of political representation. Elite groups at the top of the income ladder have often been considered as exerting considerable influence over policy-making – in a word, the "winner takes all" rather than "median voter" paradigm. Policy preferences differ among income groups, and more affluent income groups tend to influence the outcome of the electoral process, independently of their numerical weight, and they are over-represented in policy-making institutions (Bartels, 2016; Giger and Nelson, 2012; Leigh, 2009). [9] Jenderny (2016) and Cormeo (2006) note that the persistence of top incomes is creating bias in the media. In such a context, adding time persistence in the most affluent groups implies a stronger concentration of political power. Sticky ceilings can also negatively impact the economic performance of societies. "Opportunity hoarding" can occur when the higher education system or the labour market are distorted in favour of upper income classes, reducing the number of places open to those from less fortunate backgrounds and thus resulting in a less competitive economy (Reeves, 2017).

The analysis of sticky ceilings in this section is limited to top income quintiles and deciles. This is a quite wide definition of top incomes, going much beyond the top 1% (or 0.1%) top-income studies often refer to, and including parts of the affluent middle class. Persistence in the top quintile can therefore also be interpreted as a synonym of income stability in the upper part of the income distribution, which is desired by most middle-class people (Pew, 2015). Chapter 3 examines in more detail the determinants of exits from top incomes, and shows that labour-market events, such as losing a job, can lead to income decreases large enough to create a shift in income quintile in some countries, while in some others, the safety nets at play help to cushion incomes and maintain a living standard until a job is found.

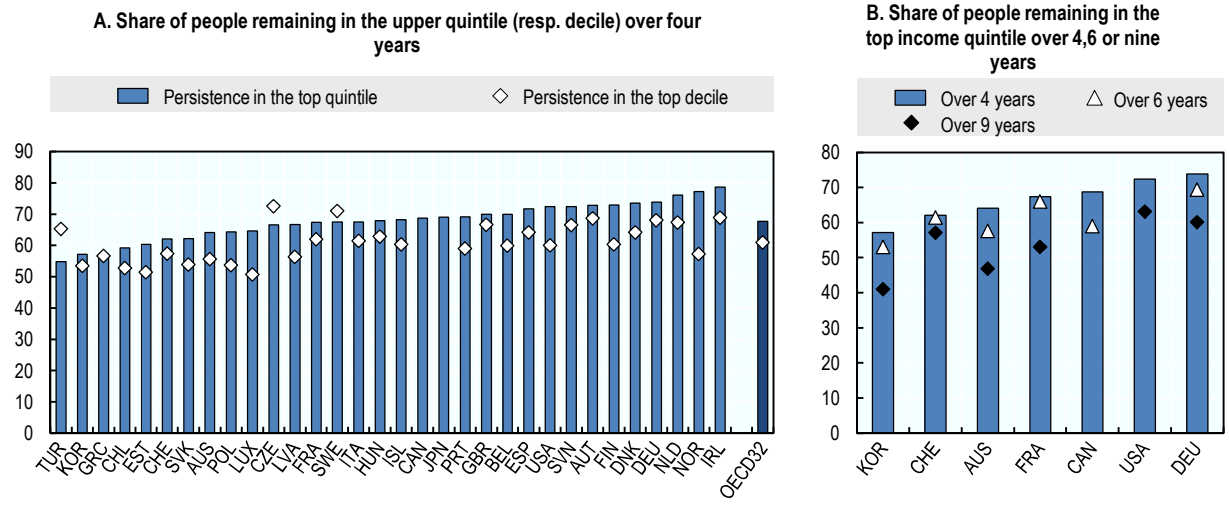
A consistent finding across time and countries is that there is a greater persistence in the top income quintile than in the bottom income quintile. On average across OECD countries, 68% of individuals in the top income group remain in the same group over four years, and 57% over a longer period of a decade (Figure 2.7). This is consistent with results from the literature, documented for example by Chen (2009), Jenderny (2016), Saez and Veall (2005), Landais (2008) and Auten et al. (2013).

Countries with the largest persistence of top incomes in the upper quintile over four years include Ireland, Norway, Netherlands and Germany (above 75%, Figure 2.7). Aaberge et al. (2013) for Norway, Jäntti et al. (2010) for Finland, Jenderny (2016) for Germany, who focus on the top 1% of the income distribution, conclude that there was little mobility at the very top of the income distribution. [10]

Countries with the least persistence in the top income quintile include Turkey, Korea, Greece, Japan and Chile, with 55% to 60% of individuals in the top income quintile remaining there over four years. Over nine years, the persistence in the top income quintile is the largest in the United States (63%), while 40% of individuals in the top quintiles remained there in Korea. Persistence in the upper income quintile remains roughly at the same levels in Switzerland, France or the United States when the time frame is extended from four to six or nine years. It decreases more markedly in Germany and in Korea.

Figure 2.7. Sticky ceiling at the top: Persistence in the upper income quintile

Early 2010s or latest



Note: The figures represent the likelihood for an average individual in the top quintile to stay in the same income group after four (resp. nine) years. Data refer to the working-age population (18-65). Data based on a 4-year panel refer to 2011-14 for all countries except Australia, Germany, Ireland, Korea, Switzerland, Turkey and the United Kingdom (2010-13), Canada (2007-10) and Chile (2006-09). For the United States, as data is collected on a biannual basis, the result is based on the average between results for a 3 year- and a 5 year-panel. Data based on 9-year panels refer to 2007-15 for France, to 2005-13 for Australia, Germany, Korea and Switzerland, and 2004-12 for the United States. Data based on the 6-year panel for Canada refer to 2005-10.

Source: OECD Secretariat calculations based on the EU-LFS, CNEF, EU-SILC, SRCV (France), KHPS-JHPS (Japan), SILC (Turkey) and Panel Casen Survey (Chile). See Annex 2.A1 for details on the data sources.

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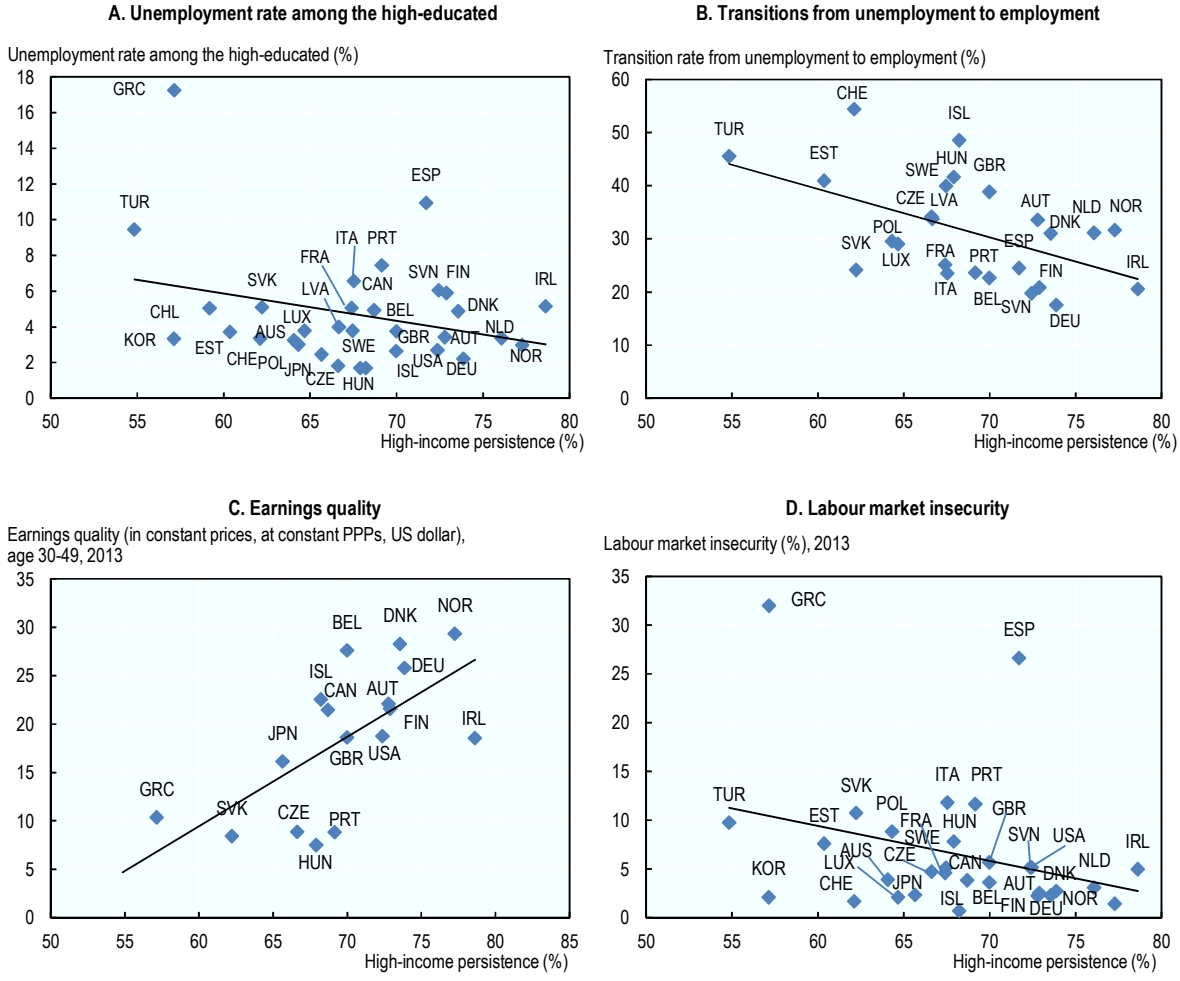
Income persistence at the top is associated with different economic variables. A low prevalence of unemployment, especially among the most educated and high transition rates from unemployment into employment are associated with higher persistence in the upper income quintile (Figure 2.8, Panels A and B). High income persistence can also result from strong labour market segmentation, where insiders are better protected relatively to other workers. Persistence of top incomes is also associated with a greater stability on the labour market, in particular earnings quality (Panel C) and negatively associated with labour market insecurity (Panel D). Chapter 3 investigates the drivers of income changes by income quintile, in particular in terms of income sources and link with employment transitions, taxes and benefits.

Figure 2.8. Persistence at the top of the income distribution: Link with economic drivers

Percentages, early 2010s or latest



Note: Transitions from unemployment to employment refers to the share of the working-age population unemployed or inactive during a given year, and employed one year later. Data refer to the working-age population (18-65). Persistence refers to the latest four-year spell available

Source: OECD Secretariat calculations based on the EU-LFS, CNEF, EU-SILC, SRCV (France), KHPS-JHPS (Japan), SILC (Turkey) and Panel Casen Survey for Chile; *OECD Job Quality Database*, http://www.oecd.org/statistics/job-quality.htm. See Annex 2.A1 for details on the data sources.

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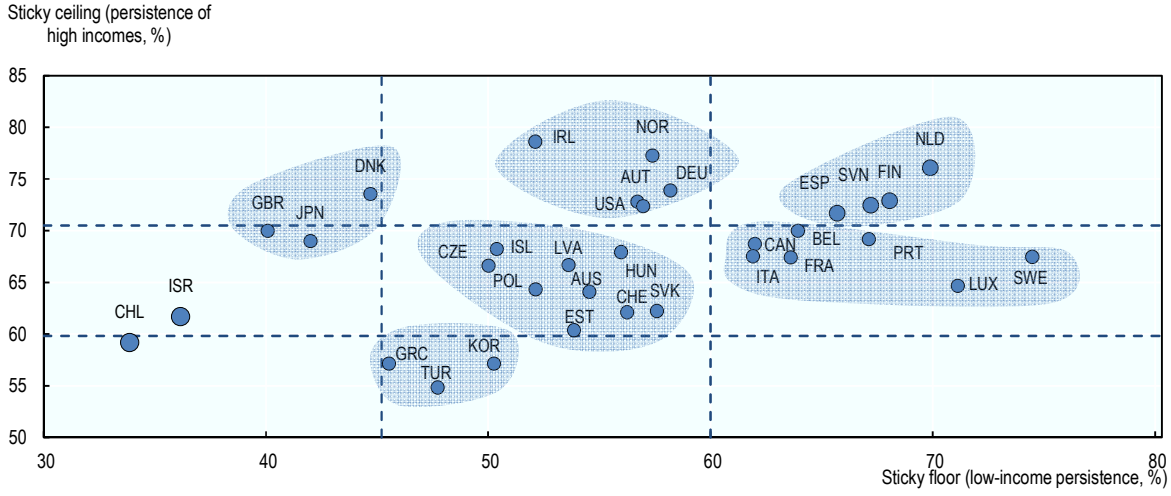
2.2.5. Sticky ceilings and sticky floors interact in various ways

There is no automatic combination of persistence at the bottom and at the top of the income distribution. Several country patterns emerge, suggesting different challenges to address for policies. A mapping of the different scenarios of income persistence at the bottom and at the top of the income distribution can be considered along the following groups, depending on the level of persistence at the top and at the bottom (Figure 2.9):

1. Norway, Germany, Austria, the United States and Ireland combine high sticky ceilings at the top of the income distribution with average levels of mobility at the bottom compared to other countries.
2. In Spain, Slovenia, Finland and the Netherlands, there is stickiness both at the top and the bottom of the income distribution.
3. In Belgium, Canada, France, Italy, Luxembourg, Portugal and Sweden, sticky floors at the bottom are combined with an average level of stickiness at the top of the income distribution.
4. In Turkey, Korea, Greece and Chile, the challenges are different, with neither sticky floors nor sticky ceilings, but signs of large positional mobility over four years.
5. In the United Kingdom, Denmark and Japan, there is larger mobility at the bottom, but there is some sticky ceiling at the top.
6. In the remaining countries (except Chile), the situation stands at the average of the cardinal points mentioned above.
7. Chile and Israel stand out with a very specific pattern of high mobility at the top and at the bottom. This is partly to be related to the income distribution in these countries, with incomes highly concentrated at the very top.

Figure 2.9. Sticky floors at the bottom and sticky ceilings at the top: Persistence in the bottom and top income quintile

Percentages (early 2010s or latest)



Note: The figures represent the share of individuals in the lowest (resp. highest) income quintile staying in the same income group after four years. Data refer to the working-age population (18-65). Data refer to 2011-14 for all countries except Switzerland (2009-12), Germany, Ireland, Japan and the United Kingdom (2010-13), Turkey (2008-11), Canada (2007-10) and Chile (2006-09). For the United States, as data is collected on a biannual basis, the result is based on the average between results for a 3 year- and a 5 year-panel.

Source: OECD Secretariat calculations based on the CNEF, EU-SILC, KHPS-JHPS (Japan), SILC (Turkey) and Panel Casen Survey (Chile); Israeli Longitudinal Survey. See Annex 2.A1 for details on the data sources.

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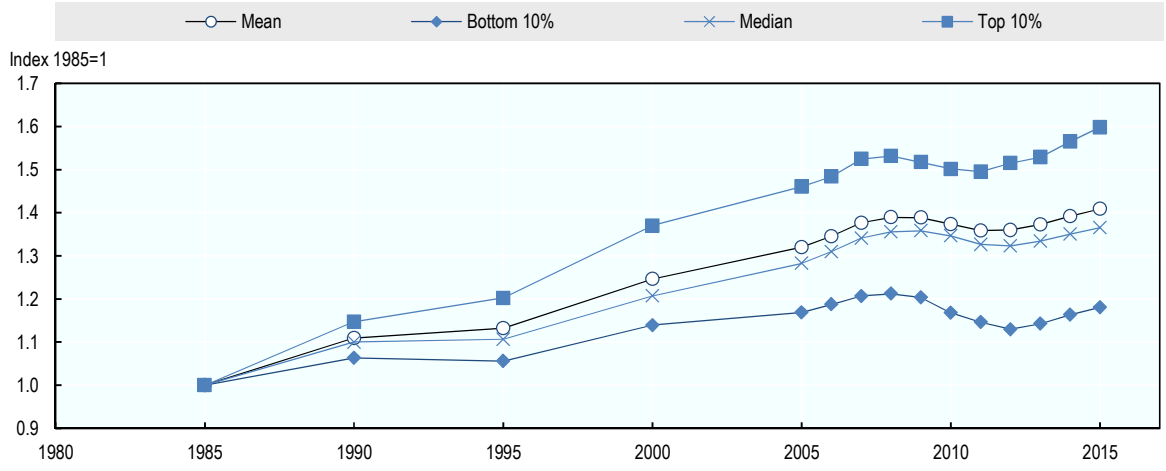
2.3. Changes in income mobility since the 1990s

Concerns that mobility prospects have been stagnating or even decreasing over time gained ground in the public debate (see Chapter 1). This section documents evidence of lower mobility in the income distribution in the 2010s compared to the late 1990s on the basis of two different methods. Additional evidence of weaker individual upward trajectories by age, cohort and education level confirms this pattern.

Several explanatory factors can be put forward to illustrate the social and economic changes at stake for income distribution trends since the 1990s. Changes in the labour markets have resulted in more common use of non-standard work, in particular temporary contracts (OECD, 2015a). Job tenure has increased on average, but mainly due to the ageing of the population (OECD, forthcoming-a). Technological change and digitalisation redesigned the content of jobs. Trade union and collective bargaining coverage have weakened (OECD, 2017c). Assortative mating increased: in two-thirds of OECD countries, female employment rates increased more among women whose husbands were in the top earnings deciles than among those at the bottom of the distribution (OECD, 2017d). Redistribution by taxes and transfers has weakened over time since 2010, particularly among jobless households (OECD, 2011; Causa and Hermansen, 2017). Due to the combination of these factors, the income distribution has widened since the 1990s (Figure 2.10).

Figure 2.10. Widening income distribution: Real income trends at the bottom, middle and top of the income distribution since the 1980s

OECD-17



Note: Income refers to real household disposable income. OECD-17 refers to the unweighted average of the 17 OECD countries for which data are available: Canada, Denmark, Finland, France, Germany, Greece, Israel, Italy, Japan, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Sweden, the United Kingdom and the United States. Some data points have been interpolated or use the value from the closest available year.

Source: *OECD Income Distribution Database*, http://oe.cd/idd

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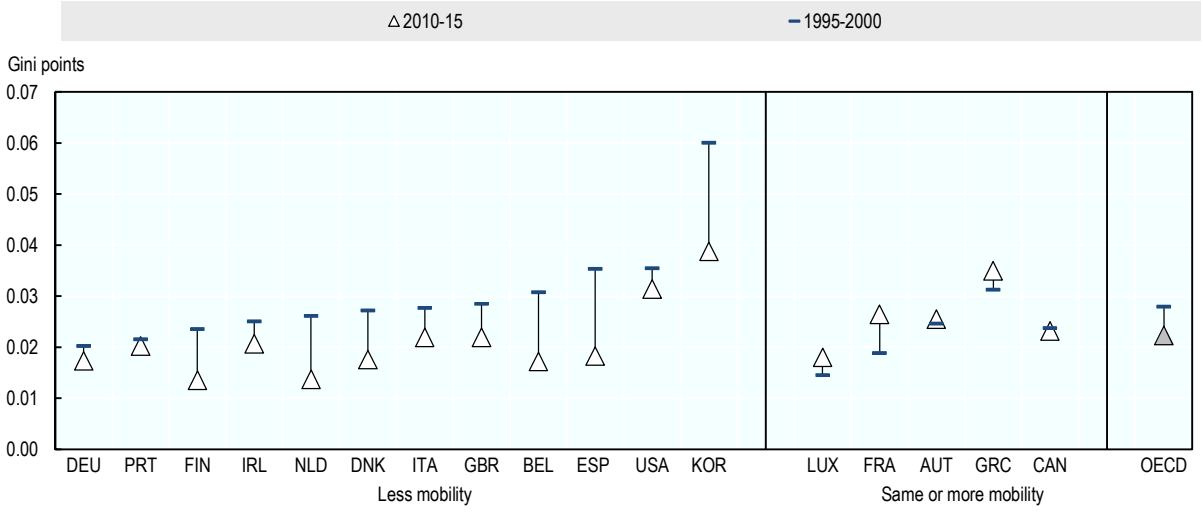
How have these distributional changes been mirrored by trends in income mobility? Collection of longitudinal income data is recent in most countries, and there are only scarce data sources allowing long- term comparisons (Annex 2.A1).[11] Furthermore, few cross-national studies address this issue. Burkhauser et al (2009) reviewed the existing literature and found "no evidence of greater mobility over time". Burkhauser and Couch (2009) provide an overview of recent national studies and found that mobility in terms of wages, earnings or incomes was broadly constant over time, or possibly slightly declining in the United States. Gernandt (2009) found evidence of a decrease of wage mobility in Germany between the 1990s and the mid-2000s. Aaberge et al. (2013), focussing on mobility of the top 1% in Norway, concluded that there had been a steady increase in top income mobility since the 1990s. Jäntti et al (2010) found evidence of a decline of mobility at the top in Finland. Jenkins (2011) found that mobility has been broadly stable in the United Kingdom. A decrease in mobility in Korea since the 1990s has been documented by Oh and Choi (2014) and An and Bosworth (2013).

2.3.1. A lower equalising impact of mobility over time

Section 2.1 highlighted how the passage of time contributes to smooth long-term incomes: the inequality of individual incomes pooled over a pluri-annual window is lower than the average of cross-sectional inequality. This is, however, less the case today than in the 1990s: income mobility has decreased. While the difference between long-term and cross-sectional Gini coefficients stood at 2.6 Gini points in the 1990s, it stands now at 2.1 (see Figure 2.11). This appears to be a change of limited magnitude on average, but it can reach higher levels in specific countries, in particular in Korea, Spain, Belgium, the Netherlands, Denmark and Finland, where the passage of time had a much stronger impact in cushioning cross-sectional inequality in the 1990s than estimated today.

Figure 2.11. Differences in income mobility between the late 1990s and the early 2010s

Difference between the cross-sectional inequality and inequality of permanent incomes over four years



Note: The figures represent the difference between the average of cross-sectional Gini coefficients during each period and the Gini coefficient of the four-year averaged incomes (as Figure 2.1) during the late 1990s and the early 2010s. Data refer to the working-age population (18-65). Data for the late 1990s refer to 1997-2000 for all countries except Korea (1998-2001) . Data for the late 2010 refer to 2011-14 for all countries except Germany, Korea, Ireland and the United Kingdom (2010-13). For the United States, as data is collected on a biannual basis, the results for four year averages are based on the averages between 3 year- and 5 year-panels.

Source: OECD Secretariat calculations. Data for the late 1990s refer to ECHP for all countries except Germany, and the United Kingdom (CNEF). Data for the 2010s refer to CNEF and EU-SILC. See Annex 2.A1 for details on the data sources.

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2.3.2. Income mobility has declined since the 1990s

The lower level of income mobility today compared to the late 1990s is also visible in positional mobility. There are lower chances to move upward for those at the bottom, and lower risks to move downward for those at the top. The trend towards more stickiness in the income distribution is confirmed by two approaches:

- The first approach is based on the analysis of longitudinal data available for the 1990s compared with similar data for the 2010s.
- The second approach consists in estimating persistence at the top and at the bottom of the income distribution over a wider and continuous time range (early 1990s to early 2010s) based on pseudo-panel estimates.

People in a given income class are more likely to remain in that class today. Estimates from longitudinal data available (first approach) show that in the late 1990s, 53% of individuals in the bottom income quintile stayed there over four years, as opposed to 58% in the latest data available (Figure 2.12). 39% of individuals starting in the middle of the income distribution (quintiles 2 to 4) stayed in the same income quintile in the 1990s, compared to 42% in the 2010s. And 65% of individuals in the upper income quintile stayed there, as opposed to 70% in the latest data. These results still hold when

controlling for the composition by age and education of the population and for economic growth (see Annex 2.A2).

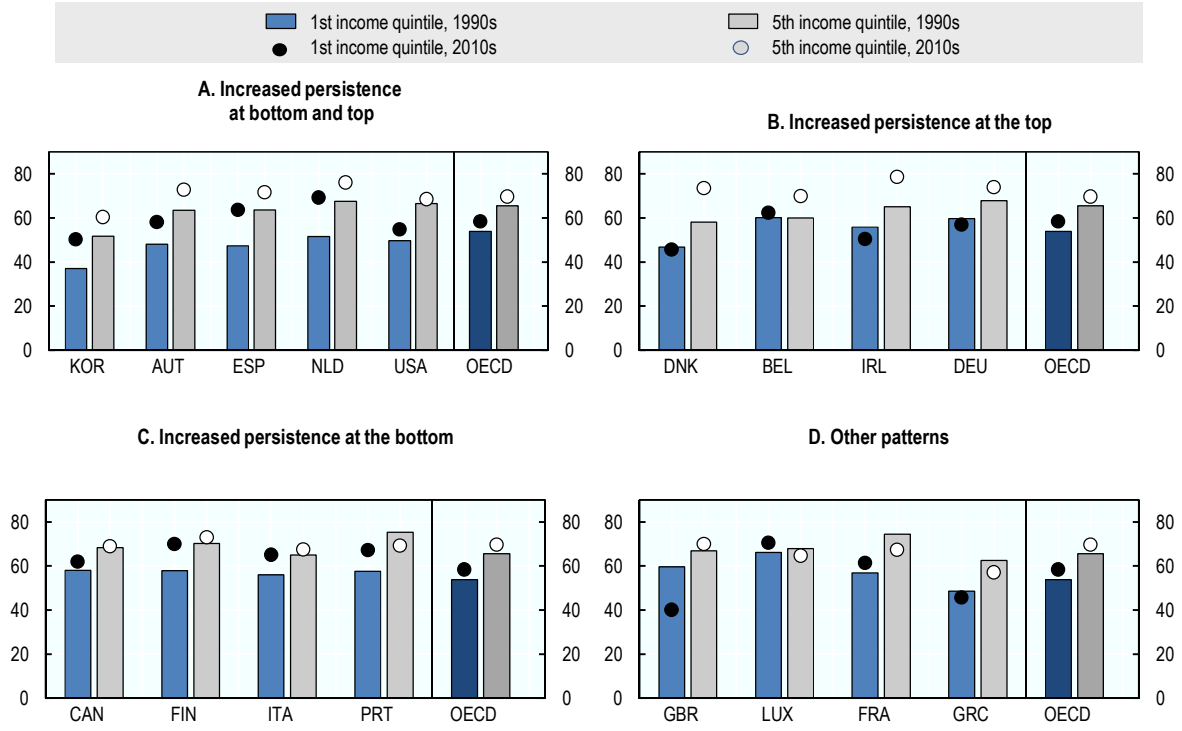
Income persistence has increased both at the top and bottom of the income distribution in Korea, Austria, Spain, the Netherlands and the United States. It has increased more at the top in Denmark, Belgium, Ireland and Germany; and more at the bottom in Canada, Finland, Italy and Portugal. Jäntti et al. (2010), focussing on mobility of the top 1% incomes in Finland, also concluded that mobility decreased since the early 1990s. Focussing on Canadian income data, Saez and Veall (2005) concluded that income mobility has not increased in recent years in Canada, and that the surge in annual income concentration is associated with a similar increase in permanent income inequality. The United Kingdom stands out very specifically in this pattern, with a sharp decline of income persistence at the bottom. This may partly be explained by the lower unemployment rate and policy reforms introduced in the system of cash-benefits and tax credits during the 1990s and early 2000 (such as the Working Families Tax Credit and the Child Tax Credit), and the introduction of a national minimum wage, in line with a "making work pay" strategy (Jenkins, 2011). However, the reduction in low-income persistence has also been accompanied by an increased recurrence of poverty spells in the United Kingdom (Fouarge and Layte, 2005; Jenkins, 2011).

Due to the scarcity of longitudinal income data in the past, there is no opportunity to test whether this result holds for other points in time with a similar methodology. However, complementary information can be found through the use of the second approach, namely the pseudo-panel technique (see Box 2.2). This is based on cross-sectional data, which are much more widely available. It allows estimating transition matrices at the price of some hypothesis. The results are less robust than proper longitudinal data, but the time frame is longer.

When extending to a broader time range with the pseudo-panel approach, the trends are similar to those obtained with longitudinal income data; however, the levels differ. Compared to the 1990s, mobility decreased: the chances to move up from the bottom quintile of the distribution decreased in most OECD countries (Figure 2.13). Someone in the lowest income quintile had on average a 60% chance to move up to a higher quintile within the coming years in the 1990s; today, this chance has fallen to approximately 40%. As for the top quintile, the persistence was around 44% in the 1990s, against 57% today.

Figure 2.12. Trends in income persistence in the bottom and top quintile of the income distribution

Share of individuals staying in the same income quintile over 4 years during the late 1990s and the early 2010s



Note: The figure compares the share of individuals in the lowest income quintile (resp. in the upper income quintile) staying in the same income quintile after four years (as Figure 2.8) during the late 1990s and the early 2010s. Data refer to the working-age population (18-65). Data for the late 1990s refer to 1997-2000 for all countries except Korea (1998-2001). Data for the late 2010 refer to 2011-14 for all countries except Germany, the United Kingdom and Ireland (2010-13), and to 2004-07 for Korea. For the United States, as data is collected on a biannual basis, the results for four year averages are based on the averages between 3 year- and 5 year-panels.

Source: OECD Secretariat calculations. Data for the late 1990s are based on the ECHP for all countries except Germany, the United Kingdom and Korea (CNEF). Data for the early 2010s are based on the CNEF, EU-SILC and SRCV. See Annex 2.A1 for details on the data sources.

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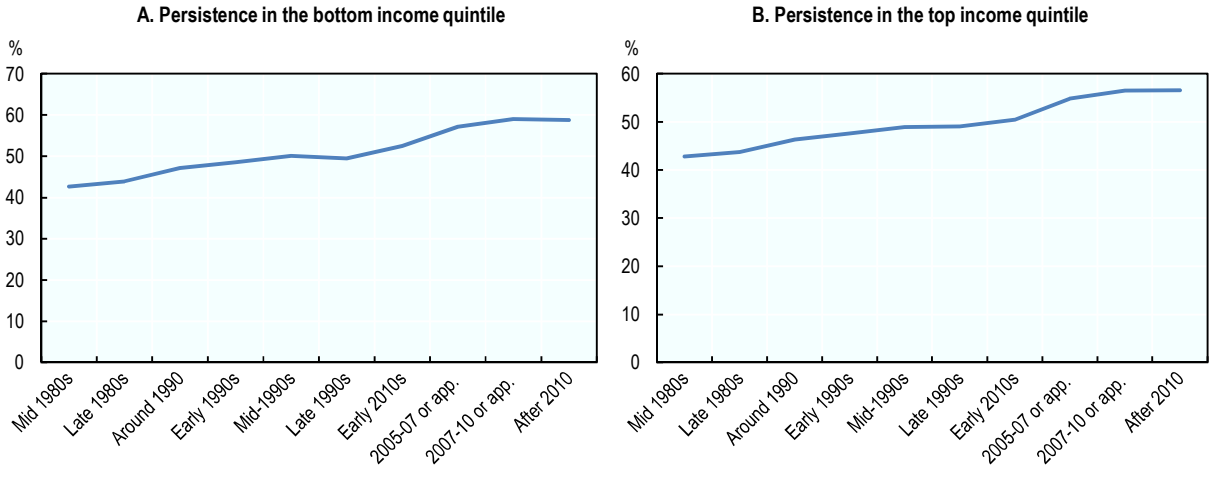
Figure 2.13. Trends in persistence at the bottom and at the top of the income distribution

Low-and high-income persistence over two to five years since the mid-1980s in selected OECD countries



Note: Income position estimates are based here on the pseudo-panel method. This method implies greater methodological assumptions than longitudinal methods and presents greater uncertainty. As a result, mobility estimates for OECD countries differ from other figures presented in other sections. See Box 2.2 and Annex 2.A3 for further details. Trends are available for 21 OECD countries including: Austria, Canada, Czech Republic, Germany, Denmark, Spain, Finland, France, Greece, Hungary, Ireland, Italy, Luxembourg, Mexico, the Netherlands, Norway, Poland, Slovenia, Slovak Republic, United Kingdom and the United States.

Source: OECD estimates based on *Luxembourg Income Study (LIS) Database*, http://www.lisdatacenter.org.

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As regards mobility trends for middle-income households, there are signs of a middle-class divide between the lower and the upper middle classes since the 1990s. The risk of working-age individuals from the lower-middle income group (second quintile) to fall into the lowest income quintile has slightly increased on average (by 0.3 points) and the probability to reach the top quintile has decreased (by 0.8 points, see Table 2.1). By contrast, those from the middle and upper-middle class are slightly less vulnerable today than during the late 1990s to fall to the bottom (by more than 1 point). This pattern of an increasing divide is particularly pronounced in Austria, Spain, Portugal and the United Kingdom where the probability to fall into the bottom quintile increased by 3 points or more for the lower-middle class (see Annex 2.A2).

As regards upward mobility, the shift towards more persistence at the top is partly explained by less chance of people moving from the lower and middle-income quintiles (first three quintiles) to the top income quintiles. This is especially the case in Ireland, Austria, Denmark, Spain and Portugal (see Annex 2.A2).

Box 2.2. Pseudo panel techniques: Estimates of positional mobility based on cross-sectional data

Estimating income persistence and positional mobility at the top and the bottom of the income distribution requires the use of longitudinal income data, i.e. income surveys tracking the same individuals over time. However, such data are not frequently available across countries and time (see Annex 2.A1). To cope with this limitation, pseudo-panel methods aim to make use of cross-sectional information (information collected by people at a single point in time, without following them for several years). This technique is often used to estimate income growth and inequality changes (Ferreira et al., 2012; OECD, 2017a). This method is used in this section and the following to obtain a complementary measure of income mobility in more countries and for a broader time range than with longitudinal data alone. The model is used to measure transitions in and out of the bottom and top income quintiles (separately).

This approach relies on the methodology proposed by Dang et al. (2014) and Dang and Lanjouw (2013) and is described in Annex 2.A3. The underlying assumption of pseudo-panel techniques is to consider that individuals can be tracked over time based on their invariant characteristics (education, birth cohort and gender, for example) by looking at other individuals with the same invariant characteristics. The income of each individual in older data (t0) and recent data (t1) is decomposed into the share of income explained by the time invariant characteristic (gender, education and cohort) plus a residual. The probability for the incomes to be jointly in the first quintiles in both periods (respectively in the fifth quintiles for both periods) is estimated by relying on a hypothesis on the distribution of residuals (normal bivariate distribution).

This method has some limitations: time-invariant characteristics are often scarce and imprecise; the estimates rely on a strong assumption on the distribution of the residuals; and the method supposes that the population is constant, and does not reflect the effect of migration, which can be problematic, especially when used on long-term trends.

Table 2.1. Probability to belong to the bottom and top income quintile four years later, by initial income quintile

OECD-14 average, late 1990s versus 2010s

	Probability to belong to the bottom quintile four years later (%)			Probability to belong to the top income quintile four years later (%)		
Initial income quintile	Late 1990s	Early 2010s	Difference	Late 1990s	Early 2010s	Difference
Poorest	53.4	57.4	4.0	4.1	3.6	-0.6
Q2	**21.8**	**22.1**	**0.3**	**4.4**	**3.7**	**-0.8**
Q3	9.6	8.3	-1.3	8.8	7.8	-1.0
Q4	5.3	4.2	-1.1	23.0	23.9	0.9
Richest	3.1	2.1	-1.1	65.7	69.7	4.1

Note: This table compares transition matrices on average on 14 OECD countries over four years in the late 1990s (1994-1997 to 1997-2000) and the early 2010s (2010-2013 to 2011-2014). Each line gives the percentage of working-age individual in the income quintile belonging to the income quintile of the corresponding column four years later. The third bloc on the right shows the difference between the percentage in the 2010s and the 1990s. OECD-14 refers to the average among: Austria, Belgium, Germany, Denmark, Spain, France, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, the United Kingdom and the United States.

Source: OECD Secretariat calculations based on EU-SILC, ECHP and CNEF.

2.3.3. Mobility over the life cycle for different cohorts: Signs of lower upward mobility

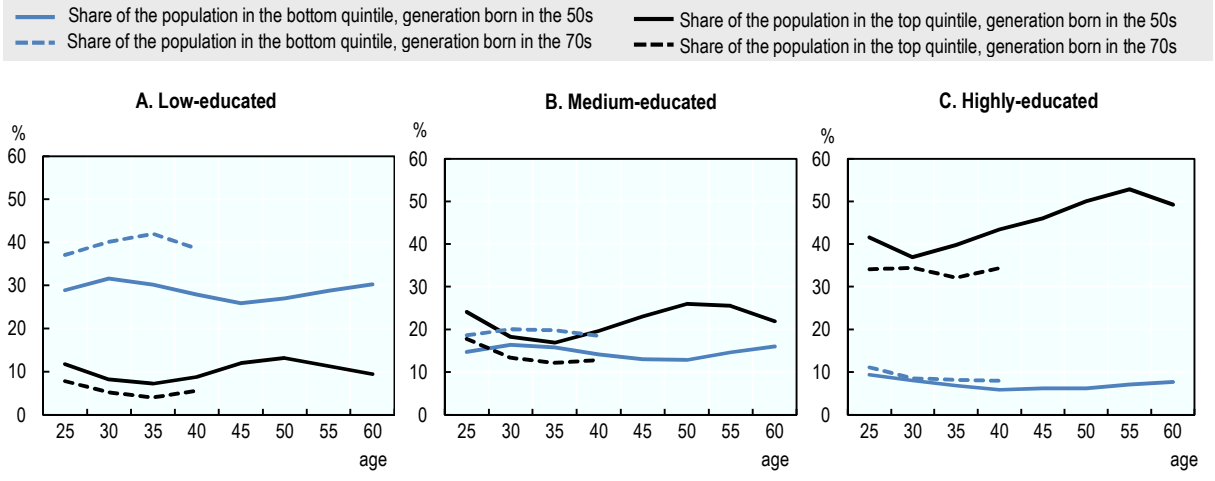
What lies behind the lower mobility at both ends of the income distribution since the 1990s? Some insights can be gained by grouping individuals within birth cohorts and education level and by comparing their income positions across cohorts. On average, until the generations born in the 1960s, each cohort has enjoyed higher incomes than previous ones at the same age. This trend reversed for the generations born in the 1960s and the 1970s (OECD, 2017a). When disentangling these trends across different income groups, it turns out that there is less upward mobility over the life course for the younger cohorts than there was for the older cohorts.

For the low-educated, there is less upward mobility for the generation born in the 1970s when compared to those born in the 1950s. 28% of the low-educated born in the 1950s were part of the bottom income quintile at age 40, compared to 38% of those aged 40 in the 2010s (Figure 2.14, Panel A). This trend is especially pronounced in France and Germany for example (see Annex 2.A4).

Also for those with a middle-level occupation, upward mobility decreased and downward mobility decreased when comparing the 1950s generation with the 1970s generation (Figure 2.14, Panel B).

Figure 2.14. Income quintiles over life by birth cohort and education level

Share of individuals in the bottom (resp. top) income quintile at a given age for two cohorts (OECD countries)



Note: 38% of the low-educated born in the 1970s were in the bottom income quintile at age 40; this was the case of 27% of those born in the 1950s at the same age. 34% of the high-educated born in the 1970s were in the top income quintile at age 40; this was the case of 42% of those born in the 1950s at the same age. The OECD average refers to the OECD-29 average.

Source: OECD Secretariat calculations based on *Luxembourg Income Study (LIS) Database*, http://www.lisdatacenter.org.

StatLink http://dx.doi.org/10.1787/888933753607

High-educated individuals form a large share of the highest income quintiles. The older people grow, the more likely they are to belong to the highest income quintile, indicating upward mobility across age. Comparing across generations, this pattern has however somewhat weakened. Among the highly-educated born in the 1950s, 43% were part of the top income quintile at age 40. This is the case of only 34% of those born in the 1970s. This pattern is particularly pronounced in Spain for example (see Annex 2.A4).

2.4. Emerging economies: More income mobility overall

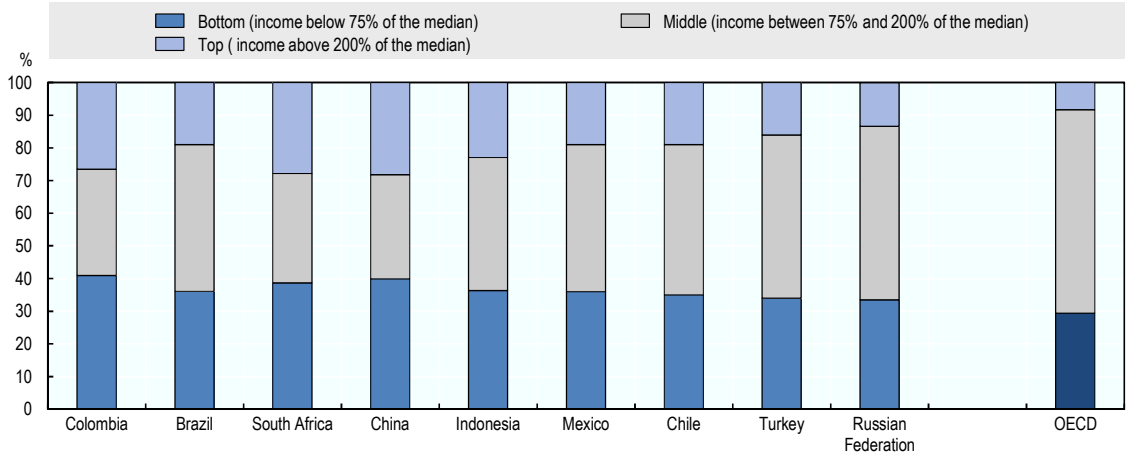
This section looks at positional income mobility in some of the major emerging economies, Brazil, China, Colombia, Indonesia, Mexico, the Russian Federation and South Africa. The patterns of income distribution in emerging economies differ from those prevailing in most OECD countries in several ways. First, income inequality is generally higher in emerging economies than in most OECD countries (OECD, 2015a; OECD, forthcoming-b). Second, in contrast to the OECD area, not all emerging countries have experienced an increase in income inequality over the past two to three decades. Brazil, for instance, has achieved a reduction in income inequality since the early 2000s. On the other hand, China, Indonesia and South Africa have become more unequal over time, and now stand at a level well above the OECD average, though inequality trends in China seem to have stabilised recently. Third, the size of the middle-income class (people with income between 75% and 200% of the median) is significantly smaller in the emerging economies than in most OECD countries. The upper class is often twice as large as in OECD countries (OECD, forthcoming-b; OECD, forthcoming-c).

Some of the economic factors behind high income inequality in the emerging economies differ from those at work in most OECD countries. Persistently large geographical differences in economic performances play a particularly important role. Inequality also tends to be closely intertwined with other key drivers, namely ethnic disparities, alongside disparities in educational outcomes and in labour market conditions. The share of informal employment is often large in emerging economies, which strongly shapes labour market outcomes and job quality (OECD, 2015b; Lopez-Calva and Ortiz-Juarez, 2014).

In recent years, most emerging economies have strengthened their social protection systems and intensified redistribution measures in order to address concerns about high levels of poverty and inequality (OECD, forthcoming-b). In some countries, this has allowed stronger (absolute) upward mobility of the lowest income classes and the emergence of a "new middle class" (Figure 2.15, OECD, forthcoming c).

Based on these specific features, income mobility can be expected to follow different patterns in emerging economies than in the OECD area. In this section, the analysis focusses on the share of people remaining in the bottom and top income quintiles. In OECD countries, the first quintile often overlaps with income poverty, and the fifth quintile is much broader than the top of the income distribution, covering parts of the affluent middle class. In emerging economies, the picture is different. Given the shape of the income distribution, the bottom quintile corresponds broadly to extreme poverty, while poverty would cover at least the first two quintiles of the population.

Figure 2.15. Population share by type of income class in selected emerging economies



Note: the "Bottom" group covers the part of the population living with an income below 75% of the median income; the "Middle" group covers the part of the population living with and income between 75% and 200% of the median and the "Top" group covers the population with an income above 200% the median income.

Source: OECD, forthcoming-c, OECD Secretariat calculations based on *Luxembourg Income Study (LIS) Database*, http://www.lisdatacenter.org.

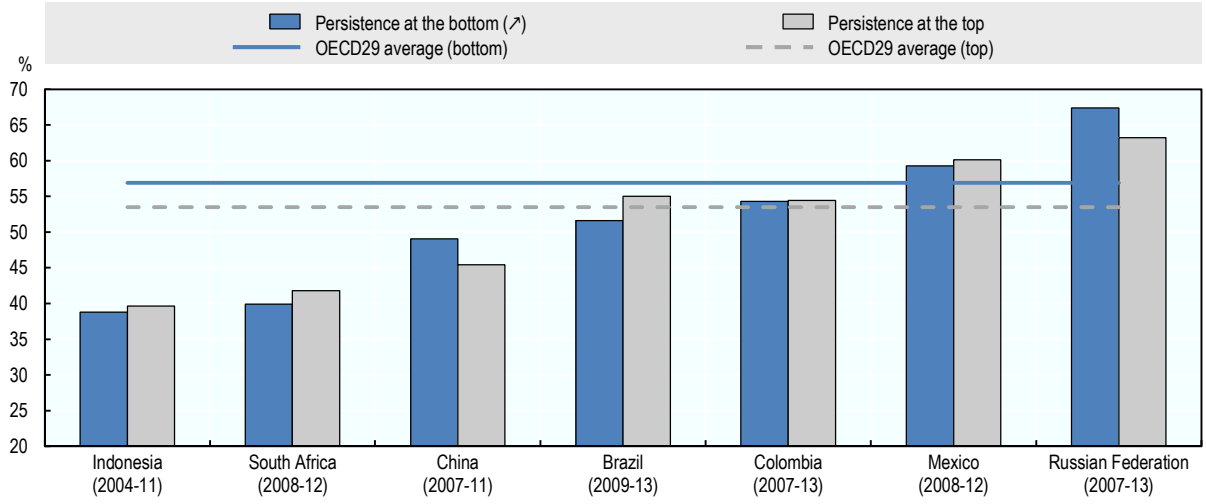
StatLink http://dx.doi.org/10.1787/888933753626

Overall, there is more mobility (less persistence) at the top and especially at the bottom of the income distribution in emerging economies than in OECD countries (Figure 2.16). Among emerging countries, there is overall less mobility in the Russian Federation, Mexico and Colombia, where approximately 55% to 65% of those in the bottom quintile (resp. top quintile) remain in the same income group. In Mexico, the decline in extreme poverty is likely to have led to higher income levels for the whole population at the bottom, but to little re-ranking in the population (because many of those in the bottom quintile remained so). The same pattern holds for Colombia. Evidence based on tax data in Mexico also suggests little mobility among the top incomes between 2009 and 2012 (Sandoval, 2015).

Indonesia, South Africa, China and, to some extent, Brazil appear as more mobile societies within this set of countries. There are accordingly more chances to move up to the middle part of the distribution when in the first income quintile. Results based on longitudinal income data in South Africa tend nevertheless to suggest that mobility at the top is in practice lower than suggested by pseudo-panel estimates (with around 68% of individuals in the upper quintile remaining there for the whole population (NIDS, 2013; Finn et al., 2013). Upward mobility in Indonesia appears to be the highest within the selected countries. This would suggest that Indonesia has a mobility pattern with less stratification than in the other countries, and greater chances to move up for a part of the population.[12] Over time, mobility has also slightly declined in emerging economies, with more persistence at the top and the bottom than in the early 2000s observed in Mexico, Colombia and the Russian Federation (see Annex 2.A3). Clément (2016) reaches a similar conclusion for China.[13]

Figure 2.16. Sticky floors at the bottom and sticky ceilings at the top in selected emerging economies

Persistence in the bottom and top income quintiles of the income distribution, percentages



Note: Income position estimates are based here on pseudo-panel methods. This method implies greater methodological assumptions than longitudinal methods and presents greater uncertainty. As a result, mobility estimates for OECD countries differ from other figures presented in other sections. See Box 2.2 and Annex 2.A3 for further details.

Source: OECD Secretariat estimates based on the *Luxembourg Income Study (LIS) Database*, http://www.lisdatacenter.org.

StatLink http://dx.doi.org/10.1787/888933753645

2.5. Patterns of income changes and their mapping across countries

Individual income changes occur via different channels: the trickle-down of overall economic growth, returns on experience and investment in education, or returns on unobserved individual characteristics or unpredictable income changes ("shocks"). These channels further vary depending on institutions and policies. For example, economies that are growing strongly may have policies in place that lead to income growth being shared by a large part of the population, with a premium for the most educated. Purely market-oriented economies can be expected to lead to greater income volatility and more frequent unpredictable income changes (Gangl, 2005). The following section maps the role of the different channels leading to *absolute* income changes in order to disentangle the different processes at stake. It isolates country patterns regarding income mobility during four-year panels measured between 2008 and 2014.

2.5.1. The structure of income changes

Overall income inequality consists of a permanent income inequality component and a dynamic income component. The *permanent* income inequality component measures how much society is stratified, i.e. the share of inequality that is permanent. It is proxied by the inequality of incomes averaged over the whole period.[14] This part is described in Section 2.1 (Figure 2.1). It represents a large part of income inequality but by nature does not weigh on income changes. The *dynamic* income component can be decomposed into four components, two of them being common to all citizens, and two of them being individual, following Gangl (2005). The technical details of the model are provided in Box 2.3:

1. The two dynamic components (Type 1) *common to all citizens* of a given country measure how much the fruits of economic growth are shared (real income growth effect, 1.a in Table 2.2) and how much people tend to become richer as they age in a given country (lifecycle effect, 1.b in Table 2.2). The first component, the impact of real income growth (1a), is shown to be of limited magnitude compared to the individual effects mentioned below; the second component (1b) plays a bigger role in the structure of income changes, especially in some countries (see below). Both effects are significant.
2. The two dynamic, *individual-specific components* (Type 2) capture the variety of individual trajectories, once the two effects mentioned above are controlled for. These components correspond to an individual income trend (2.a in Table 2.2) and unpredictable shocks (2.b in Table 2.2). The individual income trend captures the part of income changes that depend on individual characteristics (2a), such as education, initial position in the income ladder or unobserved characteristics. This part is relatively limited according to the current estimates, likely because of the short duration of the panels (four years). Unpredictable income shocks (2b) are not randomly distributed. Their frequency and magnitude can be associated with some variables indicating a greater economic vulnerability. According to the estimates discussed below, this effect dominates the structure of income changes in the current estimates. Gangl (2005) found a higher role of individual trends in the structure of income changes.

Table 2.2. Variance decomposition of log incomes by component of income change

Four-year income trajectories observed between 2008 and 2014 or latest

	Inequality proxy	Permanent inequality proxy	Type 1 - Dynamic components common to individuals in a given country		Type 2 - Individual-specific dynamic components	
		Variance of permanent incomes	Real income growth effect	Life-cycle effect	Variance of individual trends	Variance of unpredictable income shocks
			(1a)	(1b)	(2a)	(2b)
Australia	0.359	0.265	0.007	0.075	0.000	0.094
Austria	0.435	0.291	0.021	0.280	0.001	0.146
Belgium	0.248	0.198	0.004	0.165	0.001	0.050
Chile	0.681	0..405	-0.015	0.011	0.007	0.200
Czech Rep.	0.225	0.188	0.005	0.117	0.000	0.036
Denmark	0.267	0.201	0.004	0.097	0.002	0.048
Estonia	0.475	0.356	0.032	0.093	0.002	0.110
Finland	0.24	0.197	0.008	0.099	0.002	0.034
France	0.255	0.209	0.004	0.157	0.001	0.046
Germany	0.319	0.260	0.006	0.077	0.000	0.057
Greece	0.523	0.363	-0.098	-0.044	0.012	0.164
Hungary	0.286	0.217	-0.001	0.080	0.000	0.069
Iceland	0.232	0.164	-0.008	0.093	0.001	0.065
Ireland	0.360	0.289	-0.040	0.163	0.002	0.072
Italy	0.456	0.373	-0.018	0.094	0.001	0.083
Japan	0.37	0.250	0.008	2.260	0.000	0.121
Korea	0.464	0.325	0.046	0.051	0.003	0.135
Latvia	0.509	0.415	0.008	0.013	0.001	0.096
Luxembourg	0.285	0.241	0.004	0.155	0.000	0.046
Netherlands	0.277	0.228	-0.009	0.156	0.000	0.046
Norway	0.416	0.274	0.027	0.061	0.003	0.128
Poland	0.341	0.272	0.027	0.135	0.002	0.067
Portugal	0.464	0.377	-0.039	0.059	0.002	0.085
Slovak Rep.	0.304	0.237	0.029	0.161	0.002	0.067
Slovenia	0.228	0.197	-0.014	0.093	0.000	0.030
Spain	0.518	0.417	-0.034	-0.025	0.002	0.098
Sweden	0.328	0.237	0.024	0.055	0.002	0.079
Switzerland	0.253	0.191	0.009	-0.003	0.000	0.059
Turkey	0.581	0.487	0.042	0.189	0.002	0.093
United Kingdom	0.358	0.262	0.012	0.046	0.001	0.094
United States	0.591	0.569	0.001	0.076	0.001	0.163
OECD	**0.358**	**0.275**	**0.002**	**0.163**	**0.002**	**0.080**

Country rank with respect to the income component:
High ● Medium ◍ Low ○

Note: See Box 2.3 for the detailed methodology based on Gangl (2005). The variance of log incomes is a proxy of income inequality. Columns 3, 6 and 7 display the variance of the components . Columns 4 and 5 are common to individuals in a given country, and therefore constant by country (no variance). They do not contribute to overall inequality. Coefficients of the regression of the variable on log-incomes are shown instead. The variance the components does not add up to the variance of log incomes because covariance terms are omitted. Data refer to four-year average spans observed between 2008 and 2014 for all countries except Australia (2006-13), Switzerland (2005-12), Germany (2008-13), the United Kingdom (2009-13), Ireland (2009-13), Japan (2008-13), Korea (2000-07), Turkey (2008-11) and the United States (2001-12). For the United States, as data is collected on a biannual basis, the result is based on the results for a 5-year-panel.

Source: OECD Secretariat calculations based on the CNEF, EU-SILC, SRCV (France), KHPS-JHPS (Japan), CASEN (Chile) and SILC (Turkey). See Annex 2.A1 for details on the data sources.

The taxonomy of countries based on these estimations is displayed in Table 2.3. Country-specific patterns of mobility suggest that income changes are related to the structure of social welfare systems. Countries can be grouped along their degree of "permanent" social stratification and the size of income shocks experienced by individuals. As a general feature, there is an opposition between the two extreme states of "stratified society – numerous unpredictable income shocks" versus "low stratification – less numerous unpredictable income shocks" (Table 2.3):

- Greece, Spain, Latvia, Estonia, Korea and the United States fit as the group of countries with a significant social stratification combined with numerous unpredictable income shocks.
- Turkey, Portugal and Italy share similarly a large social stratification, but a lower degree of unpredictable income shocks.
- Austria, Japan, Norway, the United Kingdom and Australia share a large amount of unpredictable income shocks, but a lower degree of social stratification.
- At the opposite end of the spectrum, the Czech Republic, Slovenia, Finland, Belgium, France, Denmark and the Netherlands have in common a low degree of social stratification and rare unpredictable income changes.
- Germany and Luxembourg share the same scarcity of income shocks, but have a lower degree of social stratification (permanent income inequality).
- Iceland and Switzerland are homogenous regarding social stratification, but have an intermediate degree of income shocks.
- Hungary, Slovakia, Sweden, Poland and Ireland stand as an intermediate group of countries.

A more detailed analysis of the structure of income changes in each country can be made by comparing the magnitude of each component to the OECD average.

Table 2.3. Patterns of income mobility across countries: Synthesis

		Social stratification (permanent income inequality in overall inequality)		
		Stratified	Intermediate	Less stratified
Unpredictable income shocks (Component 2b)	Low		Germany Luxembourg	Czech Rep., Slovenia, Finland, Belgium, France, Denmark, the Netherlands
	Intermediate	Turkey, Portugal, Italy	Hungary, Poland, Ireland, Slovak Rep., Sweden	Iceland, Switzerland
	High	Greece, Spain Latvia, Estonia, Korea United States	 Austria, Japan, Norway United Kingdom Australia	

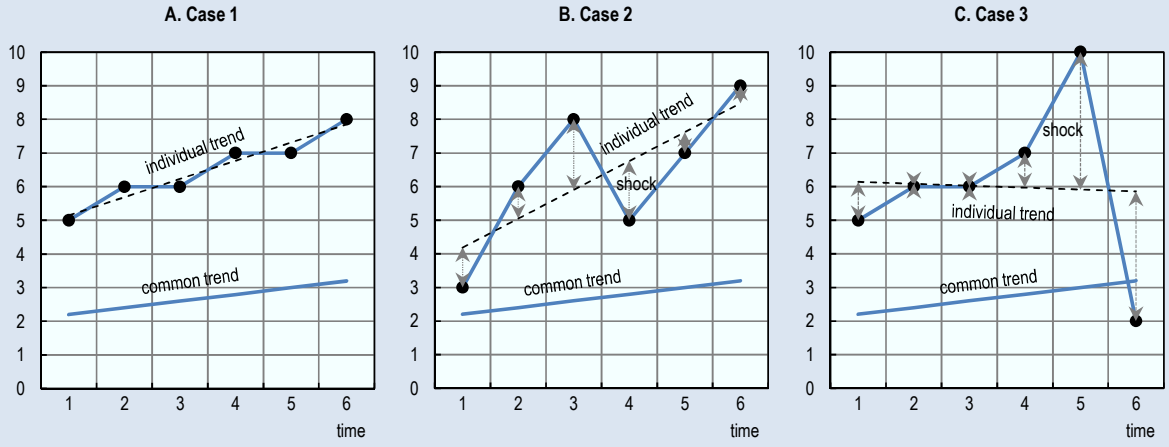
Note: The assessment of the size of an impact (low / medium / high) is based on terciles partitioning of the overall distribution across countries.

Source: See Table 2.2 for the detailed estimates of the components.

Box 2.3. Decomposition of income changes

We follow Gangl (2005) for the main decomposition used in this section. The overall idea is illustrated in Figure 2.17. The individual income trajectory over time is decomposed into a slope common to all individuals (black bold line, corresponding to component 1), an individual slope (dark blue dashed line, corresponding to component 2a) and individual residuals (corresponding to component 2b). Similar decompositions can be found for example in Nichols (2008; 2010), Nichols and Rehm (2014), and Chan et al. (forthcoming).

Figure 2.17. Illustration of the decomposition of income changes



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Income levels (transformed by a logarithmic scale) are decomposed into a permanent income component and a dynamic component which itself covers 1a) real income growth effect, 1b) life-cycle effect, 2a) heterogeneous income trend and 2b) transitory income shocks (Gangl, 2005):

$$y_{it} = u_i + v_{it} = b\,year + g\,âge_i + u_i + b_i\,year + e_{it} \quad (1)$$

Where Y_{it} is the log of incomes, u_i is the individual fixed effect, b and g are the coefficients describing respectively country-level aggregated income growth (1a) and returns to ageing (1b). b_i describes individual fixed effects (2a) and e_{it} corresponds to individual income shocks (2b).

The estimation is performed in two steps, at country level (one estimation per country). u_i, $\underline{b}$ and g are estimated through a standard fixed effect model, and b_i and e_{it} are estimated at individual level.

The results are analysed through a decomposition showing the impact of each component relative to the variance of the log-incomes. The variance of log incomes is treated as analogous to an inequality measure (entropy Atkinson index). For comparison, the Gini index, commonly used to measure inequality, is also an Atkinson index with a coefficient set at 2, i.e. less adverse to inequality at the bottom. The variance of each component does not add up to the variance of y_{it}, because of possible covariance effects between the components, which are ignored here. By nature, component (2) is common to all individuals in a country, and does not contribute to inequality. It is therefore not included in the overall inequality decomposition. Estimations are computed on four-year panels, which is a short duration to isolate proper permanent income dynamics. This is nevertheless the most convenient duration to compare a wide number of countries. The results of the estimation are provided in Table 2.2.

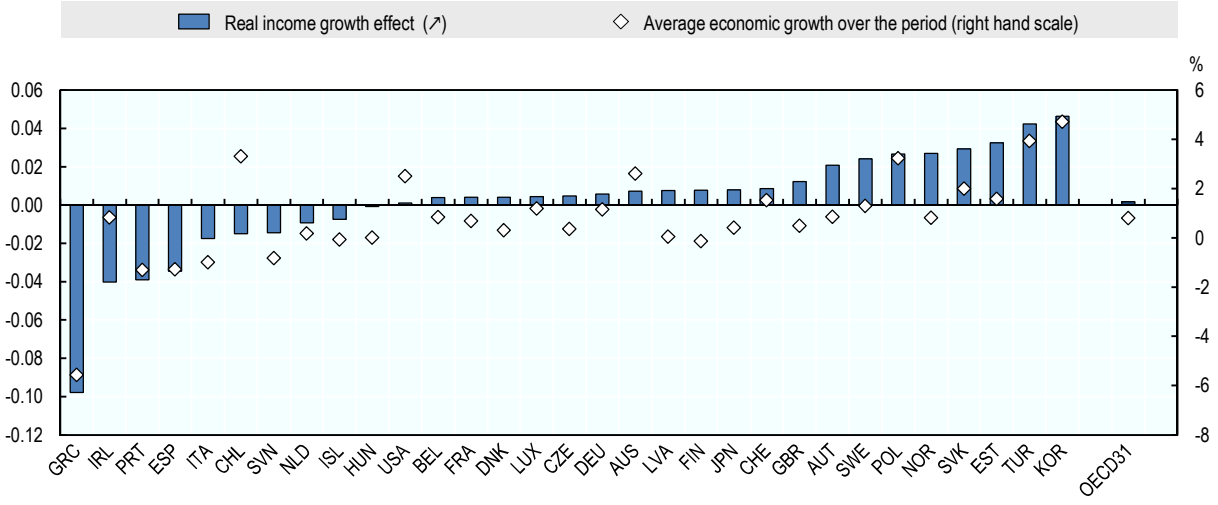
2.5.3. Real income growth effects on individual income mobility

The first common component of income changes (component 1a in Table 2.2) pertains to the real income growth effect, i.e. the part of individual income changes driven by economic growth and *shared* across all individuals, or groups of individuals. As income gains/losses are more frequent in times of economic growth/downturns, individual income trajectories are partly driven by such economic conditions. While all individual incomes do not react identically to economic growth, one can nevertheless expect a certain common impact of growth on income changes.

The part of individual income change driven by economic growth is significant but limited (Table 2.2 and Figure 2.18). It shows how much of economic growth "trickles down" to household incomes. In the countries strongly impacted by the crisis, such as Greece, Ireland, Portugal, Spain and Italy, all incomes were *on average* negatively impacted. In countries with positive economic growth over recent years, such as Korea, Turkey and Estonia, there is a positive impact on average on income changes.

Figure 2.18. Real income growth effect and economic growth

Real income growth effect coefficient (component 2a) and average economic growth, four-year income trajectories observed between 2008-14 or latest



Note: Data refer to four-year average spans observed between 2008 and 2014 for all countries except Australia (2006-13), Switzerland (2005-12), Germany (2008-13), the United Kingdom (2009-13), Ireland (2009-13), Japan (2008-13), Korea (2000-07), Turkey (2008-11) and the United States (2001-12). For the United States, as data is collected on a biannual basis, the result is based on the results for a 5-year-panel.

Source: OECD Secretariat calculations based on *OECD National Accounts Database* and results shown in Table 2.2.

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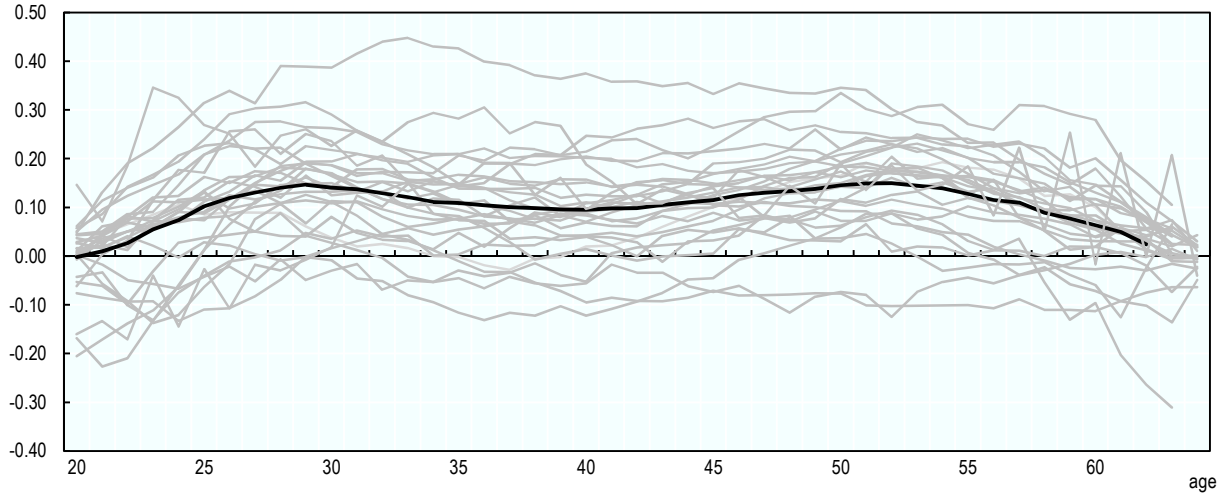
2.5.5. Life cycle effects on income mobility

The second effect common to all individuals is age-specific (component 1b in Table 2.2). This effect captures the impact of age on income changes at country level, with young people as a reference group. Compared to the younger age-cohort, individual equivalised disposable income peaks around age 30 and around age 55. Before 30, income increases slightly with age, as young people enter the labour market (Figure 2.19). Between age 30 and 42, a small decrease in disposable income takes place, probably due to the combined effect of increasing labour incomes in households and the increasing number of children.[15] From age 55, incomes decline on average with gradual exits from the labour market. On top of this aggregated life-cycle impact of age, considerable individual variation in income changes *across* individuals occurs, and adds up to this effect.

Figure 2.19. Life-cycle effect: Impact of age on log incomes

Average of estimates (black line) and country-specific estimates (grey lines) of the parameters of age-specific income components (1b) in the regression of log incomes

Four-year income trajectories observed between 2008-14 or latest



Note: Data are smoothed by a 3-year moving average. Grey lines are displayed to give an idea of the country dispersion around the OECD average. See Box 2.3 for methodological details. Data refer to four-year average spans observed between 2008 and 2014 for all countries except Australia (2006-13), Switzerland (2005-12), Germany (2008-13), the United Kingdom (2009-13), Ireland (2009-13), Korea (2000-07) and Turkey (2008-11) and the United States (2001-12). For the United States, as data is collected on a biannual basis, the result is based on the results for a 5-year-panel.

Source: OECD Secretariat calculations based on the CNEF, EU-SILC, SRCV (France) and SILC (Turkey). See Annex 2.A1 for details on the data sources.

StatLink http://dx.doi.org/10.1787/888933753702

2.5.7. Individual-specific income changes and income shocks

Individual income changes cumulate on top of aggregate income changes driven by economic growth and age. Individual income changes are built around two components.

- The first component of income mobility – *individual permanent income trends (component 2a)* – is structural and predictable for individuals. This refers to people's income changes given their initial conditions: those with a high level of education (observable), or greater motivation for work (unobservable), for example, can expect greater income mobility. Its variance is especially marked for younger cohorts, describing the variety of income trajectories followed by individuals in their early careers.
- The second component of income mobility pertains to *individual transitory income shocks (component 2b)*, which are non-predictable (Gangl, 2005; Nichols, 2008; 2010). Some of these shocks are transitory and will have less impact on permanent incomes and well-being. Other shocks, however, might have a long-lasting impact. This can be the case of a job loss or a divorce. Inversely, a person can have a positive income shock, for example, upon getting a job or if a partner changes jobs for a better one or an adult child leaves the parental home.

2.5.4.1. Individual income trends

Individual income trends can be summarized through common patterns shared across population subgroups (typically age and initial income quintiles). A very limited part of total income inequality is driven by individual predictable income changes. This is probably because the model is estimated on a limited duration (four years), which complicates the identification of proper individual trends and unpredictable income shocks.

Income growth – net of overall real income growth and of the life-cycle factor – is on average higher among the most educated. Moreover, the variation around the average is lower among the most educated, highlighting a greater homogeneity of individual income trends than among the least educated.

Differences by initial income position in individual income trends can also be identified. There is, in most countries, slightly higher income growth among individuals in the bottom income quintiles. This is consistent with the catch-up effect of low-income individuals, i.e. low-income individuals experiencing stronger income growth than high-income individuals on average. However, the *variance* of individual trends is also larger at the bottom of the income distribution, showing that there is more diversity among individual income trends for low-income individuals. The economic catch-up prevailing for low-income individuals *on average* does not hold for all of them – a result confirming the large persistence of low income discussed in Section 2.2: while some low-income individuals will experience strong income growth and exit the bottom quintile, others will stay persistently at the bottom.

2.5.4.2. Individual income shocks: unequal income changes at the bottom

Under the assumption of risk aversion, individuals prefer, all other things being equal, regular incomes to highly volatile incomes: to compensate a dollar lost requires more than a dollar gained (Osberg, 2015; Pew, 2015).[16] The implications of income shocks on welfare are that individual income shocks are not necessarily neutral to individual well-being. In the case of positive income shocks, economic agents favour regular to

irregular income growth; in the case of negative income shocks, a negative impact on income can be expected even if it is only transitory.

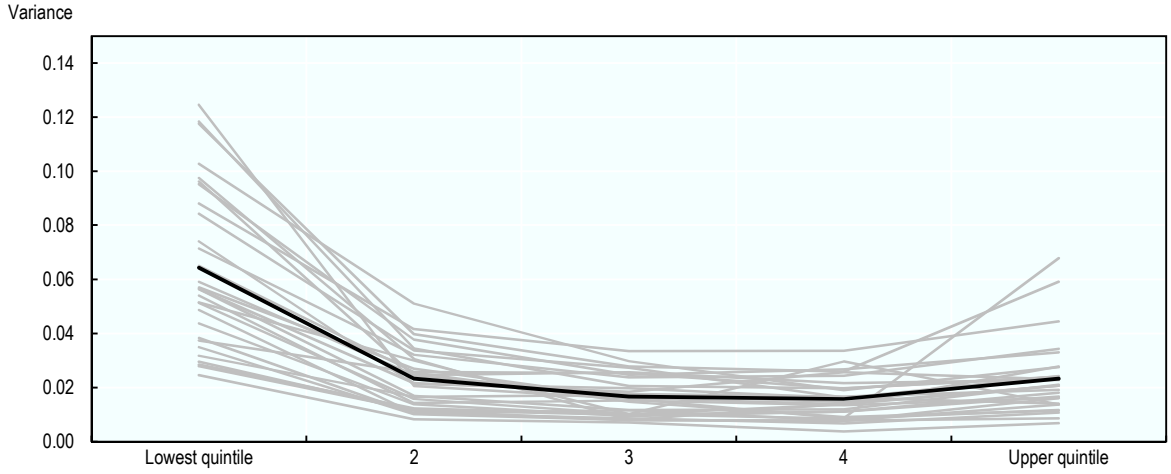
Insurance mechanisms can help to cope with negative income shocks. People can be expected to have savings on which they rely during hard times; they can apply to a loan from the bank and get the amount of money necessary to manage, or safety nets that can partially cushion some of the income risks. But these mechanisms are not functioning perfectly, especially for some parts of the population. For example, people with low incomes will have barriers to borrowing money, and greater difficulties to save. Safety nets are sometimes fragmented and do not necessarily cover all of those in need (e.g. limited social protection for the self-employed). Last, the share of individuals living in a single household is rising in many countries. This limits the cushioning impact of other household members' incomes for more numerous individuals.

On average, over four years 6% to 20% of total income inequality corresponds to unpredictable income shocks. This is slightly lower than estimates from Gangl (2005) on previous data sets covering the 1990s and Buchinsky and Hunt (1999) on wages. As for individual income trends, the variance of unpredictable income shocks is especially large among individuals in the bottom income quintile, highlighting again a greater diversity of income trajectories among low-income individuals (Figure 2.20, Gernant, 2009). As mentioned earlier, with a limited duration of observation (four years here), it is challenging to disentangle unpredictable income shocks from individual income trajectories. However, the results tend to suggest that individuals at the bottom face unequal mobility patterns, as they are likely to be heavily exposed to large unpredictable income shocks.

Figure 2.20. Variance of unpredictable income shocks by initial income quintile

OECD average (black line) and country-specific estimates (grey lines) of the variance of income shocks (2b)

Four-year income trajectories observed between 2008-14 or latest



Note: Grey lines are displayed to give an idea of the country dispersion around the OECD average. Data refer to four-year average spans observed between 2008 and 2014 for all countries except Australia (2006-13), Switzerland (2005-12), Germany (2008-13), the United Kingdom (2009-13), Ireland (2009-13), Korea (2000-07), Turkey (2008-11) and the United States (2001-12). For the United States, as data is collected on a biannual basis, the result is based on the results for a 5-year-panel.

Source: OECD Secretariat calculations based on the CNEF, EU-SILC, SRCV (France) and SILC (Turkey). See Annex 2.A1 for details on the data sources.

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2.6. Conclusion

This chapter provides a comparison of income changes and income mobility over a wide range of countries, for different time frames – a few years or a decade. It shows that income mobility lowers inequality but does in general not alter the ranking of countries according to their inequality levels – in other words, there is not more income mobility in more unequal countries. This is because there is little positional mobility at both ends of the income distribution: despite large absolute income changes occurring at both ends of the income distribution, the least well-off are likely to stay so, and the affluent are even more likely to stay so: about 60% of those in the bottom quintile remain in that quintile, and that is the case of 70% of those in the top quintile.

Data sources to measure the trends in mobility over time are scarce, but the data at hand indicate that there is more persistence today than there was two decades ago, even when controlling for the level of economic growth. This is due to both lower chances to move upward for those at the bottom, and lower chances to move downward from the top. For lower-middle income groups, there is a somewhat higher risk today to fall into the bottom quintile compared to the 1990s.

Emerging economies have larger social groups at both ends and a smaller middle class than OECD countries. Compared to most OECD economies, there is more mobility at the top and especially at the bottom of the income distribution in emerging economies. There is no sign of a trend toward greater mobility in the emerging economies since the early 2000s despite higher growth rates than in most OECD countries.

The chapter also highlights that individual income changes can be associated with different drivers: the benefits of overall economic growth, the returns on experience, the returns on unobserved individual characteristics and unpredictable income changes. Overall, country-level factors, such as the benefits of economic growth or life-cycle effects, have a weak but significant impact. Individual factors are strong and matter more among the worst-off, generating uncertainty and greater variability of incomes. Mobility patterns differ across countries, suggesting that income mobility channels vary depending on institutions and policies.

Notes

1. This chapter benefitted from the support of Joaquin Prieto-Suarez, London School of Economics (analysis for Chile), and Ricky Kanabar, Institute for Social and Economic Research (analysis for the United Kingdom).

2. For example, if high incomes go along with political power, then a lack of mobility at the top might also be symptomatic of a greater concentration of power.

3. The analysis focuses on the working-age population (18-65), because in this age group income fluctuations depend on factors such as labour market status, child birth or changing household composition, while incomes among the elderly population rely heavily on public and private transfers and mobility depends on very different factors, such as changes in pension policies or the death of a partner.

4. This chapter focusses on equivalised household disposable income – the most suitable aggregate to reflect the standards of living and proxy for economic well-being. It takes into account the pooling of resources within the household rather than considering individuals as single, economic agents.

5. Solnick and Hemenway (1998) experimented with behaviours related to absolute and relative income positions. Half of the respondents said they would prefer a world in which they have 50% less real income, so long as they have a high income position. Evidence from brain imaging techniques found that the activity in reward-related brain areas is not only positively correlated with higher absolute incomes but also negatively correlated with lower relative incomes (Dohmen et al., 2011).

6. While the study focusses on working-age individuals, income quintiles are calculated on the overall population in this chapter. Indeed, in their own self-assessment working-age individuals are more likely to refer themselves to the whole population as a benchmark, including in particular the elderly. Second, this approach is consistent with similar indicators such as the poverty rate, which is based on a threshold covering the whole population, even though some indicators, such as working-age poverty or in-work poverty, refer only to the working-age population.

7. For example, in the case of Chile, Neilson et al. (2008) underline that from a policy perspective, the significant number of people who remain poor after five years gives support to social programmes such as Chile Solidario, which focus on the extremely poor. However, their finding that a significant part of the population is likely to move down the income distribution highlights that poverty reduction strategies will have to pay attention not only to those who are currently poor, but also to non-poor vulnerable households who are at risk of falling into poverty at some point in the future.

8. Several explanations have been put forward to explain relatively high low-income persistence in these countries. In Finland, high poverty traps brought by some features of the Finnish tax/benefit system imply weak work incentives and tend to perpetuate low employment rates, especially among elderly male workers (OECD, 2016). In Sweden, the gap between earned and benefit income has widened since the 1990s (lowering of replacement rates in unemployment and sickness insurance) and the introduction of the earned income tax credit in 2007 gradually increased the gap between benefits and work income (OECD, 2017b).

9. For example, Bartels (2016) shows that, "in terms of federal government policy, the affluent are far better represented than the poor" in the United States. Giger et al.

(2012) document a general trend of under-representation of the preferences of relatively poor citizens both by parties and by governments across Western democracies, although large cross-national differences exist.

10. Mobility over such a thin part of the population is beyond the scope of this report, as this would require the use of tax data in a longitudinal approach. However, measures of persistence in the upper income decile provide some additional information. Results (not shown) suggest that in countries with the highest top quintile persistence the persistence in the highest decile is more moderated.

11. In Europe, most longitudinal income data from the 1990s rely on the ECHP survey, whose weaknesses have been widely documented (see Burkhauser and Lilliard, 2005). This section relies on these data and crosses the results with estimates from other data sources to ensure that the weaknesses of the survey are controlled for.

12. However, the data reflect a longer time period than for other countries, which is likely to overestimate income movements and mobility compared to other countries.

13. The data used in this chapter does not allow time-series comparisons for China, Indonesia and South Africa.

14. To illustrate this component, one might think about runners in the starting bloc before a race. The permanent component would measure how they differ from each other based on their characteristics at that time, before the race starts.

15. Disposable income is equivalised to reflect the pooling of resources within household. The equivalence scale applied in this report is the square root of the household size. An increasing household size can therefore lower disposable incomes.

16. The reasons behind this preference can be explained by the cost of transferring income from one period to another one, or the cost of borrowing (Aaberge and Mogstad, 2014). Access to credit, for example, is not perfect for individuals (in particular the worst-off). The cost of uncertainty regarding future incomes is also related to a household's propensity to plan and household decision-making, which might be severely affected by unpredictable income fluctuations. Households might respond to sudden income gains or losses by consuming either too little or too much relative to their average standard of living over some extended period of time (Blundell and Preston, 1998; Gangl, 2005).

References

Aaberge, R., A. Björklund, M. Jäntti, M. Palme, P.J. Pedersen, N. Smith and T. Wennemo (2002), "Income inequality and income mobility in the Scandinavian countries compared to the United States", *Review of Income and Wealth*, Vol. 48/4, pp. 443-469.

Aaberge, R., A.B. Atkinson and J. Modalsli (2013), *The ins and outs of top income mobility*.

Aaberge, R. and M. Mogstad (2014), *Income mobility as an equalizer of permanent income,* No. 769.

Alves, N. and C. Martins (2012), "Mobility and income inequality in the European Union and in Portugal", *Economic Bulletin and Financial Stability Report*.

An, C. and B. Bosworth (2013), "Income inequality in Korea: An analysis of trends, causes and answers", *Harvard East Asian Monographs*, No. 354. Harvard University Press, Cambridge.

Auten, G., G. Gee and N. Turner (2013), "Income Inequality, Mobility, and Turnover at the Top in the US, 1987–2010", *The American Economic Review*, Vol. 103/3, pp. 168-172.

Bardasi, E., S.P. Jenkins, H. Sutherland, H. Levy and F. Zantomio (2012), "British Household Panel Survey Derived Current and Annual Net Household Income Variables, Waves 1-18, 1991-2009", [data collection]. 9th Edition. University of Essex. Institute for Social and Economic Research, [original data producer(s)]. UK Data Service. SN: 3909, http://doi.org/10.5255/UKDA-SN-3909-2

Bartels, L.M. (2016), *Unequal democracy: The political economy of the new gilded age*, Princeton University Press.

Blundell, R., M. Graber and M. Mogstad (2015), "Labor income dynamics and the insurance from taxes, transfers, and the family", *Journal of Public Economics*, Vol. 127, pp. 58–73.

Blundell, R., L. Pistaferri and I. Preston (2008), "Consumption inequality and partial insurance", *The American Economic Review*, Vol. 98/5, pp. 1887-1921.

Blundell, R. and I. Preston (1998). Consumption inequality and income uncertainty. *The Quarterly Journal of Economics*, Vol.113/2, pp. 603-640.

Buchinsky, M. and J. Hunt (1999), "Wage mobility in the United States", *Review of Economics and Statistics*, Vol. 81/3, pp. 351–368.

Burkhauser, R.V. and K.A. Couch (2009), "Intragenerational Inequality and Intertemporal Mobility." Wiemer S., B. Nolan and T. Smeeding (eds.) *The Oxford Handbook of Income Inequality*, Oxford University Press.

Burkhauser, R.V. and D.R. Lillard (2005), "The contribution and potential of data harmonization for cross-national comparative research", *Journal of Comparative Policy Analysis*, Vol. 74, pp. 313-330.

Burkhauser, R.V. and J.G. Poupore (1997), "A cross-national comparison of permanent inequality in the United States and Germany". *The Review of Economics and Statistics*, Vol. 79/1, pp. 10-17.

Carter, K., P. Mok and T.V.T. Le (2014), "Income Mobility in New Zealand: A Descriptive Analysis", No. 14/15, New Zealand Treasury.

Causa, O. and M. Hermansen (2017), "Income redistribution through taxes and transfers across OECD countries". *OECD Economics Department Working Papers*, No. 1453, OECD Publishing, Paris, http://dx.doi.org/10.1787/bc7569c6-en.

Chan, T., J. Ermish and R. Gruitjers (forthcoming), "The dynamics of income inequality: the case of China in a comparative perspective".

Chen, W.-H. (2009), "Cross-national differences in income mobility: Evidence from Canada, the United States, Great Britain and Germany", *Review of Income and Wealth*, Vol. 55/), pp. 75–100.

Cheung, F. and R.E. Lucas (2016), "Income inequality is associated with stronger social comparison effects: The effect of relative income on life satisfaction", *Journal of Personality and Social Psychology*, Vol. 110/2, pp. 332-341. http://dx.doi.org/10.1037/pspp0000059

Clément, M. (2016), "Income mobility and income inequality in rural China", *Frontiers of Economics in China*, Vol. 11/4, p. 608.

Corneo, G. (2006), "Media capture in a democracy: The role of wealth concentration", *Journal of Public Economics*, Vol. 90/1, pp. 37-58.

Dang, H.-A., P. Lanjouw, J. Luoto et al. (2014), "Using repeated cross-sections to explore movements into and out of poverty". *Journal of Development Economics*, Vol. 107, p. 112-128.

Dang, H.-A. and P. Lanjouw (2013), Measuring poverty dynamics with synthetic panels based on cross-sections.

Devereux, P. J. (2007). Small-sample bias in synthetic cohort models of labor supply. Journal of Applied Econometrics, 22(4), 839-848.

Dohmen, T., A. Falk, K. Fliessbach, U. Sunde and B. Weber (2011), "Relative versus absolute income, joy of winning, and gender: Brain imaging evidence", *Journal of Public Economics*, Vol. 95/), pp. 279-285.

Duesenberry, J. (1949), *Income, Savings and the Theory of Consumer Behavior*. Harvard University Press, Cambridge.

Easterlin, R. A. (1973), "Does money buy happiness?", *The public interest*, Vol. 30/3.

Easterlin, R. A. (1995), "Will raising the incomes of all increase the happiness of all?", *Journal of Economic Behavior and Organization*, Vol. 27/1, pp. 35-47.

Ferreira, F.H.G., J. Messina, J. Rigolini et al. (2012), Economic mobility and the rise of the Latin American middle class. World Bank Publications.

Fields, G. S. (2010), "Does income mobility equalize longer-term incomes? New measures of an old concept", *The Journal of Economic Inequality*, Vol. 8/4, pp. 409-427.

Finn, A., & Leibbrandt, M. (2013). Mobility and inequality in the first three waves of NIDS.

Förster, M., A. Llena-Nozal and V. Nafilyan (2014), "Trends in Top Incomes and their Taxation in OECD Countries", *OECD Social, Employment and Migration Working*

Papers, No. 159, OECD Publishing, Paris. http://dx.doi.org/10.1787/5jz43jhlz87f-en

Fouarge, D. and R. Layte (2005), "Welfare regimes and poverty dynamics: the duration and recurrence of poverty spells in Europe", *Journal of Social Policy*, Vol. 343, pp. 407-426.

Friedman, M. (1962 [2009]), *Capitalism and Freedom*, University of Chicago Press.

Frick, J., R., Jenkings, S.P., Lillard, D.R., Lipps, O. and Wooden, M. (2007), The Cross-National Equivalent File (CNEF) and its member country household panel studies. *Schmollers Jahrbuch: Zeitschrift für Wirtschafts-und Sozialwissenschaften*, Vol. 127/4, pp. 627-654.

Gangl, M. (2005), "Income inequality, permanent incomes, and income dynamics: Comparing Europe to the United States", *Work and Occupations*, Vol. 32/2, pp. 140-162

Gernandt, J. (2009), "Decreasing wage mobility in Germany."

Giger, N. and M. Nelson (2012), "The welfare state or the economy? Preferences, constituencies, and strategies for retrenchment", *European Sociological Review*, Vol. 29/5, pp. 1083-1094.

Hirsch, F. (1995), *Social Limits to growth*.

Jäntti, M. and S.P. Jenkins (2015), "Income Mobility", in F. Bourguignon and A.B. Atkinson (eds), *Handbook of Income Distribution*, Elsevier, pp. 807–935.

Jäntti, M., M. Riihelä, R. Sullström and M. Tuomala (2010), "Trends in top income shares in Finland. Top Incomes: A Global Perspective", Vol.2.

Jenderny, K. (2016), "Mobility of top incomes in Germany", *Review of Income and Wealth*, Vol. 62/2, pp. 245-265.

Jenkins, S.P. (2011), *Changing Fortunes: Income Mobility and Poverty Dynamics in Britain*, Oxford University Press, Oxford.

Knies, G. (ed.) (2017), "Understanding Society: Waves 1-7, 2009-2016 and harmonised British Household Panel Survey: Waves 1-18, 1991-2009, User Guide", University of Essex, Colchester.

Kopczuk, W., E. Saez and J. Song (2010), "Earnings inequality and mobility in the United States: evidence from social security data since 1937", *The Quarterly Journal of Economics*, Vol. 125/1, pp. 91-128.

Krugman, P. (1992), "The rich, the right, and the facts: Deconstructing the income distribution debate", *The American Prospect*.

Landais, C. (2008), "Top Incomes in France: booming inequalities?", Paris School of Economics, Mimeo.

Leigh, A. (2009), *Top incomes. The Oxford handbook of economic inequality*, pp. 150-176.

Lopez-Calva, L.F., and E. Ortiz-Juarez (2014), "A vulnerability approach to the definition of the middle class", *The Journal of Economic Inequality*, Vol. 12/1, pp. 23-47.

Luxembourg Income Study (LIS) Database (n.a.), www.lisdatacenter.org (multiple countries; microdata runs completed between 1 October 2017 and 8 February 2018), LIS, Luxembourg.

Neilson, C., D. Contreras, R. Cooper and J. Hermann (2008), "The dynamics of poverty in Chile", *Journal of Latin American Studies*, Vol. 40/2, pp. 251-273.

NIDS (2013) "Overview Wave 3" - University of Cape Town, www.nids.uct.ac.za

Nichols, A. (2010), "Income inequality, volatility, and mobility risk in China and the US", *China Economic Review*, Vol. 21, pp. S3-S11.

Nichols, A. (2008), "Trends in income inequality, volatility, and mobility risk", Washington, DC: Urban Institute.

Nichols, A. and P. Rehm (2014), "Income risk in 30 countries", *Review of Income and Wealth*, Vol. 60/S1.

OECD (forthcoming a), "*Are Jobs Becoming Less Stable?",* Policy Brief on the Future of Work, OECD Publishing, Paris.

OECD (forthcoming b), *Inequality Patterns in Selected Emerging Countries*, OECD Publishing, Paris.

OECD (forthcoming c), *Under Pressure: A Better Deal for the Middle Class*, OECD Publishing, Paris.

OECD (2017a), *Preventing Ageing Unequally*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264279087-en.

OECD (2017b), *OECD Economic Surveys: Sweden 2017*, http://dx.doi.org/10.1787/eco_surveys-swe-2017-en.

OECD (2017c), *OECD Employment Outlook 2017*, OECD Publishing, Paris, http://dx.doi.org/10.1787/empl_outlook-2017-en.

OECD (2017d), "Assortative mating based on personal earnings: Percentage of workers in a given earnings decile with a partner in the same or adjacent earnings deciles, working-couple households, mid-1980s and mid-2010s", in *How's Life? 2017*, OECD Publishing, Paris. http://dx.doi.org/10.1787/how_life-2017-graph46-en.

OECD (2016), *OECD Economic Surveys: Finland 2016*, OECD Publishing, Paris. http://dx.doi.org/10.1787/eco_surveys-fin-2016-en.

OECD (2015a), *In It Together: Why Less Inequality Benefits All*, Paris: OECD Publishing. http://dx.doi.org/10.1787/9789264235120-en.

OECD (2015b), *OECD Employment Outlook 2015*, Paris: OECD Publishing. http://dx.doi.org/10.1787/empl_outlook-2015-en.

OECD (2011), *Divided We Stand: Why Inequality Keeps Rising*, Paris: OECD Publishing. http://dx.doi.org/10.1787/9789264119536-en.

Oh, H. and Y.J. Choi (2014), "Limited Income Mobility: Empirical Evidence from Korea. Social Indicators Research", pp. 1-23.

Osberg, L. (2015), "How Should One Measure Economic Insecurity?", *OECD Statistics Working Papers* No. 2012/01. OECD Publishing, Paris. http://dx.doi.org/10.1787/5js4t78q9lq7-en.

Pavlopoulos, D., R. Muffels and J.K. Vermunt (2012), "How real is mobility between low pay, high pay and non-employment?", *Journal of the Royal Statistical Society*: Series A (Statistics in Society), Vol. 175/3, pp. 749-773.

Pavlopoulos, D., R. Muffels and J.K. Vermunt (2010), "Wage mobility in Europe. A comparative analysis using restricted multinomial logit regression", *Quality & Quantity*, Vol. 44/1, pp. 115-129.

Pew (2015), *Americans' Financial Security*, Pew Charitable Trust, March.

Plum, A. (2016), "Can Low-Wage Employment Help People Escape from the No-Pay–Low-Income Trap?" *The BE Journal of Economic Analysis & Policy*, Vol. 16/4.

Reeves, R. (2017), *Dream Hoarders - How the American Upper Middle Class Is Leaving Everyone Else in the Dust, Why That Is a Problem, and What to Do About It*, Brookings Institution Press.

Saez, E. and M.R. Veall (2005), "The evolution of high incomes in Northern America: lessons from Canadian evidence", *The American Economic Review*, Vol. 953, pp. 831-849.

Sandoval, S. (2015), "The Distribution of Top Incomes in Mexico: How rich are the richest?. Paris School of Economics. Public Policy and Development", Master's Thesis, http://piketty. pse. ens. fr/files/Sandoval2015. pdf.

Shildrick, T., R. MacDonald, C. Webster and K. Garthwaite (2010), "The low pay, no pay cycle: Understanding recurrent poverty".

Shorrocks, A. F. (1978). "The measurement of mobility". *Econometrica: Journal of the Econometric Society*, pp. 1013-1024.

Solnick, S. J., and D. Hemenway (1998), "Is more always better? A survey on positional concerns", Jo*urnal of Economic Behavior & Organization,* Vol. 373, pp. 373-383.

Verbeek, M., & Nijman, T. (1992). Testing for selectivity bias in panel data models. International Economic Review, 681-703.

Wodon, Q. (2001), "Income mobility and risk during the business cycle: Comparing adjustments in labour markets in two Latin-American countries", *Economics of Transition*, Vol. 9/2, pp. 449-461.

Annex 2.A1. Available data sources to measure income mobility

Chapter 2 and Chapter 3 use longitudinal data, i.e. repeated measures over time for a consistent group of people. Such data is less common than the usual cross-sectional panel data. Moreover, not all such surveys follow individuals over a long time period. Burkhauser and Couch (2009) provide a detailed review of the comparability issues and caveats of longitudinal income data.

Using panel data presents some challenges. On top of the usual measurement caveats, panel data suffer from possible attrition bias (people stopping their participation in the survey before it ends). They are also costly. That is why they are often based on smaller sample sizes than cross-sectional data. For these reasons, they often do not permit to investigate the same level of detail as cross-sectional data. Nevertheless, progress has been made over the last decades, and most OECD countries now have some longitudinal income surveys in place. International comparison remains nevertheless delicate, as most of these sources are not systematically harmonised.

The chapter mainly relies on two internationally comparable data sources, i.e. the EU-SILC and the CNEF. The Eurostat European Statistics on Incomes and Living Conditions Survey (EU-SILC) provides data built on a common basis for all European countries (including non-EU countries such as Iceland, Norway, Switzerland and Turkey), though on a very limited time basis (four-year duration). Such data is collected as from 2005 onwards (See Table 2.A1.1). Before this, during the 1990s, information was collected in 14 European countries through the European Community Household Panel (ECHP). A major disadvantage of the ECHP source is that there are signs of large attrition rates (Burkhauser and Lilliard, 2005; Burkhauser and Couch, 2009), and its results should be considered with caution. This survey remains nevertheless the unique source of longitudinal income data for many European countries during the 1990s.

The Cross-National Equivalent File (CNEF) provided by Ohio State University (Frick et al., 2007) is a precious tool to broaden the analysis to non-European countries, as it harmonises national longitudinal income datasets from seven countries, four of them being non-European: the Panel Survey of Income Dynamics (PSID) in the United States, collected from 1968; the Australian Household, Income and Labour Dynamics (HILDA) in Australia, since the 2000s; the Canadian Survey of Labour and Income Dynamics (SLID), between 1992 and 2010; the Korean Labour Panel Study (KLIPS) from 1998 to 2013; the Swiss Household Panel, SHP, since 1998; the German Socio-Economic Panel (GSOEP) in Germany since the early 1990s; and the Socio-Economic Panel Survey (BHPS) in the United Kingdom, since the early 1990s and until 2005, and the Understanding Society Panel (UK-HLS) from 2009/10 onwards.

For some countries, several data sources are available: France is covered both by the EU-SILC and SRCV (*Statistiques sur les Revenus et les Conditions de Vie*), tracking incomes and living conditions for nine-year rotating panels between 2003 and 2014; the United Kingdom is covered both by the EU-SILC and UK-HLS (CNEF) and SILC. In order to get more recent estimates, UK-HLS analysis of Chapter 2 has been used outside of the CNEF framework based on data files produced on the basis of the methodologies suggested by Bardasi et al. (2012) and Knies (2017). Chapter 3 analyses are however based on the UK-SILC results, for a better alignment of labour-market and household definitions.

For the countries not covered by the SILC or CNEF, national data sources have been used to widen the scope of countries available: the survey KHPS (Keio Household Panel

Survey), integrated since the latest waves with the JHPS (Japanese Household Panel Survey), allows to cover Japan between 2008 and 2014. For Chile, Panel Casen 2006-09 has been used. Data for China are based on the CFPS (Chinese Family Panel Survey), providing data for 2010-2012-2014, and the results are based on computations from Chan et al. (forthcoming). Data for New Zealand are based on the SoFIE (Survey of Family, Income, and Employment), based on computations from Carter et al. (2014).

Table 2.A1.1. Availability of major longitudinal income data sources

	Cross-National Equivalent File (CNEF)															
	Australia (HILDA)	Switzerland (SHP)	Germany (GSOEP)	United Kingdom (BHPS Understanding Society)	Korea (KLIPS)	United States (PSID)	Canada (SLID)	EU countries + Norway, Switzerland, Iceland (EU-SILC)	Turkey SILC -Turkey	EU-15 countries (ECHP)	Japan (KHPS-JHPS)	France (SCRV)	Chile Casen Panel	China (CFPS)	New Zealand (SOFIE)	South Africa (NIDS)
1991			X	X		X										
1992			X	X		X	*X*									
1993			X	X		X	*X*									
1994			X	X		X	*X*			*X*						
1995			X	X		X	*X*			*X*						
1996			X	X		X	*X*			*X*			*X*			
1997			X	X			*X*			*X*						
1998		X	X	X		X	*X*			*X*						
1999	X	X	X	X			*X*			*X*						
2000	X	X	X	X	X	X	*X*			*X*						
2001	X	X	X	X	X		X			X			X			
2002	X	X	X	X	X	X	X			X					X	
2003	X	X	X	X	X		X								X	
2004	X	X	X	X	X	X	X				X	X			X	
2005	X	X	X	X	X		X	X			X	X			X	
2006	X	X	X	X	X	X	X	X			X	X	XX		X	
2007	X	X	X	X	X		X	X			X	X(b)	X		X	
2008	X	X	X	X	X	X	X	X	X		X	X	X		X	X
2009	X	X	X		X		X	X	X		X	X	X		X	
2010	X	X	X	X	X	X	X	X	X		X	X		X	X	X
2011	X	X	X	X	X			X	X		X	X				
2012	X	X	X	X	X	X		X	X		X	X		X		X
2013	X	X	X	X	X			X	X		X	X				
2014				X		X		X			X	X		X		X
2015				X				X				X				

Notes: A black cross means that the data is available to the OECD; light grey means that data exist but are not directly available.
Chile, (2006): overlap of two surveys: Panel CASEN 1996-2006 and Panel CASEN 2006-09.
(b) stands for break in series.

Annex 2.A2. Changes in income mobility since the 1990s – detailed results

This annex documents the transition matrices by income quintile during the late 1990s and the early 2010s. Table 2.A2.1 provides descriptive statistics based on the latest four-year panel available in the 1990s and the 2010s. Table 2.A2.2 provides estimates based on logistic regressions controlling for education level, age group, country and average economic growth for two sets of four-year panels ranging between 1994-97 and 1998-2001 for the late 1990s and 2008-11 and 2011-14 for the early 2010s.

Table 2.A2.1. Share of individuals staying in the same income quintile over four years

Percentage, late 1990s and early 2010s

	First quintile (poorest)		Q2		Q3		Q4		Fifth quintile (richest)	
	1990	2010	1990	2010	1990	2010	1990	2010	1990	2010
Austria	48.2	56.7	42.5	39.2	34.0	41.3	38.0	47.4	63.4	71.9
Belgium	60.2	63.9	40.9	39.4	37.3	43.0	41.7	37.8	60.1	70.0
Denmark	46.7	44.7	39.6	37.6	33.5	57.2	34.7	52.8	58.2	74.1
Finland	57.9	68.1	43.5	40.1	42.6	41.5	45.7	48.3	70.3	72.3
France	56.9	63.6	45.1	41.6	43.0	47.1	49.4	45.9	74.4	67.8
Germany	59.7	57.9	42.0	42.6	37.3	41.4	45.6	50.0	67.9	73.5
Greece	48.6	45.5	34.4	42.2	34.8	30.8	38.0	41.3	62.6	55.3
Ireland	55.8	52.1	37.3	37.7	33.7	43.2	37.3	39.9	65.2	76.7
Italy	56.1	61.9	41.4	46.7	35.6	38.8	41.2	47.9	65.0	65.5
Korea	37.0	50.3	29.7	43.2	27.7	34.1	28.5	37.4	51.8	60.4
Luxembourg	66.1	71.1	47.9	45.2	42.4	43.0	48.9	40.8	67.9	65.4
Netherlands	51.6	69.9	42.7	38.6	38.4	37.7	44.3	47.7	67.6	73.7
Portugal	57.6	67.1	37.4	43.5	40.1	41.9	48.2	49.6	75.2	69.7
Spain	47.3	65.7	34.8	43.9	32.6	44.0	37.1	47.4	63.6	71.6
United Kingdom	59.5	40.1	39.5	31.7	38.5	26.7	41.9	41.4	66.8	70.5
United States	51.3	53.6	38.1	41.3	38.6	41.8	46.8	50.0	66.0	68.6
OECD-16	**53.8**	**58.3**	**39.8**	**40.9**	**36.9**	**40.8**	**41.7**	**45.3**	**65.4**	**69.2**

Note: The figure compares the share of individuals staying in the same income quintile after four years during the late 1990s and the early 2010s. Data refer to the working-age population (18-65). Data for the late 1990s refer to 1997-2000 for all countries except Korea (1998-2001). Data for the late 2010s refer to 2011-14 for all countries except Germany, the United Kingdom, Korea and Ireland (2010-13). For the United States, as data is collected on a biannual basis, the results for four-year averages are based on the averages between 3 year- and 5 year-panels.

Source: OECD Secretariat calculations. Data for the late 1990s are based on the ECHP for all countries except Germany, the United Kingdom and Korea (CNEF). Data for the early 2010s are based on the CNEF, EU-SILC and SRCV. See Annex 2.A1 for details on the data sources.

Table 2.A2.2. Estimated likelihood to stay in the same income quintile controlling by age, education, country and economic growth

		Q1	Q2	Q3	Q4	Q5
1990s	**Predicted**	**0.500**	**0.394**	**0.358**	**0.400**	**0.642**
	Lower bound	0.504	0.389	0.354	0.396	0.638
	Upper bound	0.515	0.399	0.363	0.405	0.646
2010s	**Predicted**	**0.572**	**0.416**	**0.407**	**0.470**	**0.722**
	Lower bound	0.557	0.402	0.394	0.457	0.712
	Upper bound	0.588	0.429	0.42	0.482	0.732

Note: Estimated likelihood to stay in the same income quintile in the 1990s versus the 2010s, by initial income quintile, controlled by age group, economic growth, education and country.

Source: OECD Secretariat calculations. Data for the late 1990s are based on the ECHP for all countries except Germany, the United Kingdom, the United States and Korea (CNEF). Data for the early 2010s are based on the CNEF, EU-SILC and SRCV. See Annex 2.A1 for details on the data sources.

Table 2.A2.3. Probability to belong to the bottom and top income quintile four years later, by initial income quintile

Late 1990s average versus early 2010s average

	Initial income quintile	Probability to belong to the bottom quintile four years later			Probability to belong to the top income quintile four years later		
		Late 1990s	Early 2010s	Difference	Late 1990s	Early 2010s	Difference
OECD	Poorest	53.4	57.4	4.0	4.1	3.6	-0.6
	Q2	21.8	22.1	0.3	4.4	3.7	-0.8
	Q3	9.6	8.3	-1.3	8.8	7.8	-1.0
	Q4	5.3	4.2	-1.1	23.0	23.9	0.9
	Richest	3.1	2.1	-1.1	65.7	69.7	4.1
Austria	Poorest	50.8	60.6	9.8	4.1	4.6	0.5
	Q2	19.8	24.0	4.2	4.6	6.5	1.9
	Q3	10.8	7.4	-3.4	10.2	7.5	-2.7
	Q4	7.6	5.7	-1.9	24.6	24.4	-0.2
	Richest	3.5	1.9	-1.6	60.5	69.9	9.3
Belgium	Poorest	56.7	63.9	7.2	6.1	1.3	-4.7
	Q2	23.2	24.7	1.6	5.2	4.3	-1.0
	Q3	9.2	6.9	-2.3	10.9	12.1	1.2
	Q4	5.0	4.5	-0.5	23.2	23.4	0.2
	Richest	4.7	1.2	-3.6	59.0	68.7	9.8
Denmark	Poorest	46.8	38.2	-8.6	6.1	6.6	0.6
	Q2	21.5	19.3	-2.2	6.1	3.3	-2.8
	Q3	8.4	2.2	-6.2	11.1	8.1	-3.0
	Q4	7.6	5.7	-1.9	25.0	22.9	-2.0
	Richest	6.0	2.1	-3.9	57.7	75.6	17.9
France	Poorest	58.2	60.5	2.2	2.5	2.9	0.4
	Q2	20.8	21.7	0.9	2.0	3.1	1.2
	Q3	8.5	7.4	-1.1	4.8	5.9	1.2
	Q4	4.4	4.1	-0.3	21.9	20.6	-1.3
	Richest	3.4	3.1	-0.4	72.1	68.7	-3.4
Germany	Poorest	58.1	57.3	-0.9	3.4	7.2	3.8
	Q2	21.6	17.6	-4.1	3.0	2.1	-0.9
	Q3	11.4	7.1	-4.3	6.8	7.5	0.7
	Q4	7.1	3.0	-4.1	21.8	25.0	3.1
	Richest	4.9	1.4	-3.5	66.7	74.1	7.4
Greece	Poorest	49.2	44.1	-5.1	3.8	6.0	2.2
	Q2	25.3	24.5	-0.8	4.6	3.8	-0.8
	Q3	11.2	15.5	4.3	10.1	11.3	1.2
	Q4	5.6	5.8	0.3	23.2	23.5	0.4
	Richest	2.7	2.8	0.1	63.1	63.4	0.3
Ireland	Poorest	55.9	54.2	-1.7	2.4	1.9	-0.5
	Q2	23.5	22.3	-1.2	3.8	2.3	-1.5
	Q3	9.7	14.2	4.5	11.6	4.9	-6.7
	Q4	5.7	5.3	-0.4	26.6	17.8	-8.8
	Richest	2.0	2.3	0.3	64.9	74.8	9.9
Italy	Poorest	53.6	63.0	9.4	4.2	1.9	-2.4
	Q2	23.0	22.9	-0.1	5.6	3.5	-2.2
	Q3	11.0	7.6	-3.4	9.5	9.3	-0.3
	Q4	4.9	3.9	-1.0	24.0	24.1	0.1
	Richest	2.6	1.9	-0.7	62.7	66.8	4.1

	Initial income quintile	Probability to belong to the bottom quintile four years later			Probability to belong to the top income quintile four years later		
		Late 1990s	Early 2010s	Difference	Late 1990s	Early 2010s	Difference
Luxembourg	Poorest	62.3	64.2	1.9	1.2	1.8	0.5
	Q2	16.8	15.1	-1.7	2.4	2.0	-0.4
	Q3	6.7	5.7	-1.1	7.5	6.0	-1.6
	Q4	1.2	2.5	1.3	26.2	27.7	1.5
	Richest	1.1	2.5	1.4	70.7	67.0	-3.7
Netherlands	Poorest	52.5	60.9	8.4	6.6	1.5	-5.0
	Q2	16.7	16.6	-0.1	5.0	3.6	-1.4
	Q3	8.9	5.2	-3.8	8.3	5.1	-3.2
	Q4	4.7	2.1	-2.6	23.7	33.0	9.3
	Richest	2.7	1.6	-1.1	69.5	74.3	4.8
Portugal	Poorest	54.5	63.1	8.6	2.3	2.2	-0.1
	Q2	22.0	25.1	3.1	4.4	4.6	0.2
	Q3	8.6	10.7	2.2	8.5	7.2	-1.3
	Q4	4.2	4.9	0.7	20.9	15.6	-5.3
	Richest	1.4	2.7	1.3	73.7	69.2	-4.4
Spain	Poorest	48.4	60.5	12.1	4.5	1.3	-3.2
	Q2	22.3	25.1	2.8	5.7	2.9	-2.7
	Q3	10.8	8.8	-1.9	9.4	5.6	-3.8
	Q4	7.3	3.1	-4.2	19.9	20.0	0.1
	Richest	2.9	1.5	-1.5	63.4	71.9	8.5
United Kingdom	Poorest	55.9	44.7	-11.3	4.2	6.6	2.4
	Q2	20.9	24.8	3.9	4.8	6.9	2.1
	Q3	7.5	10.0	2.5	9.7	10.8	1.0
	Q4	4.6	5.9	1.3	23.7	27.6	3.9
	Richest	3.6	2.0	-1.6	67.0	66.9	-0.2
United States	Poorest	46.4	52.3	5.8	7.0	2.5	-4.5
	Q2	24.7	21.1	-3.6	5.1	3.0	-2.1
	Q3	8.7	10.8	2.2	8.8	8.2	-0.7
	Q4	3.6	6.2	2.6	22.8	29.4	6.5
	Richest	2.6	3.4	0.8	62.3	68.3	6.1

Note: This table compares transition matrices over four years in the late 1990s (1994-97 to 1997-2000 averages) and the early 2010s (2010-13 to 2011-14 average). Each line gives the percentage of working-age individuals belonging to the bottom (resp top) income quintile four years later.

Source: OECD Secretariat calculations based on EU-SILC, ECHP and CNEF.

Annex 2.A3. Methodology to estimate Income mobility with pseudo-panels

This Annex outlines the methodology proposed by Dang et al. (2014) to estimate transition matrices with pseudo-panels. In particular, it focuses on the parametric version of their method and on the subsequent extension by Dang and Lanjouw (2013). While this model is used by Dang et al. (2014) to estimate the probability that people move in and out of poverty using income data from repeated cross-sections, the same model is applied in this chapter to measure transitions in and out of the first and top income quintiles.

Consider the case of two repeated cross-sections and assume that the underlying population being sampled in both rounds is the same. In what follows, the superscripts A and B are used to refer to individuals from the first and the second cross-section respectively.

Using observations from Cross-section A, one can estimate the following model of individual earnings in Period 1, containing *only time-invariant covariates* on the right-hand side:[1]

$$\boldsymbol{y_{i,1}^{A} = \beta_1' x_{i,1}^{A} + \varepsilon_{i,1}^{A}} \quad [1]$$

and obtain estimates for $\beta t=1$, $\varepsilon_{i,t=1}^{A}$, and for the standard deviation of the error terms $\sigma\varepsilon 1$.

The same model can be estimated for Period 2, using observations from Cross-section B:

$$\boldsymbol{y_{i,2}^{B} = \beta_2' x_{i,2}^{B} + \varepsilon_{i,2}^{B}} \quad [2]$$

Assuming that $\varepsilon_{i,1}^{A}$ and $\varepsilon_{i,2}^{B}$ have a bivariate normal distribution with non-negative correlation coefficient ρ and standard deviations $\sigma\varepsilon 1$ and $\sigma\varepsilon 2$, the percentage of workers from Cross-section B who are in the first income quintile in both the first and the second period (persistence at the bottom) can be estimated as follows:

$$\hat{P}(\tilde{y}_{i1}^{B} < q_{1,t=1} and\ y_{i2}^{B} < q_{1,t=2}) = \Phi\left[\frac{q_{1,t=1} - \widehat{\beta_1'} x_{i,t=2}^{B}}{\hat{\sigma}_{\varepsilon_1}}, \frac{q_{1,t=2} - \widehat{\beta_2'} x_{i,t=2}^{B}}{\hat{\sigma}_{\varepsilon_2}}, \hat{\rho}\right] \quad [3]$$

The same way, the percentage of Cross section B workers who are in the last income quintile in both the first and the second period (persistence at the top) can be estimated as:

$$\hat{P}(\tilde{y}_{i1}^{B} < q_{4,t=1} and\ y_{i2}^{B} < q_{4,t=2}) = \Phi\left[\frac{q_{4,t=1} - \widehat{\beta_1'} x_{i,t=2}^{B}}{\hat{\sigma}_{\varepsilon_1}}, \frac{q_{4,t=2} - \widehat{\beta_2'} x_{i,t=2}^{B}}{\hat{\sigma}_{\varepsilon_2}}, \hat{\rho}\right] \quad [4]$$

Dividing these unconditional probabilities by the percentage of workers who start out in the first (last) income quintile generates the conditional probabilities of staying in this quintile, which are used in the main analysis.

The main challenge in implementing this model is estimating $\widehat{\rho}$, since repeated cross-sections do not contain observations for the same individuals over time; it is therefore impossible to estimate the serial correlation of individual shocks.

Dang et al. (2014) get around this issue by assuming a minimum and a maximum value for $\hat{\rho}$, to obtain lower and upper bound estimates (rather than point estimates) of mobility. To implement this approach, one possibility is to calibrate the minimum and maximum bounds on the basis of actual panel-data from previous time-periods or from sufficiently similar contexts. In the absence of these, Dang et al. (2014) suggest using the extreme values of $\rho = 0$ (no serial correlation) and $\rho = 1$ (perfect correlation). This

approach proves to be quite successful in their validation exercise, as estimates of mobility obtained with true panels are generally within these estimated bounds. The main drawback of this procedure is that the bounds can be quite large. Moreover, it is not clear whether policy makers should target the lower or the upper bound of estimated mobility. The former approach has been applied in a recent World Bank publication on income mobility in Latin America (Ferreira et al., 2012), where the authors assume ρ = 1 and obtain a conservative (lower-bound) estimate of mobility. Ferreira et al. (2012) argue that this assumption provides a better assessment of "true" mobility since, by assuming perfect correlation of the error terms over time, the lower-bound estimate is "purged" of classical measurement error. Moreover, assuming perfect serial correlation in individual specific shocks brings out more clearly the effect of economic growth on overall poverty. As the present analysis has a strong focus on positional mobility and on the uncertainty and risks faced by individuals, this approach is not suitable for our purposes.

In a follow-up study, Dang and Lanjouw (2013) outline a cohort-based approach that can be used to estimate $\widehat{\rho}$ directly to obtain point estimates of mobility. For a sufficiently large sample, like that of a typical household survey, this can be done by estimating the following dynamic income model for various age cohorts:[2]

$$\overline{y}_{c,2} = \delta' \overline{y}_{c,1} + \overline{\eta}_{c,2} \quad [5]$$

Where $\overline{y}_{c,t}$ is the average of y in Cohort c and Period t = 1, 2.

From the estimation of [5], one can obtain a consistent estimate of δ and of the cohort level correlation coefficient, $\widehat{\rho}$, which can be used to approximate the individual-level correlation coefficient $\widehat{\rho}$.

$$\hat{\rho}_{y_{i,1}y_{i,2}} \approx \hat{\rho}_{y_{c,1}y_{c,2}} = \frac{cov(\overline{y}_{c,1},\overline{y}_{c,2})}{\sqrt{var(\overline{y}_{c,1})var(\overline{y}_{c,2})}} \quad [6]$$

Finally, in order to estimate [3] and [4], one needs to obtain the partial correlation coefficient ρ, which captures the serial correlation in income conditional on the control variables (i.e. the serial correlation in the model residuals). As shown by Dang and Lanjouw (2013), ρ can be obtained as follows:

$$\hat{\rho} = \frac{\hat{\rho}_{y_{i,1}y_{i,2}}\sqrt{var(y_{i1})var(y_{i2})} - \hat{\beta}_1' var(x_i)\hat{\beta}_2'}{\hat{\sigma}_{\varepsilon_1}\hat{\sigma}_{\varepsilon_2}} \quad [7]$$

Estimates are based on the *LIS database* (http://www.lisdatacenter.org/). Data availability over the long run and by country is shown in Table 2.A3.1. Gaps are linearly interpolated to cope with missing years.

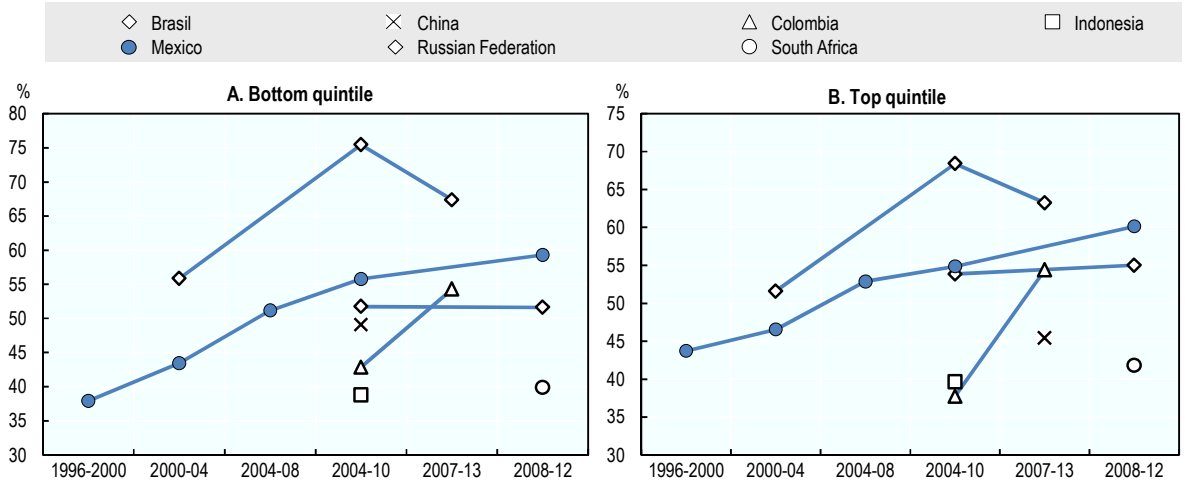
Table 2.A3.1. Data availability for pseudo-panel estimates by year and country

	Mid-1980s	Late 1980s	Around 1990	Early 1990s	Mid-1990s	Late 1990s	Early 2000s	Pre-crisis	Crisis period	Latest data / post crisis
OECD countries										
Austria			1987-94		1995-97		2000-04	2004-07		2010-13
Australia	1985-89								2008-10	
Belgium	1985-88		1988-92	1992-95	1995-97	1997-2000				
Canada	1981-87	1987-91		1991-94	1994-97	1998-2000	2000-04	2004-07	2007-10	
Czech Rep.					1992-6	1996-2002	2002-04	2004-07	2007-10	2010-13
Denmark			1987-92	1992-95		1995-2000		2004-07	2007-10	2010-13
Estonia							2000-04	2004-07	2007-10	2010-13
Finland		1987-91		1991-95		1995-2000	2000-04	2004-07	2007-10	2010-13
France	1984-89			1989-94		1994-2000	2000-05		2005-10	
Germany	1984-89		1989-94			1994-2000		2004-07	2007-10	2010-13
Greece						1995-2000	2000-04	2004-07	2007-10	2010-13
Hungary				1991-94		1994-99	1999-2005	2005-07	2007-09	2009-12
Iceland								2004-07	2007-10	
Ireland			1987-94			1996-2000	2000-04	2004-07	2007-10	
Israel			1986-92		1992-97	1997-2001	2001-05	2005-07	2007-10	2010-12
Italy	1986-87	1987-89	1989-91	1991-93	1993-95	1995-98		2004-08	2008-10	2010-14
Luxembourg	1985-91			1991-94	1994-97	1997-2000	2000-04	2004-07	2007-10	2010-13
Mexico		1984-89	1989-92	1992-94	1994-96	1998-2000	2000-02	2004-08	2008-10	2010-12
Netherlands	1983-87	1987-90		1990-93	1993-97		1999-2004	2004-07	2007-10	2010-13
Norway		1986-91		1991-2005		1995-2000	2000-04	2004-07	2007-10	2010-13
Poland		1986-92		1992-95		1995-99	1999-2004	2004-07	2007-10	2010-13
Spain		1980-85		1990-95		1995-2000	2000-04	2004-07	2007-10	2010-13
Sweden				1992-95		1995-2000	2000-05			
Slovak Rep.						1996-2004		2004-07	2007-10	2010-13
Slovenia						1997-99	1999-2004	2004-07	2007-10	2010-13
Switzerland					1992-2000		2000-02		2007-10	2010-13
United Kingdom							1999-2004	2004-07	2007-10	2010-13
United States		1986-91		1991-94	1994-97	1997-2000	2000-04	2004-07	2007-10	2010-13
OECD Key partners										
Brazil									2006-09	2011-13
Colombia									2007-10	2010-13
Russia							2000-04	2004-07	2007-10	2010-13
South Africa									2008-10	2010-12

Source: OECD Secretariat calculations based on the *Luxembourg Income Study (LIS) Database*, http://www.lisdatacenter.org.

Figure 2.A3.1 shows the figures for income persistence in the lower and upper quintile in emerging economies. There are signs of increased persistence in Mexico, Colombia and the Russian Federation.

Figure 2.A3.1. Trends in income persistence at the bottom and at the top in emerging economies



Source: OECD Secretariat calculations based on the *Luxembourg Income Study (LIS) Database*, http://www.lisdatacenter.org.

Annex 2.A4. Distribution of the population by income quintile over life: Differences between the cohorts born in 1950 and 1970

Figure 2.A4.1. Distribution of the population by income quintiles at age 40

By birth cohort and education level

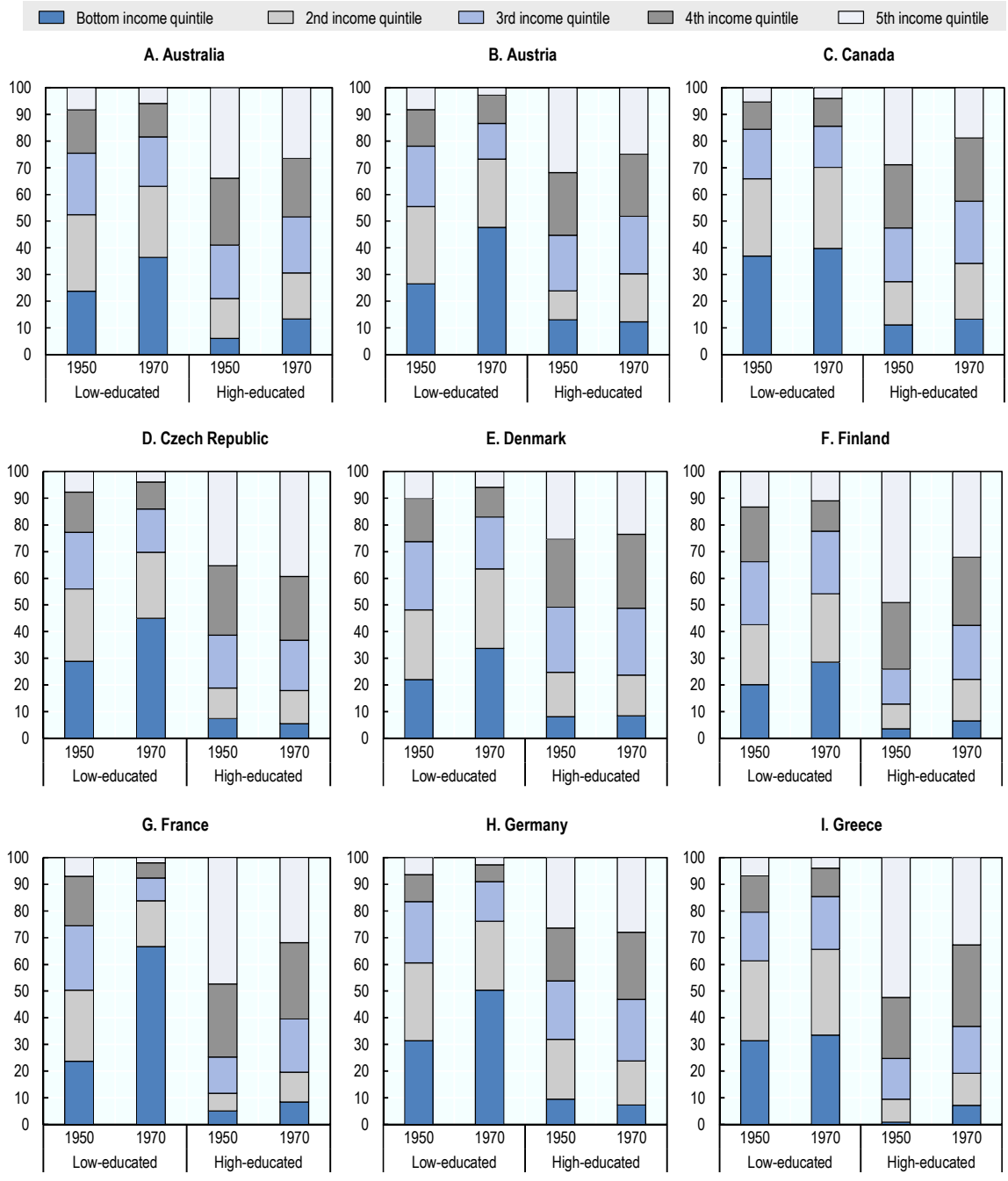


Figure 2.A4.1. Distribution of the population by income quintiles at age 40 *(cont.)*

By birth cohort and education level, percentages

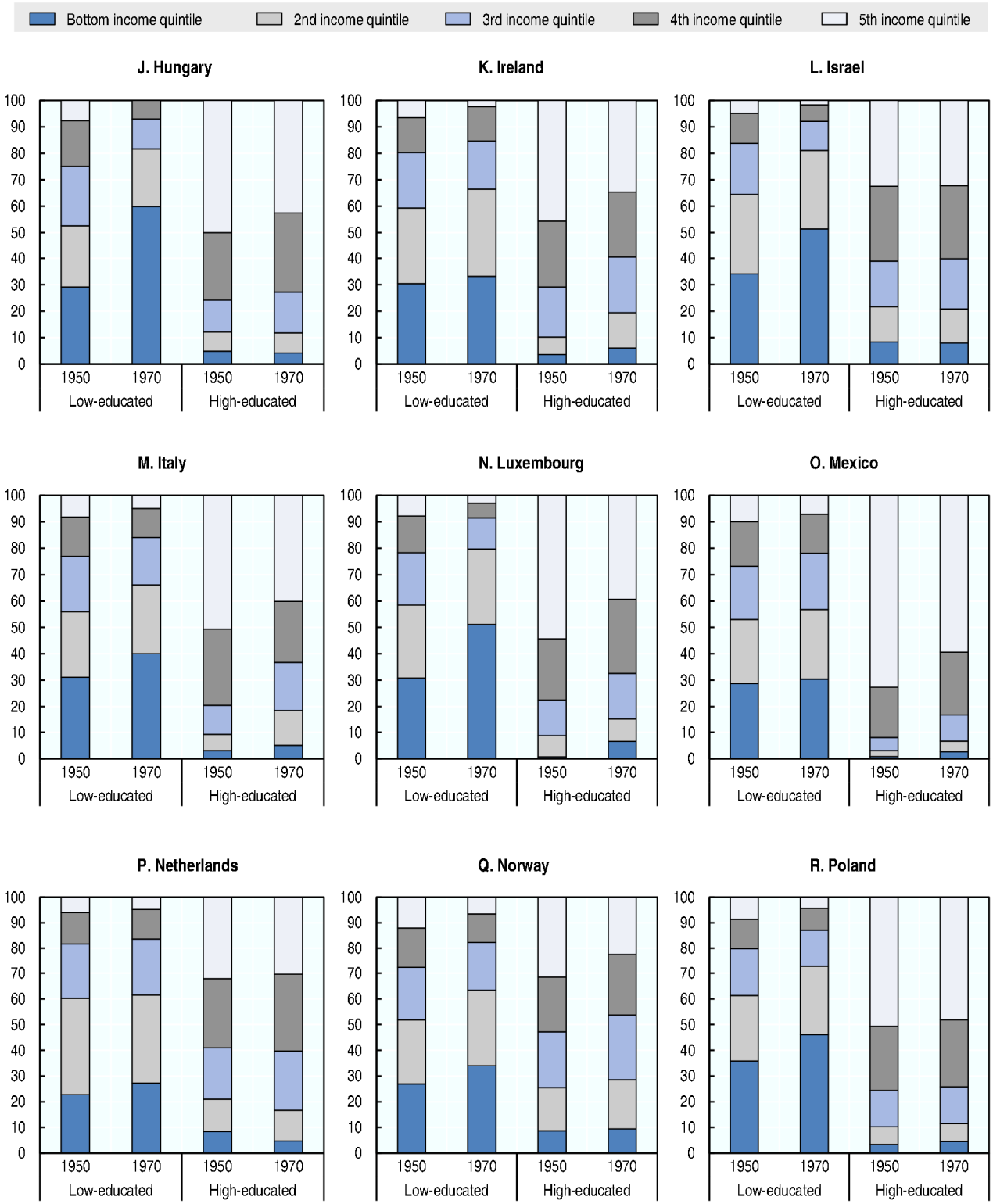
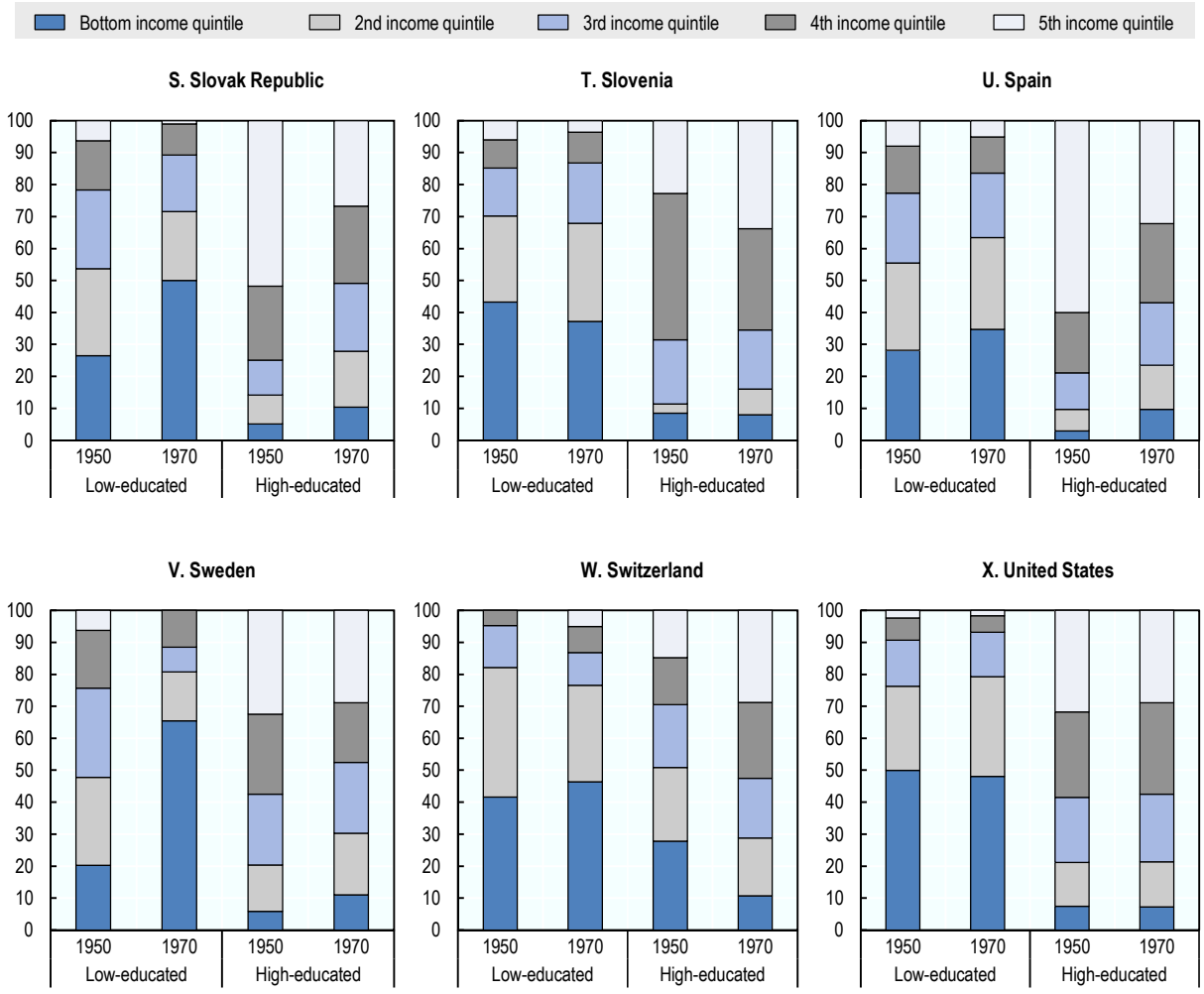


Figure 2.A4.1. Distribution of the population by income quintiles at age 40 *(cont.)*

By birth cohort and education level, percentages



Note: Quintiles are defined on the working age-population for a given year. 1970 and 1950 refer to the birth cohorts born during the 1970s and 1950s respectively.

Source: OECD Secretariat calculations based on *Luxembourg Income Study (LIS) Database*, http://www.lisdatacenter.org.

Annex Notes

1. The set of covariates includes individuals' gender, year of birth and education level.
2. As pointed out by Dang and Lanjouw (2013), there is no consensus in the literature on how large the sample size should be to obtain precise estimates of Monte Carlo simulations. Verbeek and Nijman (1992) suggest that cohort sizes of 100 to 200 are sufficient, while recent work by Devereux (2007) points to an ideal cohort size of 2 000 or more observations.

Chapter 3. Time is money: What drives income mobility?

This chapter investigates the key drivers of household income mobility from an individual perspective. It considers the impact of so-called "trigger events" – such as changes in labour market status, divorce or childbirth – on income mobility. The chapter shows that changes in labour market status are the main determinant of individual income trajectories, but that, in a number of countries, family-related changes can also play a very important role. In particular, women are more severely affected than men by income losses after a divorce. Net social transfers are a crucial factor to prevent downward mobility, while upward mobility results primarily from labour market dynamics.

Introduction

Individual income trajectories are an important driver of people's individual life-satisfaction, which itself matters for various dimensions of well-being, such as health and mental health, but also trust in society. At an aggregated level, a lack of social mobility has important economic, political and social consequences (Chapter 1). At the same time, unpredictable income losses imply not only more uncertainty for individuals, but also more difficulty in accessing credit, housing and investment in general.

Individual income trajectories are diverse. They can be largely unpredictable for some people, and they are strongly shaped by the income distribution (Chapter 2). Low-income individuals are likely to remain stacked at the bottom persistently or recurrently. Those with higher incomes are better protected and likely to secure their income positions. Those in the middle-income groups are more mobile, although even small income changes can lead to changes of their positions on the income ladder. What explains differences in mobility patterns? Individual income trajectories reflect the ageing of individuals and their lengthening labour market experience. They also reflect their household and labour market situation and their changes over time – life events – which shape income trajectories.

Life events do not influence all income trajectories in the same way. Usually, in the event of an income shock, individual insurance mechanisms, such as savings or credit, help people to cope with difficult economic circumstances. However, many people own few assets (OECD, 2015a; Balestra and Tonkin, 2018), and access to credit is more limited for many (Blundell et al, 2008; Pistaferri and Preston, 2008; Guvenen and Smith, 2014; Kast and Pomeranz, 2014). The spouse's income is another form of insurance mechanism. However, singles or parents with care responsibility cannot necessarily rely on this. Last, policies and social protection also contribute to the insurance mechanism. Taxes, transfers and family labour supply play an important role in insuring income shocks. If insurance mechanisms are insufficient, which is often the case for those at the bottom of the income distribution, the impact of labour market and life events might persist and have long-lasting consequences.

The current chapter focuses on the drivers of income mobility among the working-age population. Different mechanisms combine in shaping income dynamics: labour market transitions, household structure and its changes, and the role of taxes and benefits. The chapter links this web of drivers, or "trigger events", to income mobility. It focuses in particular on trigger events that are related to changes in the labour market as well as demographic events. It shows that, among these drivers, labour market transitions play a key role in shaping *upward* income mobility. Symmetrically, *downward* income mobility is also driven by labour market transitions, but with a key role played by taxes and transfers in smoothing the impact of negative shocks. Life events such as divorce or childbirth have a smaller impact, but can have long-lasting consequences for those facing them – women in particular.

Key issues and main findings

- Labour market transitions impact more directly on income gains than on income losses, which are cushioned by social protection and safety nets. This is especially the case at the bottom and the middle of the income distribution.

- A transition from non-employment to employment results in upward income mobility: a non-working individual finding a job is three times more likely to experience a large income gain than a peer staying unemployed or inactive.
- Temporary employment and part-time work can weaken the income gains following returns to employment. Individuals taking a permanent or full-time employment are twice as likely to exit low income. Moving from a temporary to a permanent contract goes hand in hand with a large income gain in most countries.
- In some countries, household-related changes – divorce or childbirth – are a significant driver of entries into the low-income group, e.g. Austria, France and Norway.
- Women are more severely affected than men are by income losses after a divorce, with income losses of 22% versus 9% for men. These gaps persist several years after divorce. On average in OECD countries, half of the women going through a divorce or separation experience a large income decrease, compared to 16% of those who remain in a stable relationship or single.
- Childbirth generally leads to household income losses. These losses are widely explained by mothers withdrawing from the labour market. In some countries, the income loss due to childbirth is compensated by social transfers. In other countries, the compensation mechanisms are driven by partners increasing their labour earnings.
- Taxes and benefits have a large impact in cushioning income shocks. For those at the bottom of the income distribution, about half of market income shocks are smoothed by redistribution – i.e. they do not lead to large losses in disposable income – and for those in the middle-income group this is the case of around a third of shocks.

Section 3.2 shows that, overall, labour market events have a stronger impact on income dynamics, while household-related events can also play a role. Sections 3.3 and 3.4 explore in further detail the mechanisms between, respectively, individual labour market transitions and income changes on one side, and household structure and income changes on the other side. Section 3.5 looks at the impact of taxes and transfers on market income shocks, both gains and losses.

3.1. The big picture: Labour market transitions are more relevant than household changes for income mobility at the bottom of the income distribution

Individual income trajectories reflect changes in the labour market situation as well as in the composition of households. These events are referred to in what follows as “life events”. They are the channels through which people’s income is likely to change (Jenkins et al., 2001; Jenkins, 2011; DiPrete and McManus, 2000). The impact of these events on household incomes is mitigated by public tax and transfer mechanisms. Under certain circumstances, the impact of these events might persist and have long-term consequences, especially in the absence of adequate social and employment policy settings (DiPrete and McManus 2000). Health shocks are another type of life event that is likely to impact on income mobility. These will not be covered in further detail in this chapter (see Box 3.1).

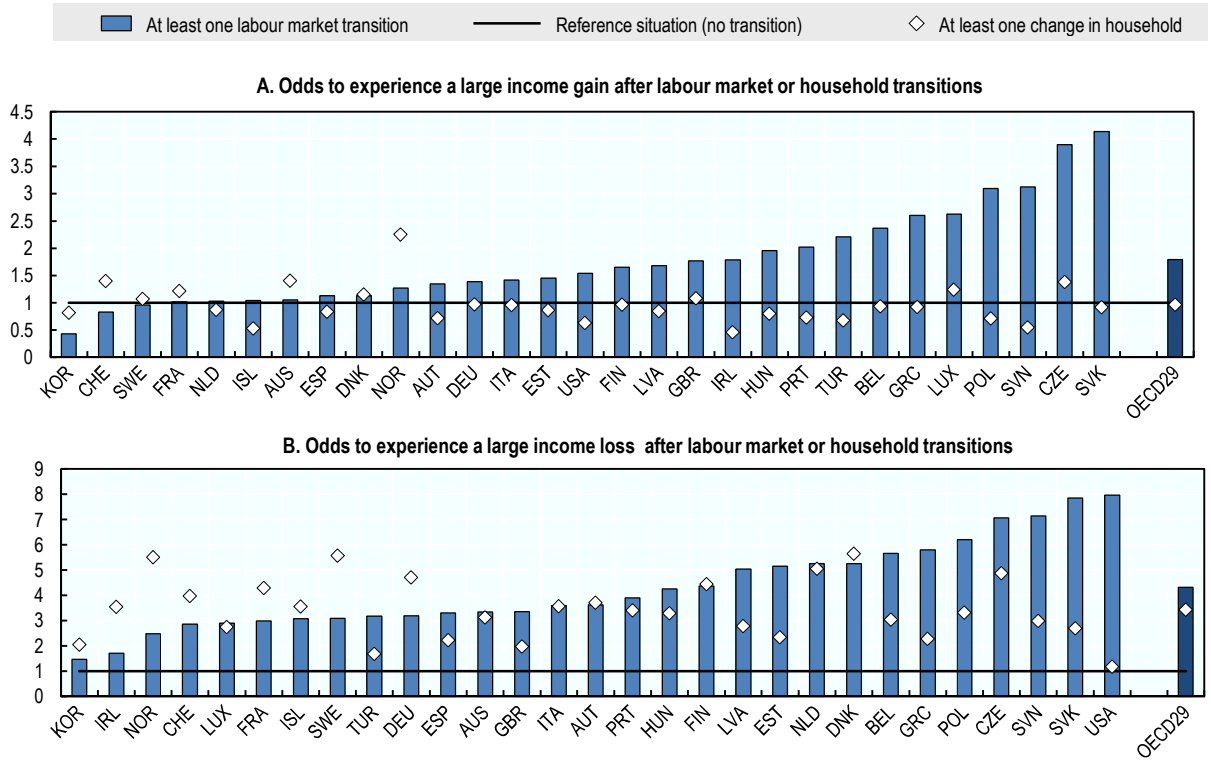
Labour market transitions refer to movements in an out of employment and job-to-job changes. Household changes refer to events such as marriage, divorce[1] or the birth of a child. These events occur for a limited share of the population each year, but they are major drivers of income dynamics. Polin and Raitano (2014) found for European countries in the 1990s that most exits from poverty were associated with labour market transitions, but that life events were crucial for entries into poverty. Alves and Martin (2012) found for European countries (2005-09) that both labour market events and life events have an impact on absolute and relative income mobility. Neilson et al. (2008) found that in Chile (1996-2001) labour market transitions are more relevant than life events to explain exits from poverty.

On average across OECD countries, both labour market and household events have a significant impact on income mobility, both in absolute and relative terms.[2] Figure 3.1 shows the impact of trigger events on absolute income changes (measured as an income change above 20%, up or down).[3] When splitting income changes between gains and losses, it appears that, all other things being equal, large income gains are mainly driven by (upward) labour market transitions (Figure 3.1, Panel A), while income losses are driven by labour market transitions in some countries (Slovakia, Slovenia,and Czech Republic) but by household changes in others (Norway, Sweden, Germany and France, Panel B).

For upward mobility, labour market transitions play a more significant role than household-related events, especially at the bottom and middle of the income distribution (Figure 3.2, Panel A and Panel B), but not to reach the upper income quintile (Panel C). The role of labour market transitions in supporting upward income mobility at the bottom of the income distribution is weaker in some countries (Slovakia, Spain, the Netherlands, Slovenia and Turkey). This can be explained by the type of employment transitions in the lowest segment of the income distribution. People experiencing spells of unemployment, or people with low incomes, are more likely to re-enter employment through less secure forms of employment than others – for example, they are more likely to take up a temporary job or low-paid job, which may not provide sufficient earnings to lift people out of the first income quintile.

Figure 3.1. Impact of labour market transitions and household changes on large income gains and losses

Odds to experience large income gains and losses when experiencing a trigger event, compared to situations with no transition



Reading note (Panel A): On average, in the OECD, someone experiencing a labour market transition (e.g. taking up a job if non-employed or quitting a job when employed) is 1.8 times more likely to experience a large income gain than someone with no such transition. There is no difference in odds to experience an income gain for someone with a life-event (marriage, divorce or childbirth) compared to someone with none of these events.

Note: Large income changes are measured as a +/- 20% or more income change from one year to the next. Figures shown are the estimates to experience an income change when either a labour market or a household change occurs, all other things being equal. Control variables include sex, education, age group, presence of children, year of the survey. See detailed results in Annex 3.A2. Estimates are shown for an individual, aged 30, with children and middle education. The magnitude of the estimates is similar for other profiles. Data refer to year-on-year transitions between 2011 and 2014 or closest.

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

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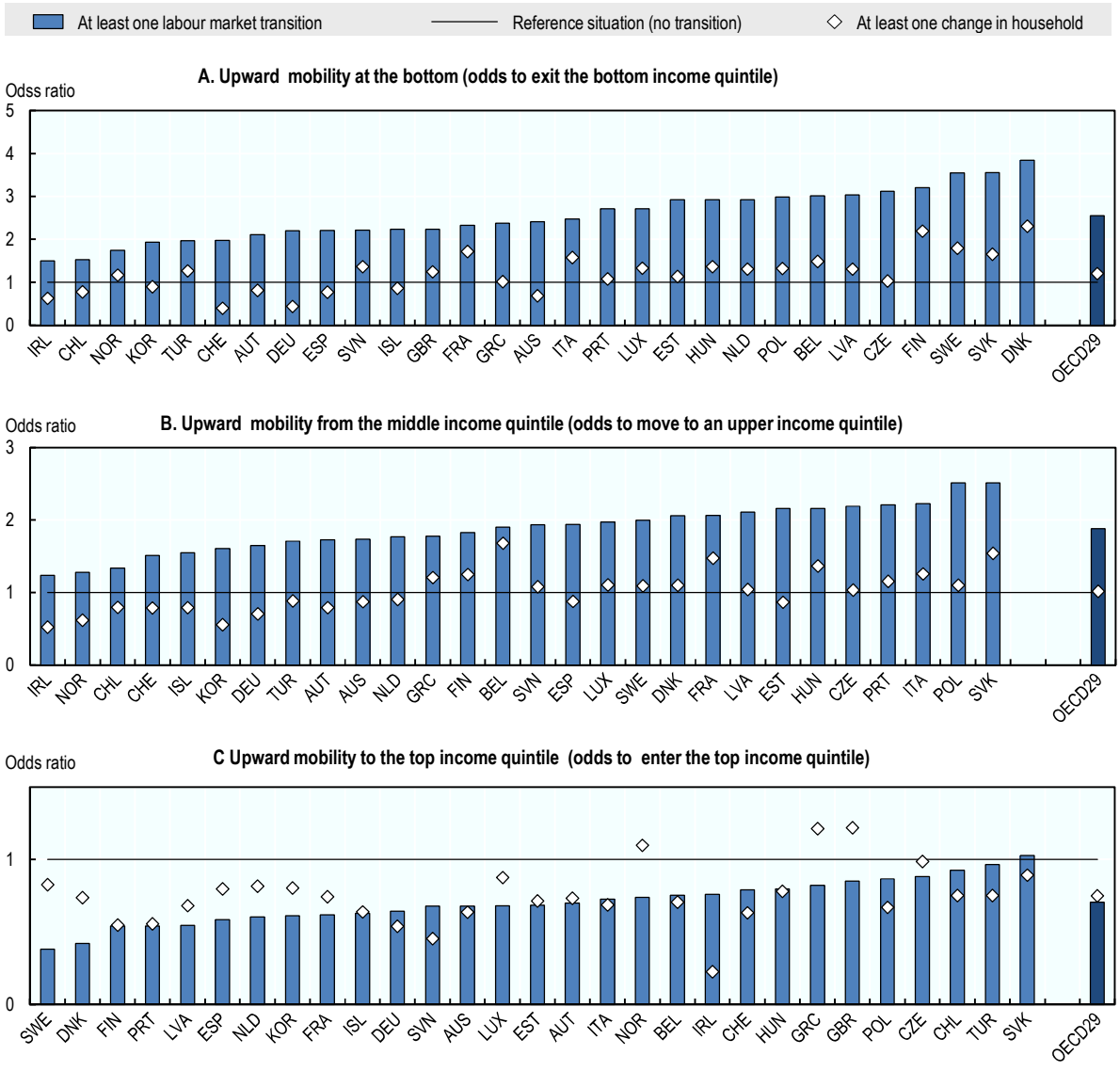
Labour market transitions play a somewhat smaller role than household-related changes for downward income mobility (Figure 3.3). This is mainly due to the role of social transfers, which cushion the impact of job losses in most countries. This role is significant at the middle and the bottom of the income distribution, and of lower magnitude at the top (Panels A and B). In some countries, a household change – divorce or childbirth – is a significant driver of entries into the low-income group, e.g. Austria, France and Norway (Panel C).

Figure 3.2. Impact of labour market and household changes on upward income mobility at different points of the income distribution

Odds to experience a change in income quintile when experiencing a trigger event compared to situations with no transition, year-on-year changes, early 2010s or latest



Reading note: On average, in the OECD, someone in the bottom income quintile experiencing a labour market transition (e.g. taking up a job if non-employed) is 2.5 times more likely to exit the bottom income quintile than someone with no such transition. Someone with a life-event (divorce or childbirth) is 1.2 times more likely to experience such an income change compared to someone with no such transition.

Note: Results controlling for sex, education, age group, presence of children, year of the survey. See detailed results in Annex 3.A3. Estimates are shown for an individual, aged 30, with children and middle education. The magnitude of the estimates is similar for other profiles. Working-age population (18-65).

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

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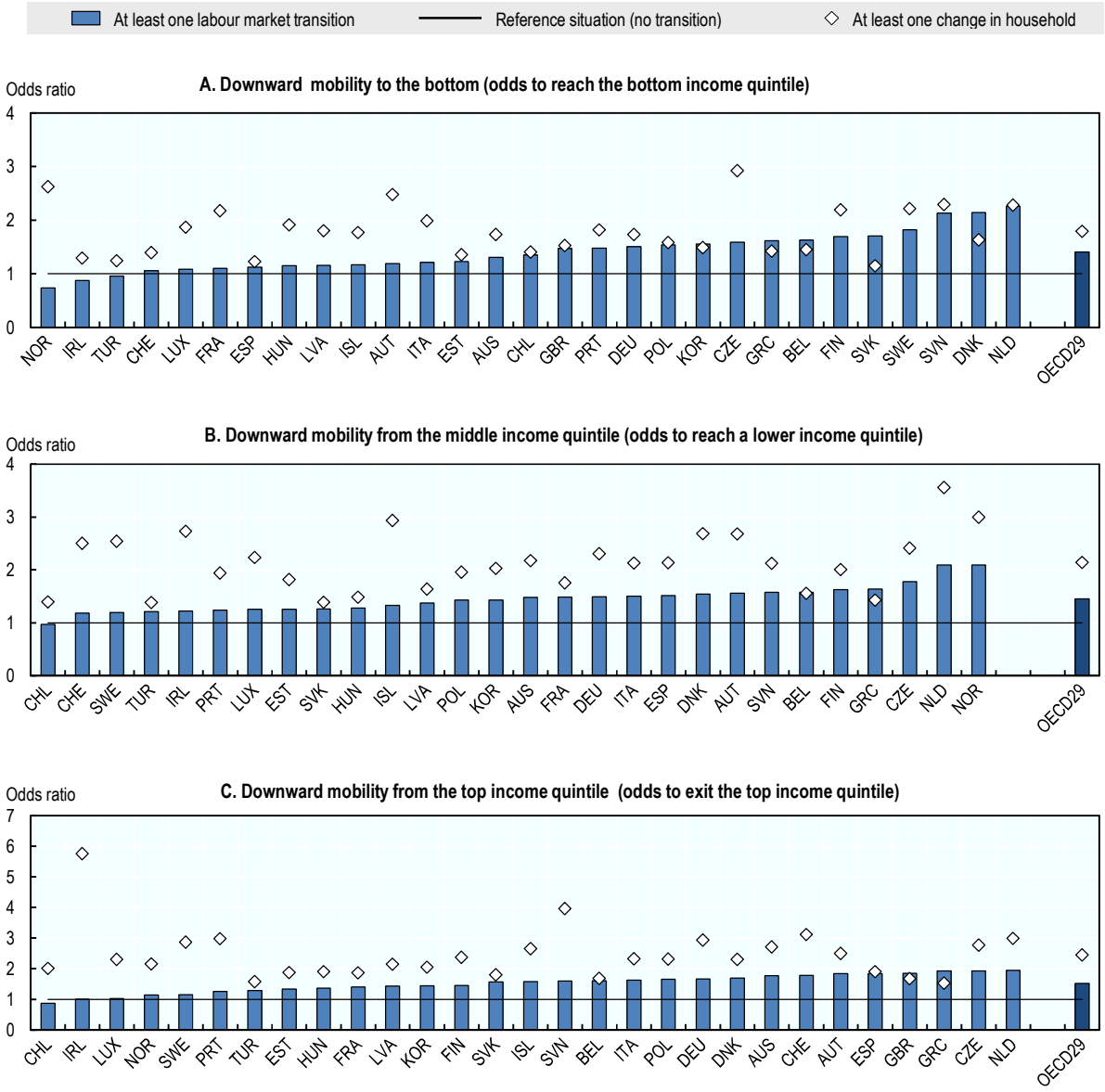
Figure 3.3. Impact of labour market transitions and household changes on downward income mobility at different points of the income distribution

Odds to experience a change in income quintile when experiencing a trigger event compared to situations with no transition, year-on-year changes, early 2010s or latest



Reading note: On average, in the OECD, someone experiencing a labour market transition is 1.4 times more likely to enter the bottom income quintile than someone with no such transition. Someone with a life-event (divorce or childbirth) is 1.8 times more likely to enter the bottom income quintile than someone with no such transition.

Note: Results controlling for sex, education, age group, presence of children, year of the survey. See detailed results in Annex 3.A3. Odds are shown for an individual, aged 30, with children and middle education. The magnitude of the estimates is similar for other profiles. Working-age population (18-65).

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

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Box 3.1. The monetary impact of health shocks

Health is one of the risk factors likely to influence income mobility. The impacts of health shocks may be particularly severe for low-income households, because of out-of-pocket costs when combined with poor coverage of health insurance (particularly in developing countries where health-insurance systems are not mature [Liu, 2016]). Experiencing a first acute health shock is found to double the risk of a labour market exit in 16 European countries (Trevisan and Zantomio, 2016). In the Netherlands, an acute hospital admission lowers the employment probability by seven percentage points and results in a 5% loss of personal income two years after the shock, with no recovery in employment or income (Garcia-Gomez et al., 2013). In Sweden, a health shock is found to have a greater relative negative impact on low-skilled low-educated individuals (Lundborg et al., 2015). In the United States, hospital admissions have been found to reduce earnings, income, access to credit and consumer borrowing (Dobkin et al., 2018). As a result, health shocks can trigger entries into poverty (Alam and Mahal, 2014; Neilson et al., 2008).

In the absence of proper health insurance, the decline in employment opportunities following sickness can result in significant income losses, although, even with health insurance provision, the out-of-pocket payments can be significant. In the United States, Dobkin et al. (2018) found that over the long run, the earnings impact is larger among uninsured individuals and that, relative to the insured non-elderly, the uninsured non-elderly experience much larger increases in unpaid medical bills and bankruptcy rates following a hospital admission. In low- and middle-income countries, the absence of formal health insurance puts a high burden on out-of-pocket payments, which often stresses household's "capacity to pay" and pushes many households into poverty (Trevisan and Zantomio, 2016; Alam and Mahal, 2014). For example, in low- and middle-income countries in Asia, out-of-pocket payments was estimated to account for at least 30% of total healthcare expenditure (Alam and Mahal, 2014).

3.2. The role of labour market trajectories in shaping income mobility

This section investigates the impact of labour market transitions on household disposable incomes and relates them to income persistence at the top and bottom of the income distribution. It looks at three different types of labour market transitions, successively: transitions out of employment, transitions into employment and employment-to-employment transitions. In addition, to disentangle the role of individual earnings from other household members' earnings, and from taxes and transfers, income changes following the three different types of labour market transitions are decomposed by income components (Box 3.2). When interpreting the results below which refer to the early 2010s, it needs to be noted that upward and downward income mobility trends over this period are influenced by country-specific post-crisis and recovery developments.

3.2.1. How job losses impact incomes

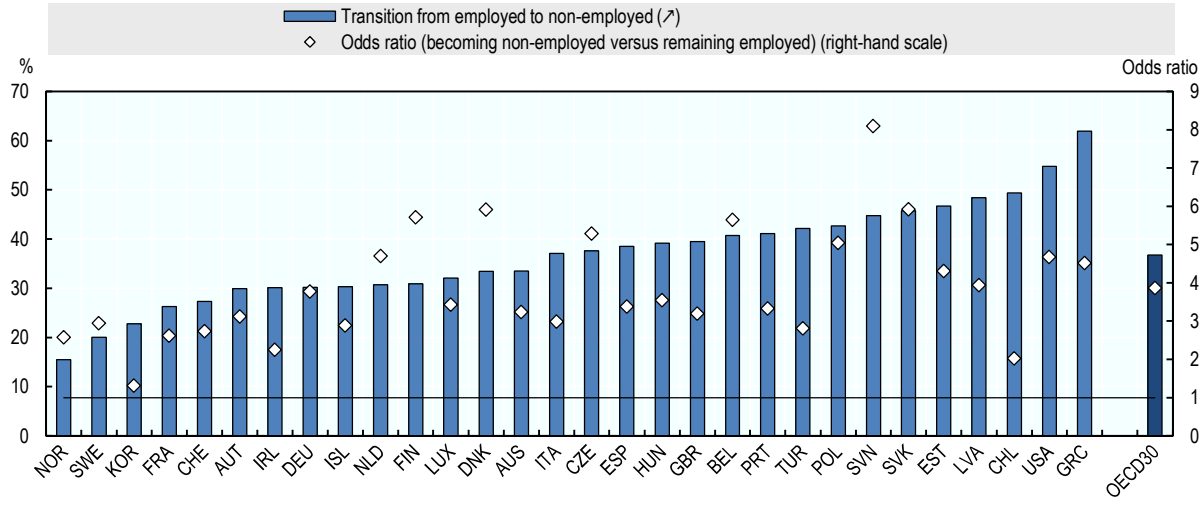
Transitions from employment to non-employment are a key driver of incomes losses. However, the link between labour market changes and disposable incomes is not immediate, as labour market changes are compensated by unemployment benefits for those entitled to it or other "insurance mechanisms", typically the labour market participation of other household members (Blundell et al., 2008; Blundell et al., 2015).

On average across OECD countries, individuals who move from employment to unemployment are four times more likely than others to experience a large income change. Figure 3.4 shows the share of large disposable income losses after transitions from employment to non-employment.[4] In Norway, Sweden, Korea, France and Switzerland, transitions from employment to non-employment result less in large income losses – either because of the cushioning of the unemployment shock by the welfare state or because of adjustments in the household composition. Korea ranks among the countries with a small share of large income losses, but job losses do not appear very different from the counterfactual, i.e. staying in employment. This is likely due to the

Korean labour market structure, which is characterised by long job tenures and low transitions. In Greece, Latvia, the United States and Chile, the shares of large income losses following a job loss are much more sizeable. There are fewer single-person households in these countries (except in the case of the United States), so the lack of income-cushioning can partly be due to weaker income-support schemes. In Greece and Latvia, the effects of the economic crisis also explain a large part of the story.

Figure 3.4. Share of employed people experiencing a large income loss when becoming non-employed

Year-on-year income changes, early 2010s or latest



Reading note: On average in OECD, an employed person becoming non-employed has 37% chances to experience a large income loss. This is 3.9 times more than for a person who remained employed.

Note: Large income losses are defined as 20% or more income losses from one year to the next. Data for the United States refer to bi-annual transitions. The odd-ratio compares the odds of experiencing a large income loss when becoming non-employed to the odds of experiencing a large income loss when remaining employed. Working-age population (18-65).

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

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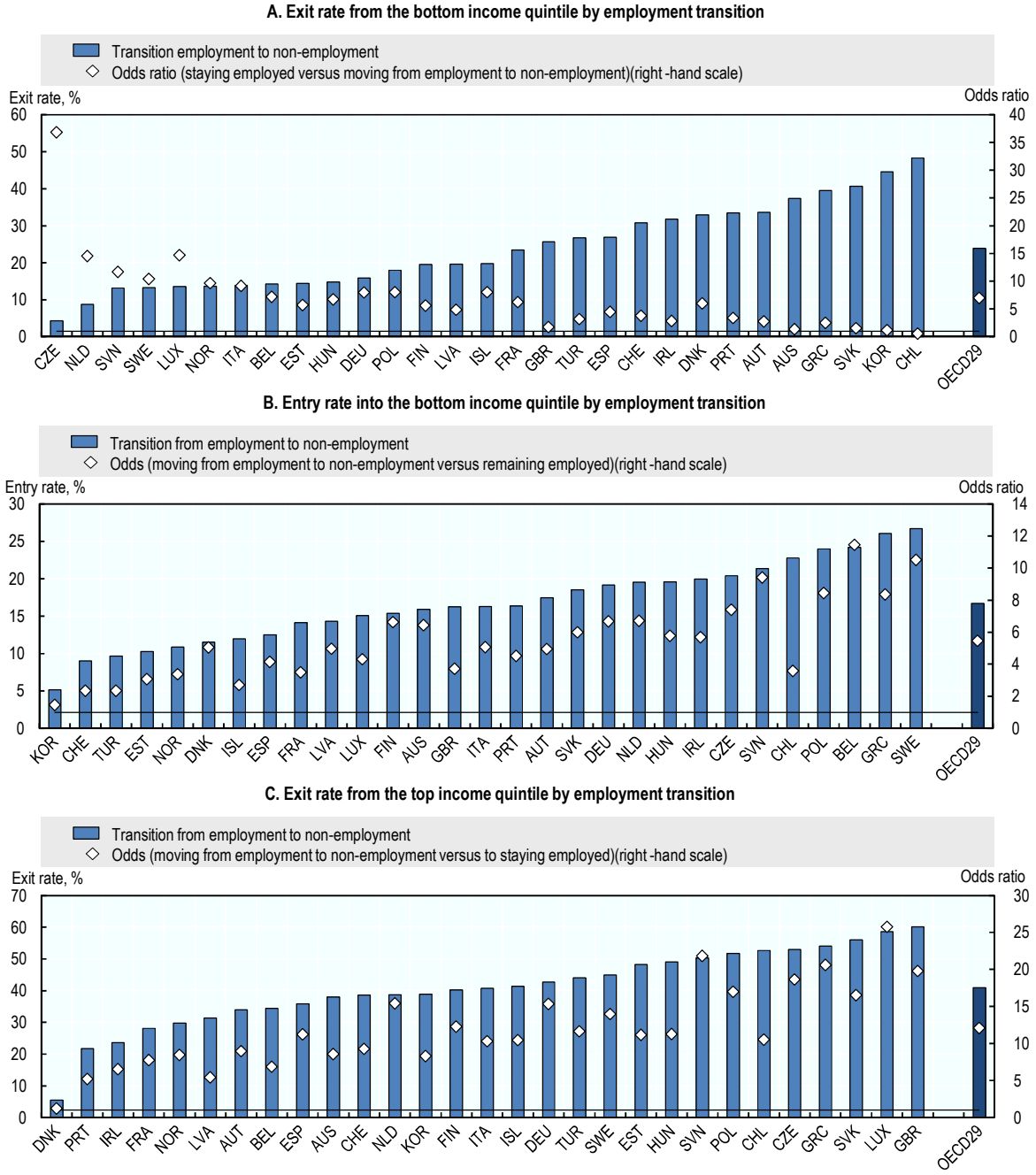
Losing a job thus has a large and negative impact on disposable household incomes. This impact is likely to be different depending on the position in the income distribution (Ehlert, 2013). Among those at the bottom, losing a job increases the risk to remain in the bottom income quintile (Figure 3.5, Panel A). People moving from employment to non-employment are five times more likely to move downward to the bottom income quintile than those staying employed (Panel B). Those in the upper quintile are also much more likely (12 times) to exit the top income quintile and fall into a lower income quintile (Panel C). This suggests that, if job losses at the top are less frequent, they induce high income losses when they happen.

Figure 3.5. Share of people changing income quintile when becoming non-employed

Year-on-year income changes, early 2010s or latest



Note: Income quintile changes from one year to the next (entry/exit into the bottom income quintile; exits from the top income quintile). Entries into the top income quintile are disregarded. The odd-ratios compare the odds to experience a given change in income position (for example exiting the bottom income quintile) when becoming non-employed compared to the odds to experience the same change in income position when remaining employed. Working-age population (18-65).

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

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In reaction to a job loss in a family, partners can increase their labour market participation. This is referred to in the literature as "the added-worker effect" (Mincer, 1962; Lundberg, 1985). In such a case, the safety net against income loss is not only unemployment insurance, but the household itself. There is evidence of such an added-worker effect in many countries, especially in phases of economic downturns (Bredtman et al., 2013, for Europe; Gong, 2011, for Australia; Karaoglan and Okten (2012) for Turkey; Mankart and Oikonommou, 2016, and Mattingly and Smith, 2010, for the United States; Giannakopoulos, 2015, for Greece).

As an insurance mechanism in the event of job loss, the added-worker effect is however unlikely to be effective in times of crisis when job offers are scarce. For example, in Greece during the crisis, more women entered the labour market when their husbands became unemployed, but many found no job and remained unemployed themselves, with therefore little impact on earnings and a poor insurance effect (Giannakopoulos, 2015). Moreover, due to assortative mating (couples matching along similar education or income classes), the added worker effect might reinforce inequalities and lead to a cycle of social exclusion (Paugam, 2015). The impact of the added-worker effect differs across social protection systems – it plays a stronger role when other income insurance mechanisms, in particular unemployment-insurance mechanisms, are weaker (Gallie and Paugam, 2000; Bredtman, 2013; Giannakopoulos, 2016; Gruber and Cullen, 1996).

Following a transition from employment to non-employment, annual earnings decrease by 32% on average in OECD countries (Figure 3.6, Box 3.2). The decrease is smaller in countries with lower unemployment rates, or with high transition rates from unemployment to employment, as individuals re-enter employment quicker. This is for example the case of Norway and Sweden. The loss in earnings following job loss is sizeable on average, most notably in Greece, Belgium, the Netherlands and Luxembourg.

At the same time, the compensation of earnings losses through taxes and transfers is sizeable, around 15% on average in the OECD (Figure 3.6). The effect is much larger in countries with high public spending (France, Austria, Belgium, the Netherlands, Germany and Denmark) than it is in low-spending countries (Chile). The added worker effect is especially marked in Greece, Italy, Belgium, Australia, Chile,[5] Hungary, Poland and Latvia. In these countries, the increase in incomes stemming from other household members' earnings is often larger than redistribution.

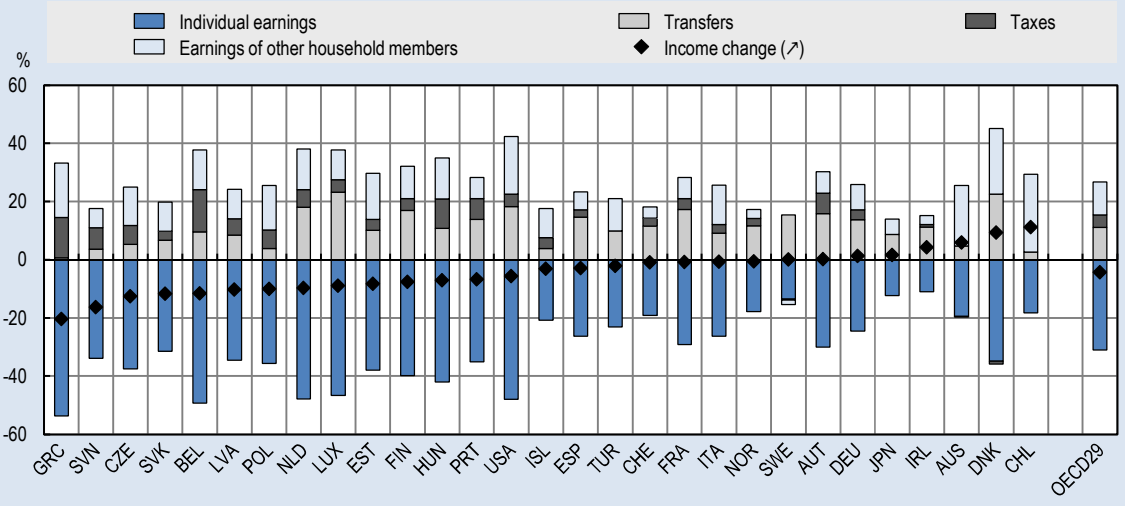
Box 3.2. Decomposing income changes following labour market transitions

Insurance mechanisms such as income-support schemes (typically unemployment insurance) and household adjustments (other household members' participation in the labour market) react to an individual's labour market transitions. The impact of such changes is visible in the income composition of households, as illustrated in the figures below (see Annex 3.A4 for the methodology).

After a job loss, peoples' individual annual earnings drop by 30 percentage points on average across OECD countries (Figure 3.6). This loss is partially mitigated by an increase of social transfers (11 percentage points) and a decrease of income taxes (minus 4 percentage points), as people, on average, face lower average tax rates on income after a job loss. Finally, an increase of other household members' earnings (11 percentage points) also mitigates the earnings loss. Taken together, household incomes fall by 4%. The contribution of social transfers to income changes differs across countries. It is particularly significant (around 20% of the previous income) in Nordic and some other European countries, like Austria, Belgium, Denmark, Finland, France, the Netherlands and Luxembourg. The contribution of other household members' earnings in balancing income losses reaches up to 15 percentage points in Australia, Chile, Greece, Hungary, Italy, Poland and Turkey. Chile stands out with a specific pattern of sharp income decreases compensated by other household members' earnings, with no or little compensation via social transfers.

Figure 3.6. Decomposition of income changes when moving from employment to non-employment

Year-on-year income changes, early 2010s or latest



Reading note: In Greece, the income of employed people losing their job decreased by 20% (diamond). This is driven by a 54 percentage point loss in individual earnings (blue bar). The job loss is compensated by a 15 percentage points income increase due to taxes (dark grey bars), and a 19 percentage points increase due to partners or other household member increasing their earnings (light blue bar).

Note: Social transfers are defined as the difference between disposable incomes and the sum of all other components. It might encompass incomes misreported in other categories, in particular inter-household transfers. For Chile, Turkey and the United Kingdom, the impact of taxes and transfers is included in the 'Social Transfers' component. Changes are measured from one year to the next. The income change refers to the income growth compared to the previous year. Individual earnings effect, tax and transfers effect and other household members' earnings effect describe the contribution of each income source to overall income growth. The sum of these contributions is equal to the income change by definition. See Annex3.A4 for details on the decomposition. Working-age population (18-65).

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

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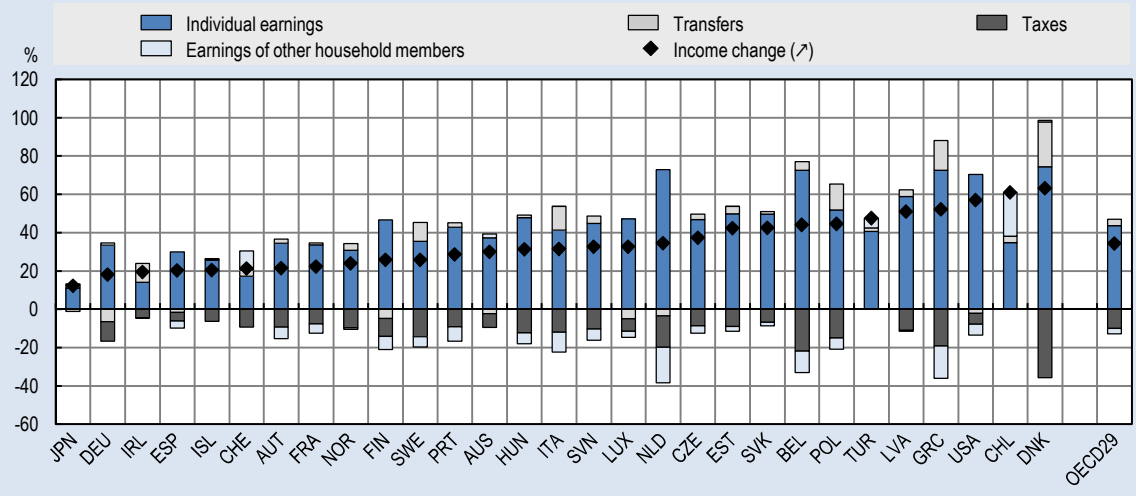
Turning to transitions into employment, finding a job after a spell of non-employment yields an income gain of about 33% on average in OECD countries (Figure 3.7). This effect ranges from less than 10% in Japan to 63% in Denmark. The income gain is driven by a strong increase in individual earnings (which were in general close to zero before the job spell), accounting for 44 percentage points of the previous income. The effect of taxes and transfers contributes negatively (3 percentage points) to the income change, due to the interruption of out-of-employment income support. Finding a job is associated with paying higher taxes, which contribute negatively by almost 10 percentage points to the overall change in income. This effect of taxes and transfers is particularly high in Belgium, Denmark, Finland, Germany, Hungary and the Netherlands, where either a tax wedge on labour and/or the transfers to non-working people are high. In most countries, finding a job after non-employment is accompanied by a slight drop in other household income sources, which contribute negatively by 3 percentage points. This effect is particularly marked in Belgium, Greece and Italy, where the second earner employment rates are generally low. This suggests that after finding a job, the labour supply of the household's members, either on the intensive or extensive margin, slightly drops.

Figure 3.7. Decomposition of income changes when moving from non-employment to employment

Year-on-year income changes, early 2010s or latest



Note: Social transfers are defined as the difference between disposable incomes and the sum of all other components. It might encompass incomes misreported in other categories, in particular inter-household transfers. For Chile, Turkey and the United Kingdom, the impact of taxes and transfers is included in the "social transfers" component. Changes are measured from one year to the next. The income change refers to the income growth compared to the previous year. Individual earnings effect, tax and transfers effect and other household members' earnings effect describe the contribution of each income source to overall income growth. The sum of these contributions is equal to the income change by definition. See Annex 3.A4 for details on the decomposition. Working-age population (18-65).

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

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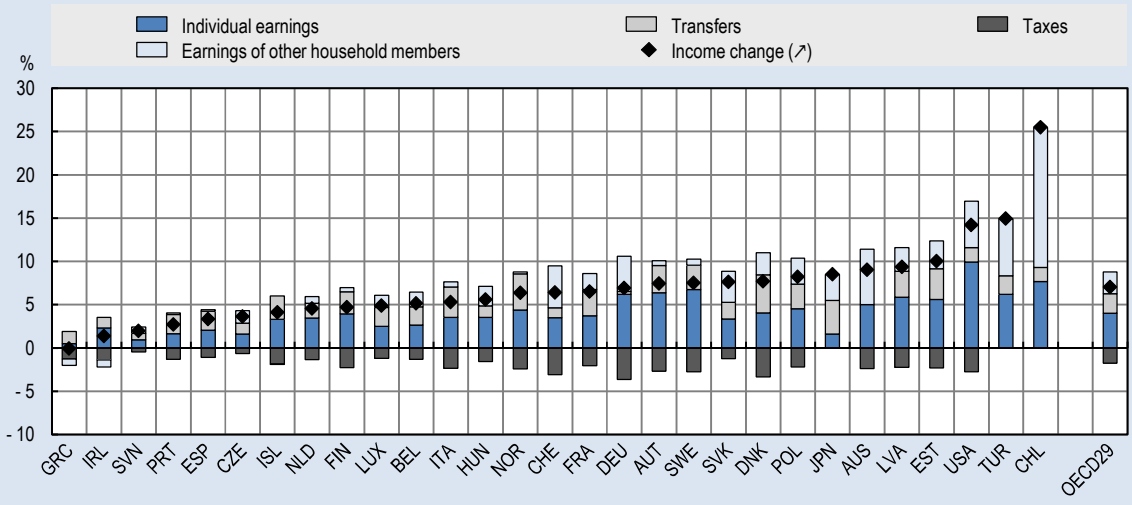
A job-to-job change is associated with an income gain of 7% on average, across the OECD (Figure 3.8). The major contribution to the income gains comes from individual earnings; their growth accounts for 4 percentage points of the overall change. Taxes slightly diminish the income, accounting negatively for 1.8 percentage points. The effect of individual earnings is particularly high in the United States (almost 10 percentage points increase over two years), Chile, Sweden, Austria and Germany (close to 7 points). In contrast, it is particularly low, with a contribution to the overall change close to or lower than 1 percentage point, in Greece, Slovenia, Japan and Portugal.

Figure 3.8. Decomposition of income changes when changing job

Year-on-year income changes, early 2010s or latest



Note: Social transfers are defined as the difference between disposable incomes and the sum of all other components. It might encompass incomes misreported in other categories, in particular inter-household transfers. For Chile, Turkey and the United Kingdom, the impact of taxes and transfers is included in the "social transfers" component. Changes are measured from one year to the next. The income change refers to the income growth compared to the previous year. Individual earnings effect, tax and transfers effect and other household members' earnings effect describe the contribution of each income source to overall income growth. The sum of these contributions is equal to the income change by definition. See Annex 3.A4 for details on the decomposition. Working-age population (18-65).

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

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3.2.2. Transitions from non-employment to employment: A first step towards upward mobility

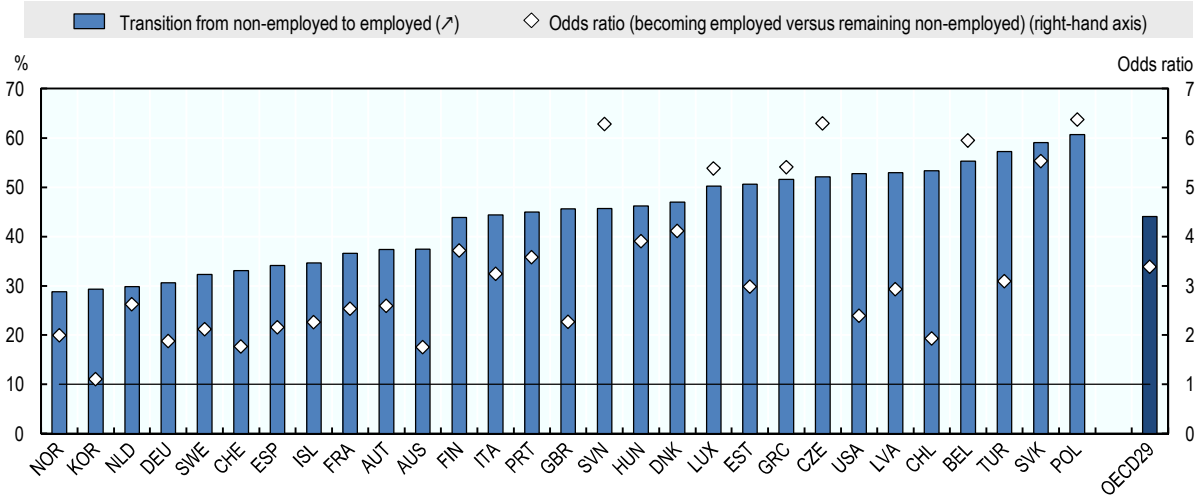
A formerly non-working individual finding a job is three times more likely to experience a large income gain than a peer staying unemployed (Figure 3.9). There is much variation across countries. The share of people experiencing an income increase when becoming employed, compared to those remaining non-employed, is especially large in Slovakia, Slovenia, the Czech Republic, Belgium and Poland. In these countries, those getting a job after non-employment are six times more likely to experience a large income gain than those remaining non-employed. By contrast, taking up a job leads to smaller income increases on average in Korea, Australia and Chile. Cross-country differences in income gains following a job take-up can be explained by several factors, including:

1. The structure of the job found: temporary, part-time or low-paid jobs might not be enough to lead to a sufficient income increase.
2. The structure of out-of-work income support during unemployment spells – the gap between replacement income and earnings would make the difference less visible.

3. And the household composition – having a partner at work – and therefore contributing to household income, also tends to weaken the difference in income after and before job take-up. This is especially valid if the returns to employment pertain more to women, who tend to earn less than men on average (OECD, 2017a).

Figure 3.9. Share of non-employed people experiencing a large income gain when becoming employed

Year-on-year income changes, early 2010s or latest



Reading note: On average in OECD, a non-employed person taking a job has 44% chances to experience a large income gain. This is 3.4 times more than for a person who remains non-employed.

Note: Large income gains are defined as 20% or more income gains from one year to the next. The odd-ratio compares the odds to experience a large income gain when becoming employed compared to the odds to experience a large income gain when remaining non-employed (i.e. inactive or non-employed). Working-age population (18-65). Data for the United States refer to bi-annual transitions.

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

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The impact of transitions from non-employment to employment on household incomes differs by the position in the income ladder. Figure 3.10 looks at those in the bottom quintile who take up a job compared to those remaining non-employed. Panel A shows the results for all types of jobs: a formerly non-working individual is four times more likely to get out of low income when taking up a job than a peer remaining non-employed. The share of transitions out of low income after a job take-up is especially high in Greece, Chile but also Denmark – with different explanations. In Greece, where unemployment was peaking at the time of the data, with low unemployment coverage, access to the labour market was sufficient to lift people out of the bottom income quintile. In Chile, where the gender employment gap is high, the share of single male breadwinners is also high, and getting a job in such families is a powerful driver out of low household income. In Denmark, where unemployment is low, job takers are more likely to be young people entering the labour market and experiencing large income increases (Box 3.34).

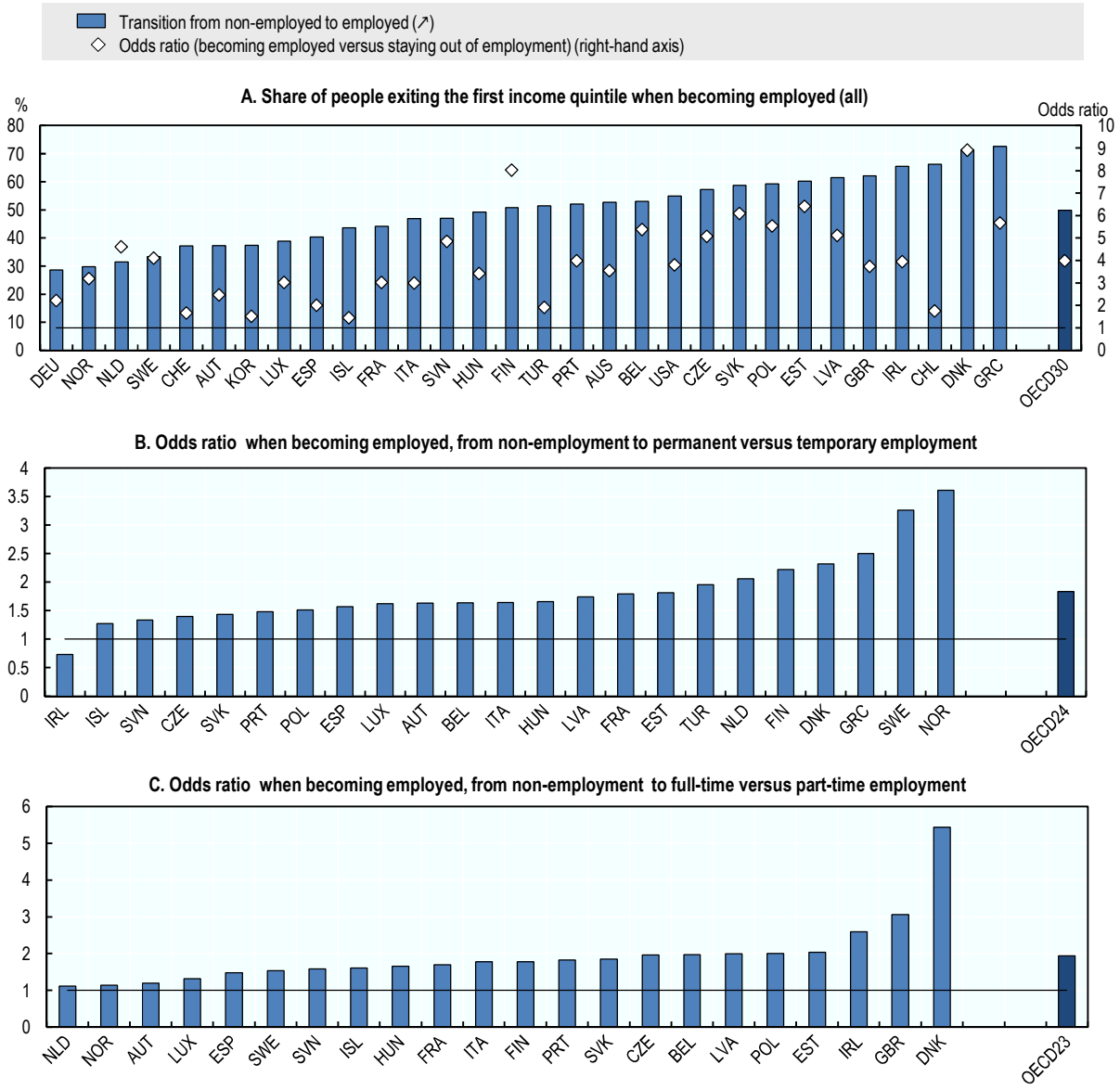
In Germany, Norway, the Netherlands and Sweden, transitions to employment are less associated with exits out of the bottom income quintile (Figure 3.10, Panel A). This can be explained by channels such asthe gender wage gap associated with low unemployment rates in Germany, where most of those involved in job take-up would be second-earner women or, in Sweden, Norway and the Netherlands, a smaller income increase associated with job take-up because of a lower gap between unemployment insurance and wages, especially at the bottom of the income distribution.

If the quality of employment is not adequate, transitions into employment are often not sufficient to leave the bottom quintile. The chances of exiting low income when moving from non-employment into a temporary job are in general lower than when moving to a permanent job (Figure 3.10, Panel B) – and the same holds when comparing part-time employment and full-time employment (Panel C). In most countries, temporary and part-time workers face structural wage penalties (OECD, 2015a). The Netherlands stands out with a low odds ratio to experience a large income change of those switching from part-time to full-time compared to those remaining in part-time jobs. This might be related to the large share of part-time workers, especially among second earners. If the job holder earns less than his/her partner, then the overall income gains at household level could not be enough to exit the bottom income quintile. In addition, the transition tax rate from part-time to full-time is high in the Netherlands (OECD, 2018a). In other countries, such as the Greece or Denmark, full-time employment or permanent contracts are much more direct pathways to exit the bottom quintile.

Besides individual labour market trajectories, tax-benefit systems – typically in-work benefits, family benefits taxes, but also the discontinuation of unemployment insurance when a job is found – affect disposable income trajectories in the case of job take-up. Figure 3.8 (Box 3.2) suggests that the redistributive nature of the tax-benefit systems results in a slightly negative impact of taxes and transfers on household incomes when a job is found. In some countries, a partner-work effect is also visible, with earnings from the partners decreasing (most notably in the Netherlands, Belgium and Greece).

Figure 3.10. Share of people exiting the first income quintile when becoming employed

Year-on-year income changes, early 2010s or latest



Note: Exits from the first income quintile from one year to the next. The odd-ratios compare: the odds to exit the first income quintile when becoming employed compared to the odds to exit the first income quintile when remaining unemployed (Panel A); the odds to exit the first income quintile when becoming employed under a permanent contract compared to the odds to exit the first income quintile when being in temporary employment (Panel B); the odds to exit the first income quintile when becoming employed full-time compared to the odds to exit the first income quintile when employed part-time (Panel C). Working-age population (18-65).

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

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Box 3.3. Young people: How much do early careers matter?

The initial years are crucial in determining the future outcomes of young people entering the labour market. "Missing a boat" (Fong and Tsustui, 2015) can sometimes lead to long-term consequences, at least in some countries. The burden of a bad start weighs heavily on future prospects, with for example temporary work and unemployment turning out to be traps. Getting a temporary job as a first job can also lead to a negative signalling effect. This is, for example, the case in Japan and Korea. Fong and Tsustui (2015) find that there is a high cost of "missing a boat" under the Japanese recruitment practices and that the timing of regular and non-regular employment after school completion matters (Imdorf et al., 2017). In Europe, countries with a high incidence of temporary work among youth are characterised by frequent job changes separated by long unemployment spells, which can seriously affect mobility prospects (Quintini and Manfredi, 2009).

In some countries, however, the prospects are different: getting a temporary job can be a better "port of entry" in young people's future career. This is especially true when the content of the job is close to the person's training and is associated with solid legal framework around the contract. Cockx and Picchio (2012) find that, in Belgium, young people accepting a temporary job are more likely to be embedded in a long-lasting job after two years than are those who rejected it. In Switzerland, non-standard employment is found to be the main port of entry into employment for young people with high education, with prompt transitions into stable employment via vocational training (Imdorf et al., 2017).

The quality of the contract matters a lot for mobility prospects and future outcomes. Contracts closely related to qualification tracks or combined with training help to serve as a bridge. If the temporary contract is simply a buffer for volatile demand, then the risk of a trap is higher. Vocational training and apprenticeships, for example, can offer interesting prospects. The most successful European countries in terms of school-to-work transitions are those where apprenticeships are widespread (Quintini and Manfredi, 2009). Ehlert (2013) shows that vocational training explains the greater stability of trajectories in Germany compared to the United States.

3.2.3. How job-to-job changes impact incomes

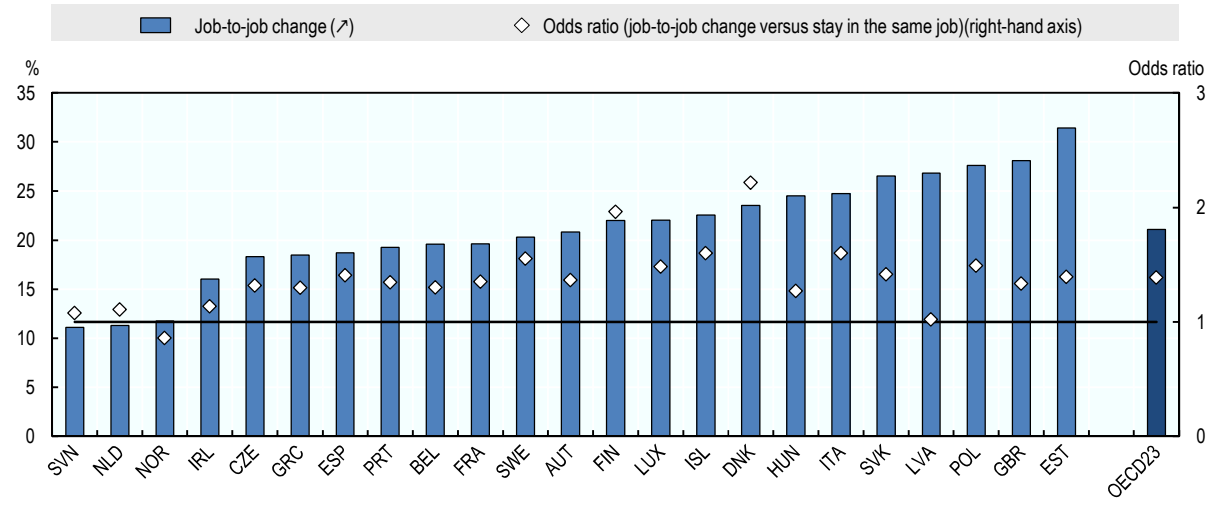
Job-to-job changes can occur within a firm or from one firm to another. They are usually much more frequent among young people aged 15-24, and especially among younger women than among other age groups, and much scarcer from the age of 55, especially among the high-educated or high-skilled (Buchinski et al., 2010, Box 3.3). This reflect the impact of childbirth (see Section 3.4.2), when women interrupt their careers or start working part-time (Box 3.4). Job-to-job changes can lead to large income increases but, in some cases, also to decreases, e.g. if the new job involves fewer hours of work.

By contrast, job tenure indicates how long a person has been holding a job. Some countries have dual labour markets, with a long tenure for one group, and much more turnover for the other. Large shares of the population remain in the same jobs for more than ten years in Italy, Greece, Portugal and Slovenia, and a smaller share in Estonia, Turkey and Denmark (OECD, 2018b). Job tenure can also lead to income increases, as returns to job tenure have been shown to increase with the time spent with the same employer, in particular for the low-skilled (Buchinski et al., 2010).

Overall, job-to-job changes are associated with more frequent large income gains than is job tenure, i.e. staying with the same employer (Figure 3.11). Job-to-job changes have an especially large impact on incomes in the Nordic countries (except Norway) and in Italy. They have less of an impact in Slovenia, Norway, the Netherlands and Latvia, where the odds ratios are close to or below 1.

Figure 3.11. Share of employed people experiencing a large income gain when changing job

Year-on-year income changes, early 2010s or latest



Reading note: On average in OECD, an employed person changing job has 21.4% chances to experience a large income gain. This is 1.4 times more than a person staying in the same job.

Note: Large income gains are defined as 20% or more income gain from one year to the next. The odds-ratio compares the odds to experience a large income gain when changing job compared to the odds to experience a large income gain (resp. loss) when remaining in the same job. Working-age population (18-65).

Source: OECD calculations based on EU-SILC (2011-14).

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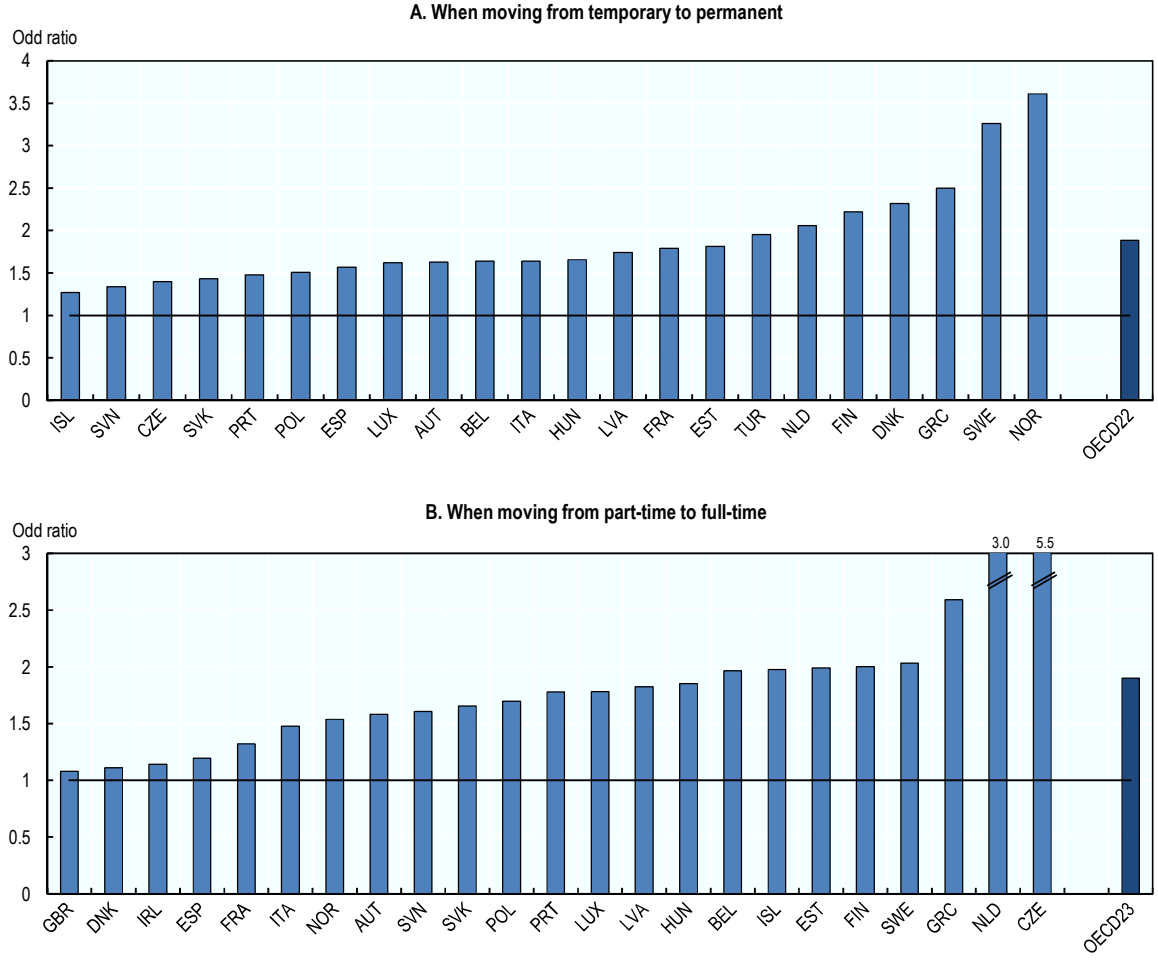
One of the drivers explaining income changes triggered by job-to-job transitions is the nature of the contract. Moving from a temporary to a permanent contract goes hand in hand with a large income gain in most countries (Figure 3.12). The role of temporary contracts as springboards towards permanent employment has been widely discussed and debated (OECD, 2015b). The regulation of temporary contracts is important for turning them into stepping stones rather than dead-ends. For example, the stringency of the legal settings of temporary contracts, such as the conditions for their renewal, the severance payments, and the way they articulate with the settings framing permanent contracts, matters (Berton and Devicienti, 2011; O'Higgins, 2012). The duration of the contract also enters into play, with longer short-term contracts more likely to ensure better inclusion in the labour market (Gagliarducci, 2005; Cutuli and Guetto, 2012). Switching from temporary to permanent employment is on average not more likely to lead to large income gains than staying in temporary employment (Figure 3.12, Panel A). Moving from temporary to permanent employment drives large income gains in particular in Denmark, Sweden, Norway and Greece. Large income gains are much scarcer in Iceland and Slovenia.

Hours worked are another dimension explaining the impact of a work transition on incomes. On one side, part-time work is an enabling tool allowing workers to adjust their work-life balance at different stages of their lives. This is especially relevant for parents of young children, or for ageing societies. However, in practice, part-time work is often associated with lower (hourly) pay, and it is not always a first-choice option.[6] In addition,

transitions from part-time to full-time work are often challenging (Schmid, 2016), and part-time work can act as a trap, especially at the beginning of the career (Connolly and Gregory, 2010). Switching from part-time[7] to full-time is twice as likely to lead to large income gains as staying in part-time (Figure 3.12, Panel B). Moving from part-time to full-time work drives large income gains in particular in the Netherlands, the Czech Republic and Greece, and to more limited gains in Denmark, the United Kingdom, Ireland (where the transition tax rate from part-time to full-time is high, OECD, 2018a) and Spain.

Figure 3.12. Odds of a large income gain for transitions from temporary to permanent and from part-time to full-time employment

Year-on-year income changes, early 2010s or latest



Note: The odds-ratio compares the odds to experience a large income gain when moving from temporary to permanent employment (Panel A) or when moving from part-time to full-time employment (Panel B) to the odds to experience a large income gain when remaining in a temporary or part-time employment. Working-age population (18-65). Individuals are considered as part-time workers if they worked a greater number of months part-time than full time over the year.

Source: OECD calculations based on EU-SILC (2008-14) and SILC for Turkey (2011-14).

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Box 3.4. Women, labour and income mobility

Job-to-job changes among people aged 15-24 are more frequent among women than men, and less frequent among those aged 25-54. This trend is related to numerous career breaks for women in the second age bracket, involving more patchy trajectories among women, especially among mothers (OECD, forthcoming). However, the job-to-job changes of young women seem less rewarding than those of men in the long run. In Italy for example, over the first ten years of the career, job mobility accounts for up to 30% of total wage growth for men and only 8.3% for women, and the difference accounts only for returns to job-to-job changes (Del Bono and Vuri, 2011).

Part-time work also has consequences for future career prospects. Innes and Scott (2003) compare the promotional prospects, career mobility and networking experiences of female part-time managers and show that their careers stalled once a transition to part-time work was made, although they had successful careers while working full-time. Connolly and Gregory (2010) reach a more balanced conclusion and show that women with a history of full-time employment are likely to be back in full-time after part-time, while part-time work associated with spells of unemployment is not supporting for careers and acts as a trap against the resumption of full-time work.

One possible driver of the wage and employment gaps on the labour market is that women, especially when working part-time, invest less in their professional networks (Innes and Scott, 2003). More generally, women's lack of investment in professional networks – linked to the time spent in childcare – is itself a driver of less successful careers.

Another driver of the gender gap in careers at the top of the income distribution – the sticky ceiling – is explained by the role of cultural norms such as "gender-profiling" or stereotypes held by employers, who attribute weaker labour market commitment to women than men (Merluzzi and Dobrev, 2015; Correll et al., 2007; England et al., 2007). As a consequence, women have fewer advancement opportunities within the firm (Shih, 2006), which results in lower returns to tenure than for men; second, external mobility is much less beneficial to women than men because it reinforces the image of weak commitment.

Obstacles for women's upward mobility to top positions grow during the early career as a result of cumulative advantage processes (di Prete, 2006). In the long run, the sticky ceiling faced by women in populating higher positions in the hierarchy results endogenously from the scarcity of women themselves among top management. More women in higher positions would imply more role models for young women and girls – a powerful driver in determining young people's aspirations. At the same time, there is an increasing awareness that the recruitment process is – often unconsciously – biased towards those "looking alike" (Rivera, 2016; Maume, 2011; Skaggs et al., 2012). For example, having more women on corporate boards at the firm-level is associated with greater female managerial representation at the establishment level.

3.3. The role of household events for income changes

Section 3.1 has highlighted that changes in disposable income depend on labour incomes and labour market events, but that household-related events also matter for income trajectories. This section disentangles the role of household-related events from that of other factors for income mobility. It assesses the impact of two household-related events on the probability of experiencing considerable income variation and on the probability of entering or exiting low-income situations: divorce or separation, and childbirth.

3.3.1. Divorce is often synonymous with greater income vulnerability for women

Separation and divorce are life course risks that can significantly affect income trajectories. The loss of the income previously provided by a partner, the potentially increased difficulty of taking care of one's children and subsequently making working arrangements, the change in taxes paid and benefits received can lead to substantive variations in disposable income after a separation. As the employment rate of women is typically lower than that of men, as women earn less than men, and as in the majority of

cases women end up getting child custody, the negative economic consequences of divorce tend to be greater for women than for men (OECD, 2017a).

Vaus et al. (2017) have shown for six countries (Australia, Korea, Germany, Switzerland, the United Kingdom and the United States) that divorce has, on average, negative effects on the equivalised household incomes, in particular for women, and that the extent and duration of the negative effects of divorce differ markedly between these countries. Similar conclusions are found for European countries (Andress et al., 2006; Uunk, 2004). Country-specific evidence confirms this pattern in France (Bonnet et al., 2015), the United Kingdom (Jenkins, 2009) and in New Zealand (Fletcher, 2017)

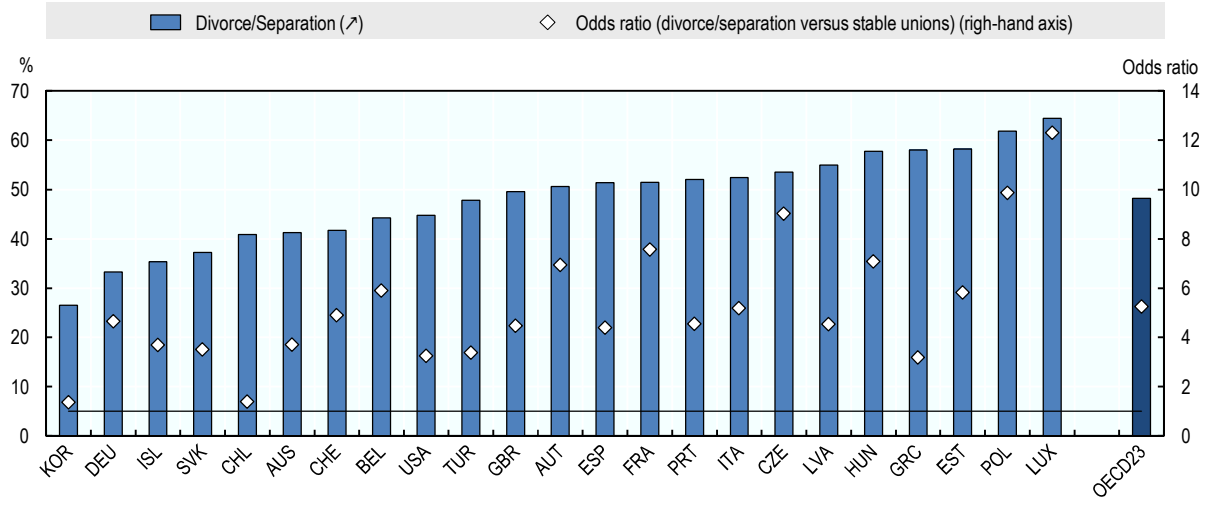
While there are data limitations when following individuals after a household split (see Annex 2.A1), Figure 3.13 suggests that, on average across OECD countries, 50% of those going through a separation experience a large income decrease (above 20%), making them six times more likely to experience a large income loss than those who remain in a stable relationship. The impact of divorce is especially marked in Luxembourg and Poland, where two-thirds of individuals getting a divorce experience a large income loss, with losses equal on average to one-third of the previous income. It has less impact in Germany, Iceland and Slovakia (Figure 3.14, Box 3.5).

Since women are more likely to take over childcare duties, but also because on average they are working and earning less, they are likely to experience more significant income drops. The overall income loss associated with a divorce is around 13% on average across OECD countries: 20% for women, and 5% for men (Figure 3.14, Box 3.5). The slight increase in men's earnings following divorce observed in some countries is explained by household size effects (see below).

The income effects of divorce for women are influenced by the social security system, family models and the family law system of each country. Institutional arrangements such as child support and spousal maintenance affect women's incomes after divorce. However, women's labour market earnings remain the most important drivers of income trajectories after divorce (Vaus et al, 2017; Struffolino and Mortelmans, 2018; Bonnet et al., 2015). Separation can trigger labour market transitions, for example, inactive individuals might decide to enter the labour market after a separation or employed individuals to reduce their working hours to take care of domestic duties and childcare that used to be taken care of by their former partner (Bonnet et al., 2010). Struffolino and Mortelmans (2018) note that this gender gap in vulnerability when facing divorce is particularly high in countries with low employment rates for women, for example in Italy.

Figure 3.13. Share of people experiencing a large income loss when getting divorced

Year-on-year income changes, early 2010s or latest



Reading note: On average in OECD, a person getting divorced has 48% chances to experience a large income loss. This is 5.2 times more than a person living in a household where there is no separation.

Note: Large income losses are defined as 20% or more income losses from one year to the next. Data for the United States refer to bi-annual transitions. The odds-ratio compares the odds to experience a large income loss when getting divorced compared to the odds to experience a large income loss when remaining in a stable union. Working-age population (18-65).

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

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Household income losses following divorce result largely from the loss of the partner's earnings, taxes and transfers and household size effect (Figure 3.14, Box 3.5). Increases in individual earnings following divorce are visible in some countries, e.g. Austria, Sweden and Iceland, driven by increased participation in the labour market after divorce (either increased number of hours worked, or transition from inactivity to employment). Taxes and transfers lead to income losses on average – sometimes to a large extent, as in Greece, for example. Another driver of the change in disposable income following divorce is the change in household size[8] ("size effect"), resulting from the smaller size of households after divorces. As men less often have custody of the children, they live on average in smaller households than women, which will – all other things being equal – have a greater impact on their disposable income than for women – even though their incomes have not changed.

Box 3.5. Decomposing income changes following household-related life events

In the same way as labour market events, life events such as divorce or childbirth have an impact on household income composition. This is induced by labour market changes following the new household composition and the associated entitlement to family benefits or tax deductions. In addition, as the household size changes, this has a direct impact on the equivalised disposable income, i.e. the new household income needed to maintain the same economic well-being (household size effect). This box illustrates how income components change in the event of divorce and childbirth. It replicates the approach developed in Box 3.2 for labour market transitions.

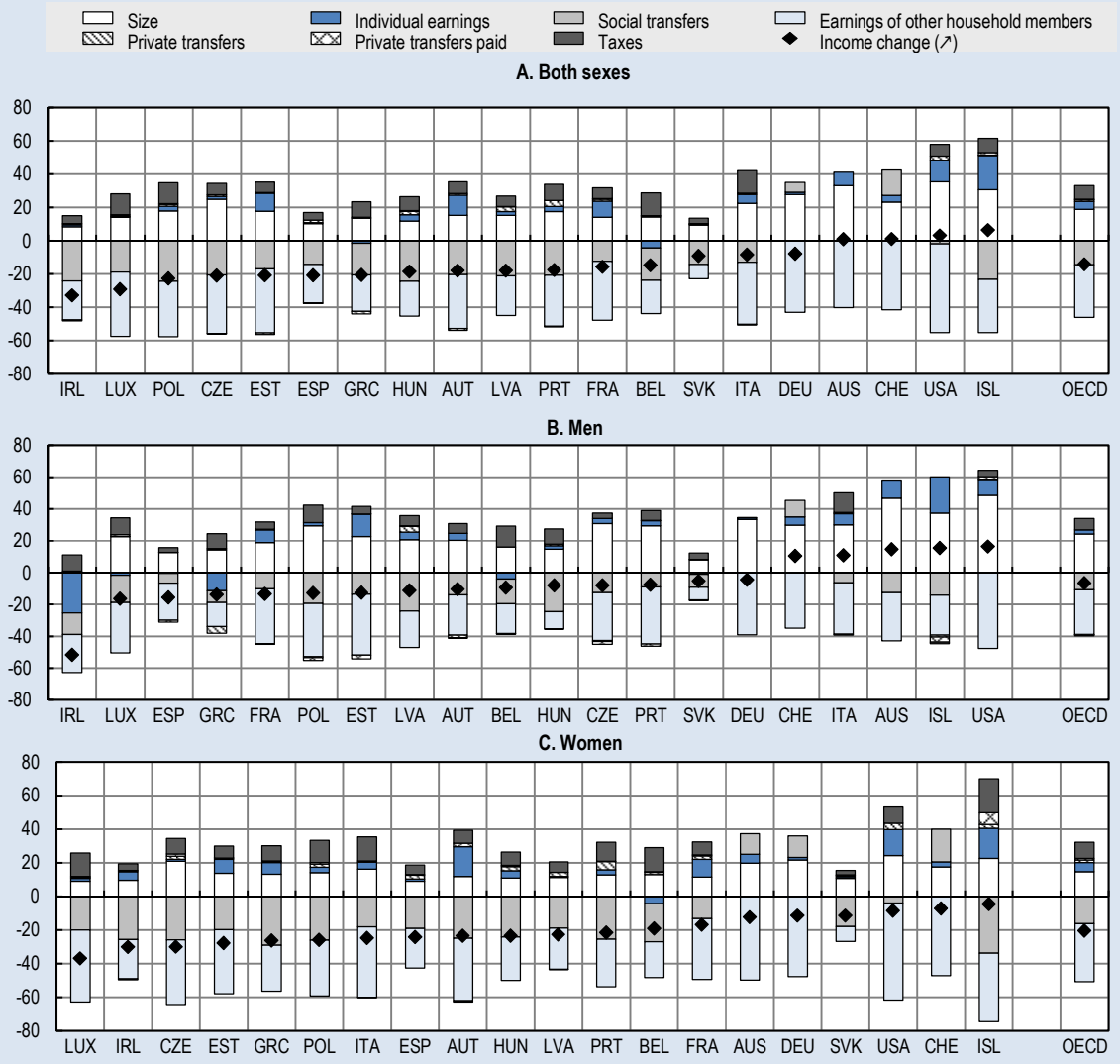
The income shock from one year to the next after divorce is about 16% across OECD countries (Figure 3.14). The household income loss due to the loss of the former partner's earnings is almost 30%. This is particularly severe in the United States, Estonia and Luxembourg, where this amounts to almost 40 percentage points of the overall income change. The contribution of other household members' earnings to the income change is, at 21% or less, weaker in the Slovak Republic, Belgium and Hungary. Social transfers also decrease in the case of divorce, by 20% on average. The household size effect offsets these losses by about 20% on average across OECD countries, reflecting that the new household is smaller than the previous one. The household size effect is smaller in the event of divorces among childless couples (one-half compared to one-fourth for a family of four splitting) (see Annex 3.A4).

Women are more severely impacted by income losses after a divorce, with income losses of around 22% against 9% for men (Panel B and Panel C). The losses for women are particularly large in Luxembourg, Ireland, the Czech Republic, Estonia and Greece, where they approach or exceed 30% of the previous equivalised family's income. Income losses are smaller in Iceland, the United States or the Slovak Republic, where they are less than 20% of previous income. For these countries, large drops in the former partner's earnings are partly offset by both a substantial size effect observed when households of small size – typically childless couples – split and by the impact of taxes and transfers. Overall across OECD countries, the contributions of private transfers, like alimonies, either paid or received, is rather small. They account negatively for 0.7 percentage points in men's previous income, and positively, for 2.5 percentage points of women's previous income.[9]

In the case of childbirth, disposable incomes drop in a majority of countries, and by about 1% on average across OECD countries (Figure 3.15). The increase in household size contributes the most to this loss. In Chile, Hungary, Korea, Poland, Latvia and Turkey, all countries with low employment rates for women, there is a positive impact of individual earnings driving income changes. In another set of countries – Ireland, Germany, Luxembourg, Norway, Finland, Estonia and Slovenia – the income loss following childbirth is more often compensated by transfers. In Germany, for example, the household income loss following childbirth among women is strongly driven by a fall in women's earnings (minus 13 points), probably due to the high share of women quitting their job after giving birth (Grimshaw and Rubery, 2015), while transfers compensate for this fall by 10 points (Panel C).

Figure 3.14. Decomposition of income changes when getting divorced, by gender

Year-on-year income changes, early 2010s or latest



Reading note: In Ireland, the household income of people getting divorced decreases by one third. This is driven by a 23 percentage point loss due to the lack of the former partner's earnings, as well as a fall of 24% of social transfers. In turn, with the household becoming smaller, there is a positive household size effect (less heads to feed with a given income) of 9 percentage points. The income loss after divorce is also compensated (on average) by a 5% income increase due to less taxes, and a 1 percentage point gain due to alimonies.

Note: Social transfers are defined as the difference between disposable incomes and the sum of all other components. It might encompass incomes misreported in other categories, in particular inter-household transfers. For the Germany, Switzerland, the United Kingdom and the United States, the impact of taxes and transfers is included in the 'Social Transfers' component. Changes are measured from one year to the next. The income change refers to the income growth compared to the previous year. Individual earnings effect, tax and transfers effect and other household members' earnings effect describe the contribution of each income source to overall income growth. The sum of these contributions is equal to the income change by definition. See Annex 3.A4 for details of the decomposition. Data refer to the working-age population (18-65). Yearly transitions pooled between 2008 and 2014. Nordic countries, the Netherlands and Slovenia are not included, as they use register files for tracking individuals (see Iacovou and Lynn, 2013).

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13).

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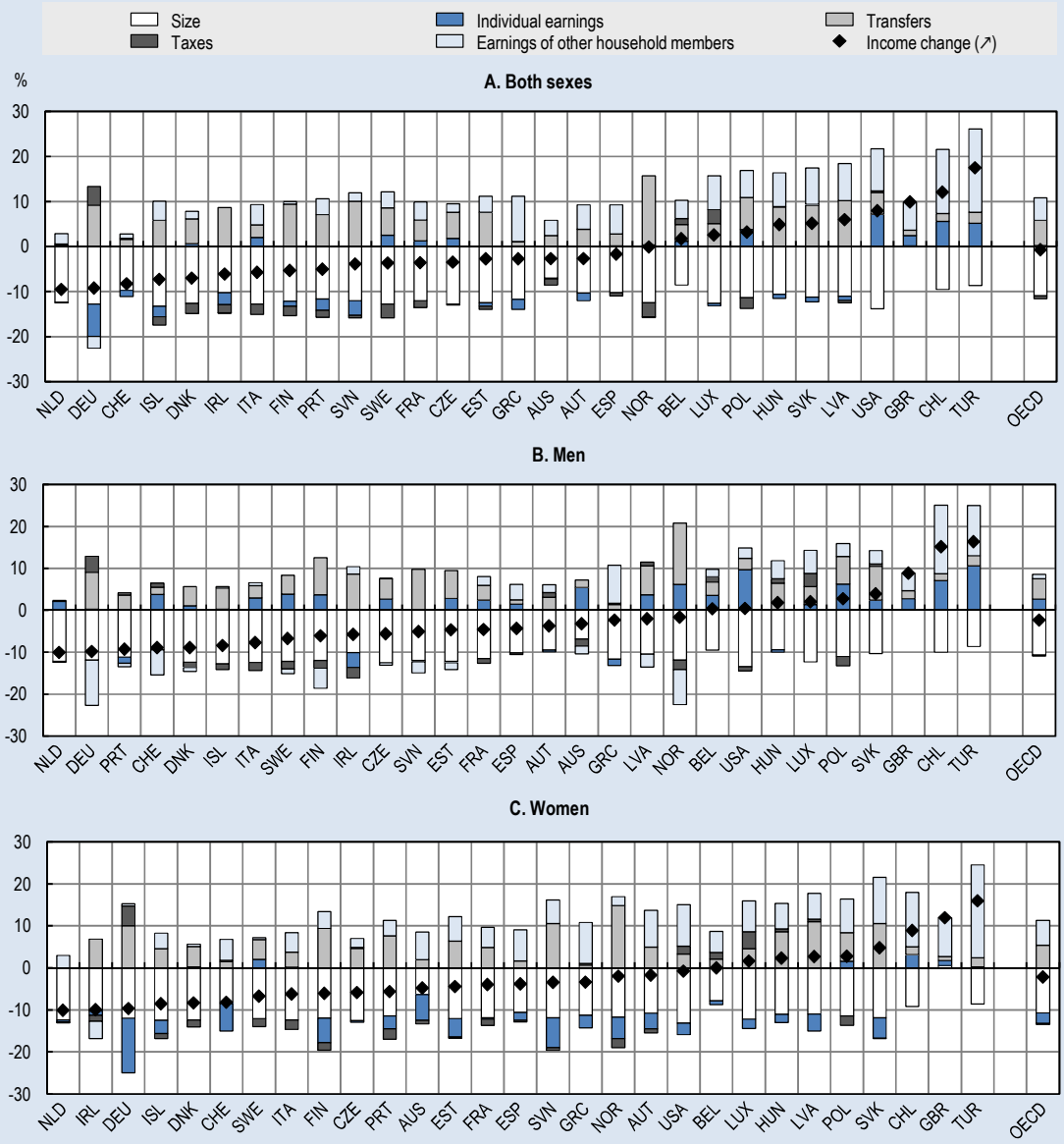
Figure 3.15. Decomposition of income changes in the event of childbirth, by gender

Year-on-year income changes, early 2010s or latest



Note: Social transfers are defined as the difference between disposable incomes and the sum of all other components. It might encompass incomes misreported in other categories, in particular inter-household transfers. For Chile, Switzerland, Turkey and the United Kingdom, the impact of taxes and transfers is included in the "social transfers" component. Changes are measured from one year to the next. The income change refers to the income growth compared to the previous year. Individual earnings effect, tax and transfers effect and other household members' earnings effect describe the contribution of each income source to overall income growth. The sum of these contributions is equal to the income change by definition. See Annex 3.A4 for details of the decomposition. Data refer to the working-age population (18-65). Yearly transitions pooled between 2008 and 2014. Panel A refers to the whole adult population with a child born during the previous year. Panels B and C compare men and women across the population living in couples.

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

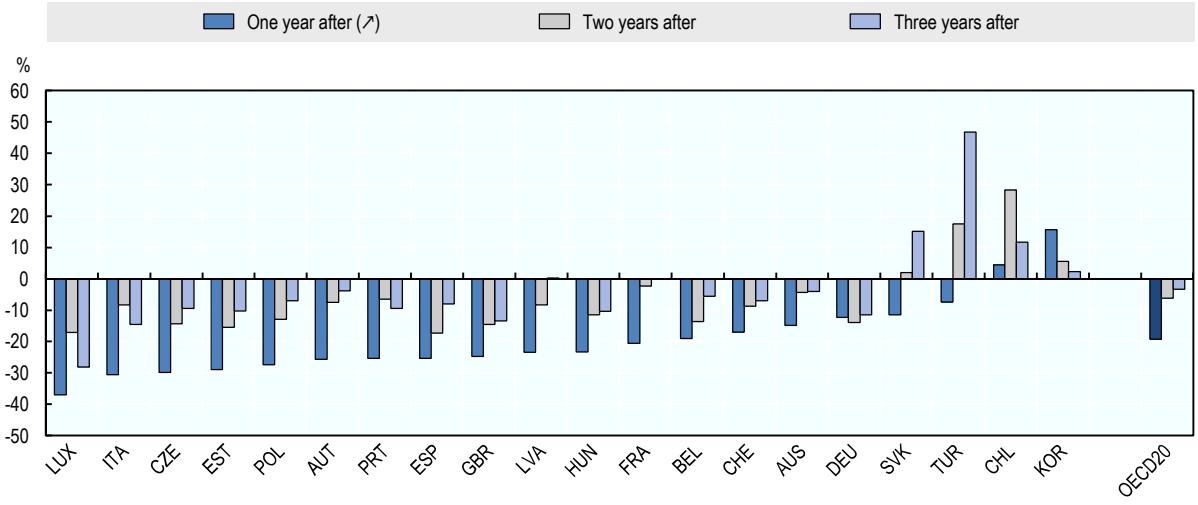
StatLink http://dx.doi.org/10.1787/888933754006

The economic consequences of divorce can last for a long time. Divorce's adaptation mechanisms can eventually transform into a poverty trap in some cases, or at least in a trap that increases economic vulnerability, including for high-educated women (Fisher and Low, 2016).

The impact of divorce on women's income is still felt three years after the divorce in many countries (Figure 3.16). The average income loss two years after divorce is around 7%, and 4% three years after divorce. While divorced women's incomes in Austria and France recover after two years, the average impact after three years remains considerable in some countries, including Luxembourg, Italy and the United Kingdom. In Turkey, Chile and Korea to some extent, women's income *increases* significantly after divorce. This can be the result of several drivers, such as a lack of financial support from the previous spouse in some cases and a selection effect in other cases, with a higher divorce rate among women with a strong attachment to the labour market (Kavas and Gunduz-Hosgor, 2010). In some countries where long-term income trajectories are available, the impact of divorce is still visible after several years. This is especially the case in Germany, Australia and the United States. France ranks as the country with the lowest long-term divorce penalty for women in this subsample (Figure 3.17).

Figure 3.16. Impact of divorce on women's incomes one, two and three years after divorce

Early 2010s or latest



Note: Average income growth between incomes just before divorce and incomes one year (resp. two, three years) after divorce for woman. Four-year periods of observation between 2008 and 2014.

Source: OECD calculations based on EU-SILC (2008-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2008-14).

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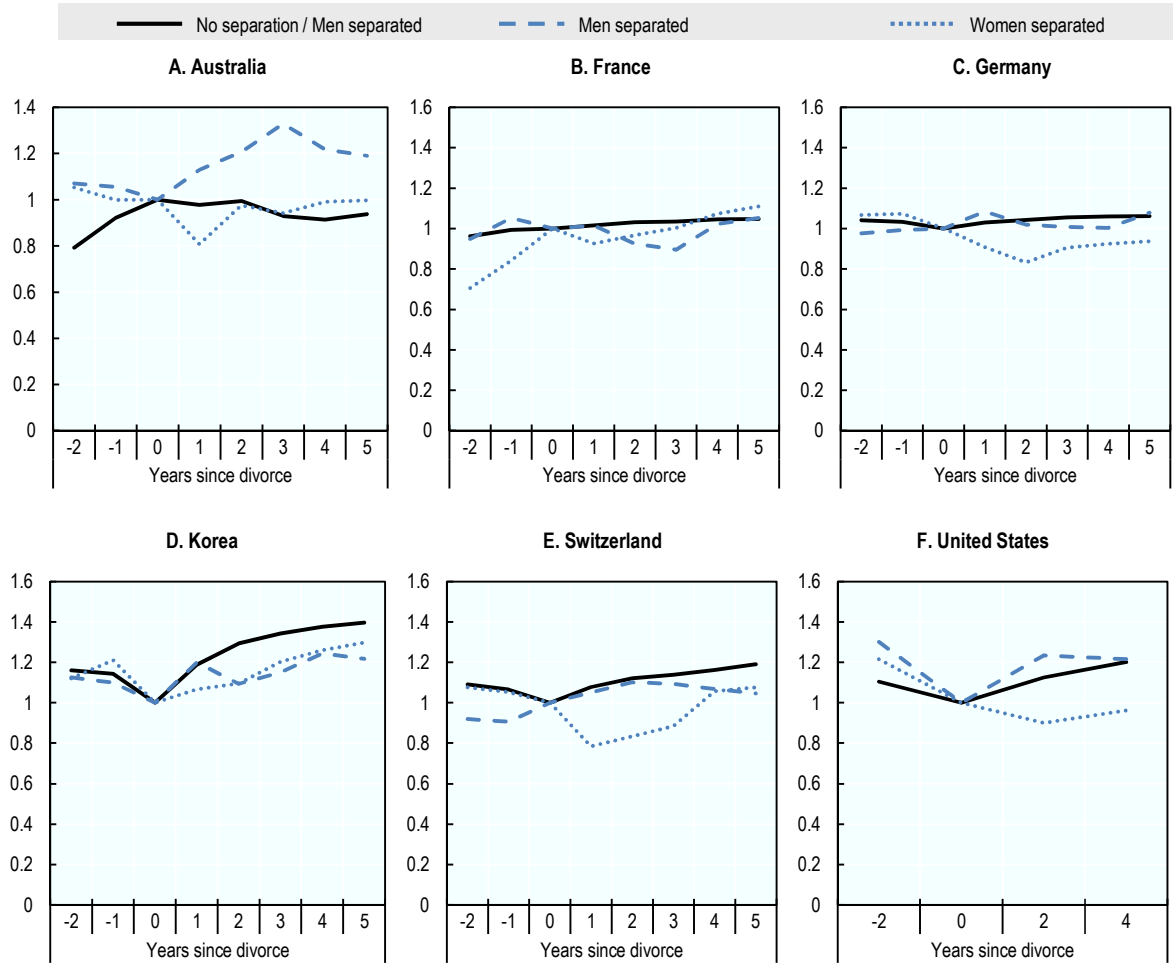
Figure 3.17. Income trajectories following divorce in selected countries

Late 2000s -Early 2010s (or latest)



Note: Trajectories measured over seven years (six-year spans for the United States) spans between 2006 and 2013 (2003-13 in the case of Korea and Switzerland for sample size reasons).

Source: OECD calculations based on CNEF and SRCV for France.

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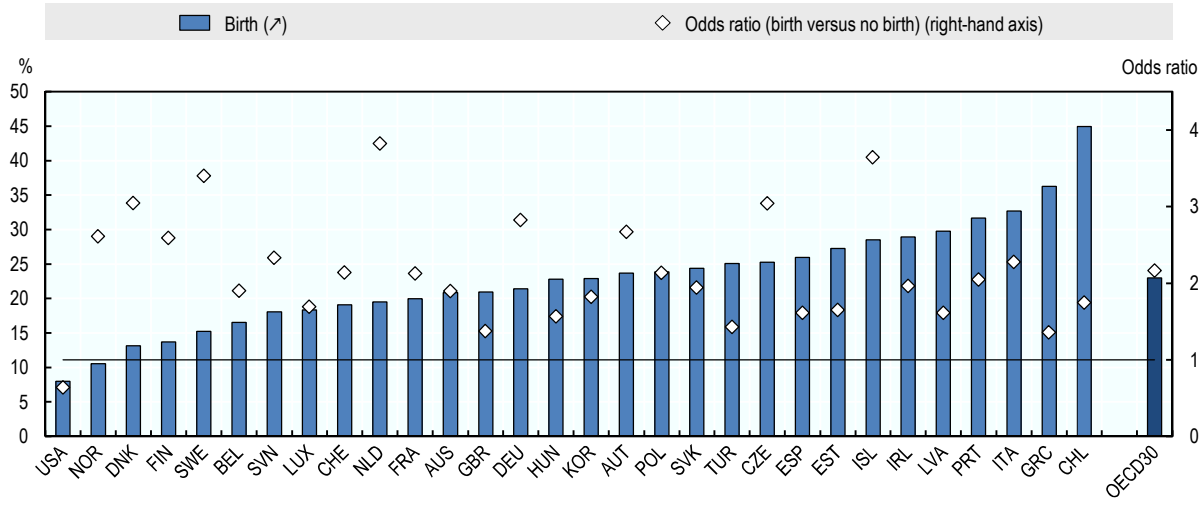
3.3.2. Childbirth and its impact on household disposable income

Childbirth often represents an important breakpoint for households, implying changes in labour market attachment and work and care reconciliation issues. In particular, women's patterns of labour market attachment tend to diverge from men's trajectories when they become mothers, notably because they adapt their paid work (OECD, 2017b). Kleven et al. (2018) have shown that in the case of Denmark, childbirth had a significant impact on women's labour market participation, and that this impact was persistent over time, widening the gender gap in the long run.

Following the birth of a child, one household out of four experiences a large income loss (greater than 20%): this is on average 2.2 times more likely than for those without childbirth (Figure 3.18). Large income losses are frequent in Chile, Greece, Italy and Portugal. They are less frequent in the Nordic countries and the United States. Nevertheless, in the Nordic countries, a household with a newborn is much more vulnerable to incur large income losses than other households – the odds for these households are three to four times higher than for other households. In Norway, Finland and Sweden, but also Latvia and Slovenia, the income losses following childbirth are compensated by increases in social transfers (Figure 3.15, Box 3.5). In the United States, the income losses following childbirth are on average more than compensated by men's earnings. While this helps to maintain a standard of living in the household and to tackle the negative impact of growing up in poverty, it may raise further concerns in terms of the division of roles within households and especially for births in single-parent households.

Figure 3.18. Share of people experiencing a large income loss after childbirth

Year-on-year income changes, early 2010s or latest



Reading note: On average in OECD, a person living in a family where a child is born has 23% chances to experience a large income loss. This is 2.2 times more than a person living in a household where there is no birth.

Note: Large income losses are defined as 20% or more income losses from one year to the next. Data for the United States refer to bi-annual transitions. The odds-ratio compares the odds to experience a large income loss when having a child to the odds to experience a large income loss when there is no birth. Working-age population (18-65).

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

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In many cases, the household income loss can be attributed to women decreasing their paid work following childbirth. Figure 3.15 (Box 3.5) shows that the birth of a child is associated with a decrease in women's earnings in many countries, notably in Portugal, Germany, Ireland, Finland, Slovenia and Hungary.

Two main mechanisms of compensation offset income losses following childbirth: social transfers and other household members' labour market participation. These two mechanisms depend on gender, and they vary by country. In Portugal, Finland, Germany,

Hungary, Poland and the United Kingdom, the compensation of childbirth is due to social benefits[10] (child benefits, social benefits and taxes) (Figure 3.15, Panel C). In Turkey, Chile, Korea, Slovakia, Poland and Greece, large compensation mechanisms stem from an increase in the partner's earnings. Men's individual earnings weigh heavily on income changes in some countries (such as Chile, Turkey and Korea). Such gender-specific labour market changes following the birth of a child are relevant for policy making, as they can eventually feed into gender gaps (Box 3.4).

3.4. The role of social transfers and income taxes in smoothing income changes

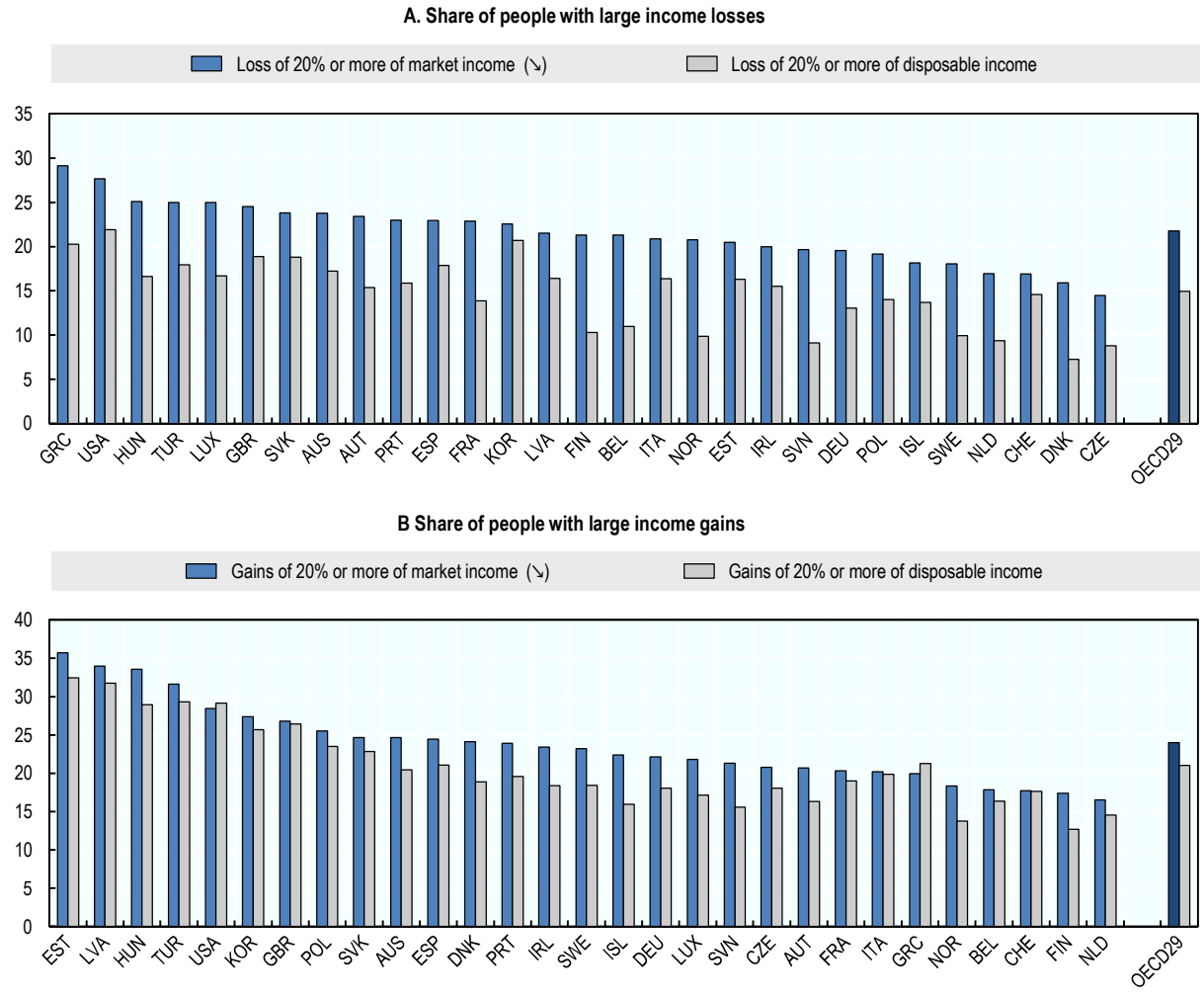
It is crucial for income mobility outcomes that policies support people in economic hardship so that they quickly recover from income shocks. Redistribution through the tax and benefit system plays an important role in this respect. For example, the design of redistribution policies conditions the duration for which people are eligible for a given benefit. In this respect, an effective combination of last-resort income-support schemes with well-designed in-work benefits is likely to support returns to employment and avoid long-term benefit dependency.

On average across OECD countries, 15% of the working-age population experienced a large loss (more than 20%) in disposable income from one year to the next in the early 2010s, and 21% experienced a large gain (Figure 3.19). But changes in market incomes were much more pronounced: 22% experienced a loss and 24% a gain. This means that the tax and transfer system cushions large market income changes, in particular losses.

The role of taxes and transfers varies across countries: Most Nordic countries rank among those with a greater impact in cushioning large market income losses, together with France, Belgium and Slovenia. These are also the countries where large market income gains are diminished in terms of disposable incomes – although to a much more moderate extent. In Korea and Switzerland, the role of taxes and transfers is much smaller, and large market income shocks tend to transmit more directly to disposable incomes.

Figure 3.19. Incidence of large market and disposable income changes

Percentage of people with a large year-on-year income change, early 2010s or latest



Note: Large income changes are measured as a +/- 20% or more income change from one year to the next. Working age population (18-65). Equivalised household incomes, in real terms. Data refer to 2010-12 for the United States.

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), and SILC for Turkey (2011-14).

StatLink http://dx.doi.org/10.1787/888933754082

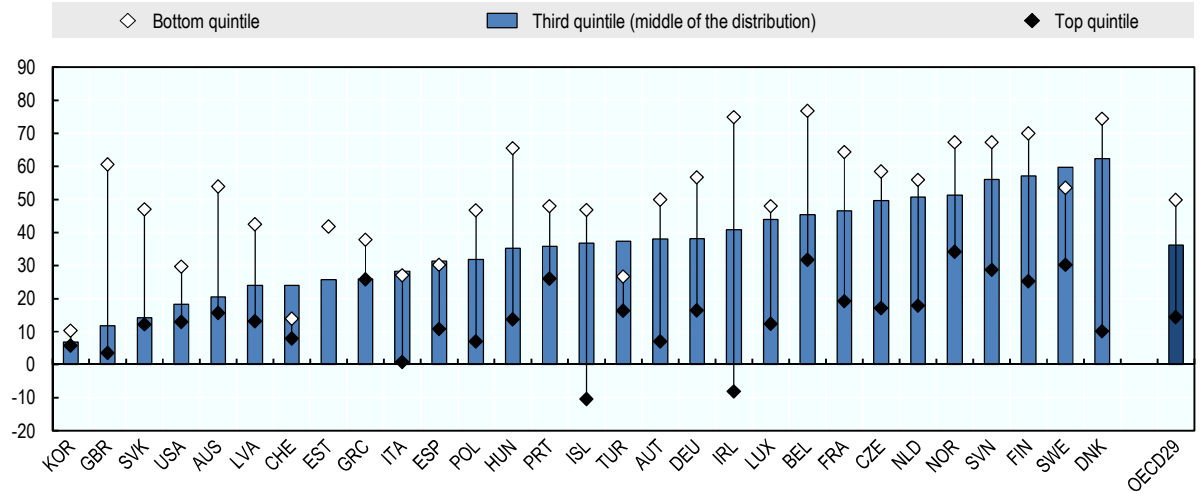
Taxes and benefits interact in different ways on individual income changes at different points of the income distribution (Figure 3.20). On average in OECD countries, for an individual in the middle-income group (third income quintile), about one-third of market income shocks (changes above 20%) are smoothed by taxes and transfers, i.e. those shocks transform into disposable income changes of less than 20%. This percentage is much higher, about half, at the bottom of the income distribution. This is explained by social protection and social assistance schemes, which are more widespread at the bottom of the income distribution in most countries. At the top of the income distribution, redistribution plays a smaller role, with 14% of the large market income shocks not being transmitted to disposable income shocks. This might be due to several factors. Income

shocks at the top are often not related to insured risks (e.g. fewer income shocks due to unemployment). There are, for example, more self-employed among the top income earners than among the rest, including the middle (Denk, 2015).

Depending on the design of national social protection schemes, the focus of income smoothening provided to different income groups varies. In the Nordic countries, where the protection against income shocks is widespread, there is less difference between the level of protection against income shocks at the middle and sometimes the bottom, and at the top. In English-speaking countries, in particular the United Kingdom, Australia and the United States, where the social protection systems rely more on means-testing and are oriented to the bottom of the distribution, the levels of smoothening at the bottom are much higher than for individuals in the middle.

Figure 3.20. How redistribution impacts on large income losses at different points of the income distribution

Share of large market income losses cushioned by redistribution, early 2010s or latest



Reading note: On average in OECD countries, half of large income losses in terms of market income disappear when considering disposable incomes for people in the bottom income quintile. This is the case of 36% of large income losses for people in the third income quintile and of 14% of large income losses for people in the top income quintile.

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), and SILC for Turkey (2011-14).

StatLink http://dx.doi.org/10.1787/888933754101

3.5. Conclusion

Income mobility refers to the opportunity to improve income and the relative income position with the passage of time. In the absence of mobility, the same individuals are stuck at the bottom of the distribution, and the same individuals are stuck at the top, while those in the middle remain with prospects of only small-scale mobility and little expectation to reach the upper income quintile. This reinforces divides and lowers social cohesion, with greater risks to pass on advantage and disadvantage to the next generation. It is therefore crucial for mobile societies to ensure that people in economic hardship quickly recover from income shocks and have enough opportunities to move up the income ladder.

This chapter investigates the processes driving income mobility, with a focus on the patterns of short-term transitions, which, plugged together, shape long-term mobility. Among these processes, labour market events on the one hand and household-related events on the other are the most important drivers of income changes. In particular, labour market events such as transitions into and out of jobs tend to matter more than household-related events, especially with respect to upward income mobility. The impact of adverse labour market events on income mobility is less direct than the one of household-related event, as redistribution brought by the tax and benefit systems at play contributes to cushion it.

In addition to labour market events, household-related events, such as divorce or childbirth, can contribute to threaten income mobility prospects, especially for women, if not sufficiently accompanied by appropriate policy settings, such as child custody, family benefits or work-care reconciliation tools.

Taxes and benefits play an important role for smoothing large and often unpredictable income shocks and thereby support the prospects for sustainable income and social mobility. In all OECD countries, the share of working-age people experiencing large losses in their market incomes is higher – in some considerably higher – than the share experiencing large losses in their disposable incomes.

Notes

1. In this chapter, marriage covers both marriage and partnership. Divorce also indifferently refers to partnership dissolution.

2. In this chapter, absolute mobility is measured by year-on-year income changes larger than 20% (upward and downward). Relative mobility is measured as a positional change in income quintile. This pertains, for example, to exits from the first income quintile or the top quintile or entries into the bottom or top quintile. For the middle-income groups, relative mobility is measured as moving at least one quintile down or up.

3. The impact of events is isolated by keeping all other variables constant and by using a "typical" household composition. The typical household composition considered is that of a prime-age individual, with no children and middle education.

4. In this chapter, due to data limitations and in order to keep the number of transitions limited, no distinction is made between unemployment and inactivity. "Non-employment" covers inactivity and unemployment (see Annex 3.A1).

5. In Chile, the latest longitudinal data available are from 2006-09, implying that they refer to data prior to several policy developments, in particular with respect to the unemployment insurance schemes.

6. More than 40% of part-time workers in Italy, Spain, Greece and France stated that they could not find a full-time job (Eurostat, Labour Force Survey).

7. The data used in this chapter do not allow to disentangle the number of hours worked by part-time workers, which is a strong limitation (see Annex 3.A1).

8. To better reflect economies of scale within households, disposable incomes are defined as the sum of all income sources within the household, adjusted for the size of the household with an equivalence scale. When the household size changes, the disposable income changes consequently. This is the "size effect" (see Annex 3.A4).

9. Figures for private transfers need to be treated with caution, as in household income surveys they are typically under-reported.

10. These figures highlight the changes in income following a childbirth. Countries where a large one-off benefit is granted at birth will appear as more generous than countries where the income support is smoothed across childhood, e.g. in France.

References

Accardo, J. (2016), "La mobilité des niveaux de vie en France", inn *Les Revenus et le Patrimoine des Ménages*, Insee.

Alam, K. and A. Mahal (2014), "Economic impacts of health shocks on households in low and middle income countries: a review of the literature". *Globalization and health*, Vol. 10/1, p. 21.

Altonji, J.G. and N. Williams (2005), "Do wages rise with job seniority? A reassessment". *ILR Review*, Vol. 58/3, pp. 370-397.

Alves, N. and C. Martins (2012). "Mobility and income inequality in the European Union and in Portugal". Economic Bulletin and Financial Stability Report Articles.

Alves, N. and C. Martins (2014), "Household Income Mobility in the European Union and in Portugal: an Analysis of Labor Market and Demographic Events". Vol. 1. Economic Bulletin and Financial Stability Report Articles.

Andreß, H.J., B. Borgloh, M. Bröckel, M. Giesselmann and D. Hummelsheim (2006), „The economic consequences of partnership dissolution—A comparative analysis of panel studies from Belgium, Germany, Great Britain, Italy, and Sweden". *European Sociological Review*, Vol. 22/5, pp. 533-560.

Aristei, D. and C. Perugini (2015), "The drivers of income mobility in Europe". *Economic Systems*, Vol. 39/2, pp. 197-224.

Balestra, C. and Tonkin, R. (2018), "Inequalities in household wealth across OECD countries: evidence from the OECD Wealth Distribution Database", Statistics and Data Working Papers, No. 2018/1, OECD Publishing, Paris.

Berton, F., F. Devicienti and L. Pacelli (2011), "Are temporary jobs a port of entry into permanent employment? Evidence from matched employer-employee". *International Journal of Manpower*, Vol. 32/8, pp. 879-899.

Blundell, R., M. Graber and M. Mogstad (2015), "Labor income dynamics and the insurance from taxes, transfers, and the family", *Journal of Public Economics*, Vol. 127, pp. 58–73.

Bonnet, C., B. Garbinti and A. Solaz (2015), Les variations de niveau de vie des hommes et des femmes à la suite d'un divorce ou d'une rupture de pacs. Insee références, Couples et familles, pp. 51-61.

Bonnet, C., A. Solaz, E. Algava and J. Mandelbaum (2010), Changes in labour market status surrounding union dissolution in France. Population, English Edition, Vol. 65/2, pp. 251-284.

Cutuli, G. and R. Guetto (2012), Fixed-term contracts, economic conjuncture, and training opportunities: a comparative analysis across European labour markets. *European Sociological Review*, Vol. 29/3, pp. 616-629.

Blundell, R., L. Pistaferri and I. Preston (2008), "Consumption inequality and partial insurance". *The American Economic Review*, Vol. 98/5, pp. 1887-1921.

Bourreau-Dubois, C. and M. Doriat-Duban (2016), "Covering the Costs of Divorce: The Role of the Family, the State and the Market". Population, English edition, Vol. 71/3, pp. 457-477.

Bredtmann, J., S. Otten and C. Rulff (2013), "Husband's Unemployment and Wife's Labor Supply: The Added Worker Effect across Europe". *ILR Review*, 0019793917739617.

Buchinsky, M., D. Fougere, F. Kramarz and R. Tchernis (2010), "Interfirm mobility, wages and the returns to seniority and experience in the United States". *The Review of economic studies*, Vol. 77/3, pp. 972-1001.

Clark, K. and N.C. Kanellopoulos (2013), "Low pay persistence in Europe". *Labour Economics*, Vol. 23, pp. 122-134

Cockx, B. and M. Picchio (2012), "Are Short-lived Jobs Stepping Stones to Long Lasting Jobs?" *Oxford Bulletin of Economics and Statistics*, Vol. 74/5, pp. 646-675.

Cockx, B. and M. Picchio (2013), "Scarring effects of remaining unemployed for long term unemployed school leavers". *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, Vol. 176/4, pp. 951-980.

Correll, S.J., S. Benard and I. Paik (2007), "Getting a job: Is there a motherhood penalty?". *American Journal of Sociology*, Vol. 112/5, pp. 1297-1338.

Connolly, S. and M. Gregory (2010), "Dual tracks: part-time work in life-cycle employment for British women". *Journal of Population Economics*, Vol. 23/3, pp. 907-931.

Del Bono, E. and D. Vuri (2011), "Job mobility and the gender wage gap in Italy". *Labour Economics*, Vol. 18/1, pp. 130-142.

Denk, O. (2015), "Who are the top 1% earners in Europe?", *OECD Economics Department Working Papers*, No. 1274, OECD Publishing, Paris, http://dx.doi.org/10.1787/5jrp1g39gkzw-en.

De Vaus, D., M. Gray, L. Qu and D. Stanton (2014), "The economic consequences of divorce in Australia". *International Journal of Law, Policy and the Family*, Vol. 28/1, pp. 26-47.

DiPrete, T.A. and P.A. McManus (2000), "Family change, employment transitions, and the welfare state: Household income dynamics in the United States and Germany". *American Sociological Review*, pp. 343-370.

DiPrete, T.A. (2002), "Life course risks, mobility regimes, and mobility consequences: A comparison of Sweden, Germany, and the United States". *American Journal of Sociology*, Vol. 108/2, pp. 267-309.

DiPrete, T.A., and G.M. Eirich (2006), Cumulative advantage as a mechanism for inequality: A review of theoretical and empirical developments. *Annu. Rev. Sociol.*, Vol. 32, pp. 271-297.

Dobkin, C., A. Finkelstein, R. Kluender and M.J. Notowidigdo (2018), "The economic consequences of hospital admissions". *American Economic Review*, Vol. 108/2, pp. 308-52.

Durbin, S. and J. Tomlinson (2010), Female part-time managers: networks and career mobility. *Work, employment and society*, Vol. 24/4, pp. 621-640.

Ehlert, M. (2013), "Job loss among rich and poor in the United States and Germany: Who loses more income?" *Research in Social Stratification and Mobility*, Vol. 32, pp. 85-103.

England, P., P. Allison and Y. Wu (2007), "Does bad pay cause occupations to feminize, Does feminization reduce pay, and How can we tell with longitudinal data?". *Social science research*, Vol. 36/3, pp. 1237-1256.

Fernández- Kranz, D., M. Paul and N. Rodríguez-Planas (2015), "Part-Time Work, Fixed-Term Contracts, and the Returns to Experience". *Oxford Bulletin of Economics and Statistics*, Vol. 77/4, pp. 512-541.

Fisher, H. and H. Low (2016), "Recovery from divorce: comparing high and low income couples". *International Journal of Law, Policy and the Family*, Vol. 30/3, pp. 338-371.

Fletcher, M. (2017), "An investigation into aspects of the economic consequences of marital separation among New Zealand parents". (Doctoral dissertation, Auckland University of Technology).

Fong, E. and J. Tsutsui (2015), "The high cost of missing a boat under the Japanese recruitment practices: Timing of regular and non-regular employment after school completion in Japan". *Research in Social Stratification and Mobility*, Vol. 42, pp. 1-10.

Gagliarducci, S. (2005), "The dynamics of repeated temporary jobs". *Labour Economics*, Vol. 12/4, pp. 429-448.

Gallie, D. and S. Paugam (eds.) (2000), Welfare regimes and the experience of unemployment in Europe. OUP Oxford.

García-Gómez, P., H. Van Kippersluis, O. O'Donnell and E. Van Doorslaer (2013), "Long-term and spillover effects of health shocks on employment and income". *Journal of Human Resources*, Vol. 48/4, pp. 873-909.

Giannakopoulos, N. (2015), The added worker effect of married women in Greece during the Great Depression.

Innes, S. and G. Scott (2003), "After I've Done the Mum Things': Women, Care and Transitions". *Sociological Research Online*, Vol. 8/4, pp. 1-14.

Jenkins, S.P. (2011), *Changing Fortunes: Income Mobility and Poverty Dynamics in Britain*, Oxford University Press, Oxford.

Jenkins S.P. (2009) "Marital splits and income changes over the longer term", in Brynin M. Ermisch J. (eds), *Changing Relationships* , Routledge, New York.

Jenkins, S.P. (2008) "13 Marital Splits and Income Changes over the Longer Term". *Changing Relationships*, 217.

Jenkins, S.P., J.A. Rigg and F. Devicienti (2001), The Dynamics of Poverty in Britain, Leeds: Department for Work and Pensions.

Karaoglan, D. and C. Okten (2012), "Labor force participation of married women in Turkey: Is there an added or a discouraged worker effect?".

Kast, F. and D. Pomeranz (2014), Saving more to borrow less: Experimental evidence from access to formal savings accounts in Chile (No. w20239). National Bureau of Economic Research.

Kavas, S. and A. Gunduz-Hosgor (2010), "Divorce and family change revisited: Professional women's divorce experience in Turkey". Demográfia English Edition, Vol. 53/5, pp. 102-126.

Kleven, H., C. Landais and J.E. Søgaard (2018), "Children and gender inequality: Evidence from Denmark (No. w24219)". National Bureau of Economic Research.

Liu, K. (2016), "Insuring against health shocks: Health insurance and household choices". *Journal of health economics*, Vol. 46, pp. 16-32.

Lundberg, S. (1985), "The added worker effect". *Journal of Labor Economics*, Vol. 3/1, Part 1), pp. 11-37.

Lundborg, P., M. Nilsson and J. Vikström (2015), "Heterogeneity in the impact of health shocks on labour outcomes: evidence from Swedish workers". *Oxford Economic Papers*, Vol. 67/3, pp. 715-739.

Mankart, J. and R. Oikonomou (2016). "The rise of the added worker effect". *Economics Letters*, Vol. 143, pp. 48-51.

Mattingly, M.J. and K.E. Smith (2010), "Changes in Wives' Employment When Husbands Stop Working: A Recession-Prosperity Comparison". *Family Relations*, Vol. 59/4, pp. 343-357.

Maume, D.J. (2011), "Meet the new boss… same as the old boss? Female supervisors and subordinate career prospects". *Social Science Research*, Vol. 40/1, pp. 287-298.

Merluzzi, J. and S.D. Dobrev (2015), "Unequal on top: Gender profiling and the income gap among high earner male and female professionals". *Social science research*, Vol. 53, pp. 45-58.

Mincer, J. (1962), "Labor Force Participation of Married Women." in *Aspects of Labor Economics*, H.G. Lewis (ed.). Princeton University Press, Princeton, N.J.

Neilson, C., D. Contreras, R. Cooper and J. Hermann (2008), "The dynamics of poverty in Chile". *Journal of Latin American Studies*, Vol. 40/2, pp. 251-273.

OECD (2015a), *In It Together: Why Less Inequality Benefits All*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264235120-en.

OECD (2015b), *OECD Employment Outlook 2015*, OECD Publishing, Paris, http://dx.doi.org/10.1787/empl_outlook-2015-en.

OECD (2017a), *The Pursuit of Gender Equality: An Uphill Battle*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264281318-en.

OECD (2017b), *Preventing Ageing Unequally*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264279087-en.

OECD (2018a), OECD Tax Benefits Model, http://www.oecd.org/social/benefits-and-wages.htm.

OECD (2018b), "Labour Market Statistics: Employment by permanency of the job: incidence", *OECD Employment and Labour Market Statistics* (database), http://dx.doi.org/10.1787/data-00297-en (accessed 04 May 2018).

OECD (forthcoming), *OECD Employment Outlook 2018*, OECD Publishing, Paris.

O'Higgins, N. (2012), "This time it's different? Youth labour markets during 'the Great Recession'". *Comparative Economic Studies*, Vol. 54/2, pp. 395-412.

Ono, H. (2010), "Lifetime employment in Japan: Concepts and measurements". *Journal of the Japanese and international economies*, Vol. 24/1, pp. 1-27.

Paugam, S. (2015), *Vivre ensemble dans un monde incertain*. Editions de l'Aube.

Piasna, A. and A. Plagnol (2017), "Women's job quality across family life stages: an analysis of female employees across 27 European countries". *Social Indicators Research*, pp. 1-20.

Picchio, M. (2012), "The dynamics of unemployment, temporary and permanent employment in Italy" inn *Non-Standard Employment and Quality of Work* (pp. 127-147). Physica-Verlag HD.

Plum, A. (2016), "Can Low-Wage Employment Help People Escape from the No-Pay–Low-Income Trap?" *The BE Journal of Economic Analysis and Policy*, Vol. 16/4.

Pavlopoulos, D. (2007), "Wage mobility patterns in Europe" (Doctoral dissertation, Tilburg).

Polin, V. and M. Raitano (2014), "Poverty Transitions and Trigger Events across EU Groups of Countries: Evidence from EU-SILC", *Journal of Social Policy*, Vol. 43/4, pp. 745–772.

Quintini, G. and T. Manfredi (2009), "Going Separate Ways? School-to-Work Transitions in the United States and Europe", *OECD Social, Employment and Migration Working Papers*, No. 90, OECD Publishing, Paris. http://dx.doi.org/10.1787/221717700447

Rivera, L.A. (2016), *Pedigree: How elite students get elite jobs*. Princeton University Press.

Schmid, G. (2016), "Flexible and secure labour market transitions: Towards institutional capacity building in the digital economy". *IZA Policy Paper*, No. 116.

Shih, J. (2006), "Circumventing discrimination: Gender and ethnic strategies in Silicon Valley". *Gender and Society*,Vol. 20/2, pp. 177-206.

Skaggs, S., K. Stainback and P. Duncan (2012), "Shaking things up or business as usual? The influence of female corporate executives and board of directors on women's managerial representation". *Social Science Research*, Vol. 41/4, pp. 936-948.

Struffolino, E. and D. Mortelmans (2018), "Lone mothers in Belgium: labor force attachment and risk factors" in *Lone Parenthood in the Life Course* (pp. 257-282). Springer, Cham.

Trevisan, E. and F. Zantomio (2016), "The impact of acute health shocks on the labour supply of older workers: Evidence from sixteen European countries". *Labour Economics*, Vol. 43, pp. 171-185.

Uunk, W. (2004), "The economic consequences of divorce for women in the European Union: The impact of welfare state arrangements", *European Journal of Population*, Vol. 20/3, pp. 251–285.

Vaus, D., M. Gray, L. Qu and D. Stanton (2017), "The economic consequences of divorce in six OECD countries". *Australian Journal of Social Issues*, Vol. 52/2, pp. 180-199.

Annex 3.A1. Data and definitions used in the chapter

The data sources used in this chapter are the same as described in Chapter 2, Annex 2.A1. However, the analysis of income mobility drivers implies covering not only disposable incomes, as in Chapter 2, but also labour market transitions, household changes and income components. This raises a certain number of issues related to making the use of the data more sensible:

- Sample size: the sample size with longitudinal data is often an issue. This is especially the case when analysing transitions between labour market and household status – which do not systematically happen frequently. For this reason, the chapter focusses on year-on-year transitions, as the number of observations (individuals x time) is larger. For this reason, some countries had to be excluded from some analyses.
- Periodicity: the longitudinal data source for the United States – PSID – has been gathered every second year since 1998, therefore two-year transitions are shown instead of year-on-year transitions for the United States.
- Labour market status is measured on the basis of the number of months worked over a year, with the longest spell corresponding to the activity status of the year. A person is considered to have a labour market transition if their status changes from one year to the next. Unemployed and inactive individuals are grouped together as "non-employed". For the same reasons of data constraints, part-time work is treated as a whole, with no distinction made on the number of hours worked.
- Marriage and partnership are treated indistinctively. Divorce is measured as a change in partnership status.
- Countries relying on register data: There are data-driven caveats when following individuals after a household split (see Annex 2.A1). The main one is related to individuals moving into another dwelling, which is often the case of couples getting divorced (Iacovou and Lynn, 2013). In countries where data collection is based on household surveys – most countries in the EU-SILC – every member of the initial household is tracked and re-interviewed. In countries where surveys are based on administrative registers – Denmark, Finland, Iceland, the Netherlands, Norway, Slovenia and Sweden – only one member of the household is followed (reference person). Therefore, in these countries, the longitudinal analysis of divorcees who are not the reference person is not possible.

Annex 3.A2. Estimates of large income changes

Table 3.A2.1. Probability to have a large income gain (larger than 20%)

Logistic regression based on labour market change, household changes and other control variables

	Australia	Austria	Belgium	Chile	Czech Republic	Denmark	Estonia	Finland	France	Germany
One labour market transition or more	0.323***	0.466***	0.394***	-0.029	0.912***	0.445**	0.233**	0.639***	0.231***	0.389***
One household transition or more	-0.046	0.078	0.163	-0.390***	-0.503**	0.718***	-0.537***	0.118	0.470***	-0.121
Female	0.009	-0.040	-0.047	-0.026	-0.018	0.068	0.021	0.049	0.017	0.053
Was in a couple last year	-0.457***	-0.345***	-0.458***	-0.412***	-0.125	-0.735***	-0.062	-0.417***	-0.417***	-0.525***
Medium-skilled	-0.102***	-0.089	-0.037	-0.041	0.340***	0.177	0.060	0.178*	-0.046	-0.187***
High-skilled	-0.0687*	0.208*	0.057	-0.130***	0.239	-0.185	-0.032	-0.104	-0.000	-0.145**
25-34 years old	-0.133***	-0.108	0.092	0.041	-0.351**	-0.053	-0.335***	-0.074	-0.309***	0.115
35-44 years old	-0.262***	-0.214	0.131	0.0832*	-0.425***	-0.221	-0.562***	-0.436***	-0.449***	-0.119
45-54 years old	-0.228***	-0.421***	0.036	0.152***	-0.190	-0.329	-0.366***	-0.446***	-0.284***	-0.144*
Above 54 years old	-0.125**	-0.341**	0.091	0.128**	-0.473***	-0.490*	-0.593***	-0.693***	-0.339***	-0.258***
One child or more	-0.092***	0.174*	-0.031	0.070**	-0.053	-0.130	-0.063	-0.214***	-0.132***	-0.014
Sample size	33 684	4 420	4 393	29 026	6 604	3 995	5 442	9 135	21 006	24 138

Table 3.A2.1 Probability to have a large income gain (larger than 20%) *(Cont.)*

Logistic regression based on labour market change, household changes and other control variables

	Greece	Hungary	Iceland	Ireland	Italy	Korea	Latvia	Luxembourg	Netherlands	Norway
One labour market transition or more	0.609***	0.697***	0.349*	0.562***	0.371***	-0.032	0.543***	0.517***	0.798***	-0.287
One household transition or more	0.120	-0.463***	0.052	-0.503	0.034	-0.089	-0.535***	0.016	0.126	0.710***
Female	0.045	-0.110*	-0.037	-0.051	0.021	0.013	-0.019	-0.013	0.047	-0.075
Was in a couple last year	-0.008	-0.104	-0.269*	0.053	-0.168***	-0.454***	-0.077	-0.314***	-0.439***	-0.286*
Medium-skilled	-0.072	0.003	0.155	-0.013	-0.194***	0.075	-0.087	0.042	0.198*	-0.029
High-skilled	-0.224**	-0.014	0.262*	-0.089	-0.199***	0.002	-0.112	0.264**	0.335***	-0.104
25-34 years old	0.027	-0.170	-0.006	-1.107***	-0.143*	-0.007	0.182	0.147	-0.326*	-0.348
35-44 years old	-0.144	-0.094	-0.182	-1.044***	-0.147*	-0.183**	0.130	-0.064	-0.445***	-0.870***
45-54 years old	-0.019	-0.075	-0.035	-1.009***	-0.174**	-0.082	-0.080	-0.067	-0.282*	-0.690***
Above 54 years old	-0.152	-0.302**	-0.147	-0.777***	-0.205**	-0.011	0.005	0.026	-0.309*	-1.419***
One child or more	-0.305***	-0.119	0.262*	-0.203	0.062	-0.082*	-0.093	0.034	-0.149	-0.658***
Sample size	4 663	6 378	2 248	1 504	16 401	21 259	4 913	3 292	7 688	1 555

	Poland	Portugal	Slovak Republic	Slovenia	Spain	Sweden	Switzerland	Turkey	United Kingdom
One labour market transition or more	0.858***	0.695***	1.100***	0.891***	0.332***	0.137	0.296***	0.400***	0.509***
One household transition or more	-0.086	0.051	0.325*	0.371***	0.196**	0.596***	0.081	-0.055	-0.000
Female	-0.053	-0.004	0.016	-0.066	0.020	-0.049	0.010	-0.039	-0.118*
Was in a couple last year	0.016	-0.467***	-0.216***	-0.255***	-0.257***	-0.827***	-0.349***	-0.261***	-0.155*
Medium-skilled	-0.064	-0.298***	-0.044	-0.106	-0.137**	0.209	-0.083	-0.246***	-0.068
High-skilled	-0.049	-0.371***	-0.214*	-0.200*	-0.376***	0.445*	-0.170**	-0.412***	-0.026
25-34 years old	-0.273***	-0.065	-0.307***	-0.080	0.006	-0.061	-0.139	-0.135***	-0.329**
35-44 years old	-0.299***	-0.208	-0.343***	-0.238*	-0.135	-0.325	-0.200*	-0.122**	-0.365**
45-54 years old	-0.227***	-0.121	0.047	0.066	-0.017	-0.418*	-0.133	-0.0958*	-0.286*
Above 54 years old	-0.507***	-0.078	-0.521***	-0.164	-0.038	-0.712***	-0.028	-0.272***	-0.141
One child or more	0.053	0.151**	0.045	-0.040	-0.199***	-0.103	-0.052	0.072**	-0.042
Sample size	14 069	6 446	7 304	9 492	11 238	2 831	11 885	31 396	4 644

Note: ***, **, *: statistically significant at 1%, 5% and 10% levels, respectively.

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

Table 3.A2.2. Probability to have a large income loss (More than -20%)

Logistic regression based on labour market change, household changes and other control variables

	Australia	Austria	Belgium	Chile	Czech Republic	Denmark	Estonia	Finland	France	Germany
One labour market transition or more	0.489***	0.619***	1.162***	0.225***	0.986***	1.184***	0.409***	0.578***	0.501***	0.817***
One household transition or more	0.963***	1.333***	1.056***	0.553***	1.393***	0.732***	0.881***	0.995***	1.209***	1.204***
Female	0.028	-0.109	0.084	0.012	-0.082	0.125	-0.122	0.051	-0.011	0.029
Was in a couple last year	-0.005	-0.267**	-0.210*	0.254***	-0.209**	0.236	-0.025	-0.150	-0.150***	-0.359***
Medium-skilled	-0.050	-0.422***	0.122	0.015	-0.116	0.236	0.041	-0.070	0.012	-0.096
High-skilled	-0.079**	-0.438***	0.009	0.073*	0.160	-0.144	0.072	-0.362***	-0.080	-0.299***
25-34 years old	-0.117**	0.083	-0.127	-0.091**	0.193	-0.511	0.412**	-0.479***	-0.230**	-0.071
35-44 years old	-0.240***	0.229	-0.156	-0.124***	-0.097	-0.820**	0.183	-0.560***	-0.326***	-0.174*
45-54 years old	-0.123**	0.279	0.299	-0.117**	0.407**	-0.965***	0.470***	-0.305**	-0.026	-0.051
Above 54 years old	0.176***	0.724***	0.449**	-0.056	0.592***	-0.185	0.662***	-0.063	0.309***	0.313***
One child or more	-0.326***	0.534***	0.197*	-0.069**	0.775***	0.07	0.443***	0.637***	0.239***	0.040
Sample size	33 684	4 420	4 393	29 026	6 604	3 995	5 442	9 135	21 006	24 138
	Greece	**Hungary**	**Iceland**	**Ireland**	**Italy**	**Korea**	**Latvia**	**Luxembourg**	**Netherlands**	**Norway**
One labour market transition or more	0.599***	0.363***	0.866***	0.06	0.686***	0.576***	0.613***	0.663***	1.006***	0.767**
One household transition or more	0.526***	0.913***	0.833***	1.093***	1.018***	0.896***	0.779***	1.104***	1.336***	1.545***
Female	-0.008	0.010	0.080	-0.034	0.006	-0.039	-0.045	-0.027	-0.097	0.090
Was in a couple last year	-0.064	-0.265***	-0.193	0.102	-0.248***	0.066	-0.154*	-0.172	-0.272**	0.180
Medium-skilled	-0.213**	0.080	0.095	-0.073	-0.117**	-0.056	0.027	-0.065	0.106	-0.691***
High-skilled	-0.209**	0.134	0.192	-0.246	-0.147**	-0.116*	-0.069	0.039	-0.085	-1.045***
25-34 years old	-0.115	-0.115	0.570**	-0.465	0.027	0.188*	0.114	-0.343	-0.408*	-0.259
35-44 years old	-0.139	-0.237*	-0.142	-0.335	-0.071	0.158	-0.032	-0.530**	-0.561***	-0.303
45-54 years old	-0.039	0.186	-0.241	-0.368	-0.052	0.229**	0.223	-0.158	0.012	-0.280
Above 54 years old	-0.081	0.138	0.242	0.11	0.204**	0.522***	0.297	0.268	0.416**	-0.273
One child or more	0.392***	0.838***	-0.056	0.057	0.341***	-0.227***	0.643***	0.488***	0.605***	-0.319
Sample size	4 663	6 378	2 248	1 504	16 401	21 259	4 913	3 292	7 688	1 555

Table 3.A2.2 Probability to have a large income loss (More than -20%) *(Cont.)*

	Poland	Portugal	Slovak Republic	Slovenia	Spain	Sweden	Switzerland	Turkey	United Kingdom
One labour market transition or more	0.879***	0.515***	0.564***	1.106***	0.459***	0.467*	0.430***	0.290***	0.442***
One household transition or more	1.090***	0.880***	0.736***	1.456***	0.618***	1.284***	1.187***	0.574***	0.748***
Female	-0.001	-0.037	-0.049	0.000	-0.047	-0.066	0.111**	-0.0701**	-0.056
Was in a couple last year	-0.116*	-0.052	-0.070	-0.355***	-0.093	-0.377**	-0.061	-0.024	0.041
Medium-skilled	-0.118	-0.180**	-0.213*	-0.047	-0.228***	-0.024	-0.229***	-0.256***	-0.012
High-skilled	-0.113	-0.033	-0.110	-0.283**	-0.416***	0.310	-0.413***	-0.448***	-0.089
25-34 years old	0.148	-0.029	0.005	0.323**	0.135	-0.405	-0.289**	-0.020	0.177
35-44 years old	-0.058	-0.145	0.034	0.048	0.035	-0.923***	-0.397***	-0.111*	-0.228
45-54 years old	0.228**	-0.024	0.115	0.399***	0.121	-0.970***	-0.231**	-0.025	-0.066
Above 54 years old	0.341***	0.192	0.034	0.532***	0.247**	-0.502*	0.044	-0.021	0.320*
One child or more	0.449***	0.422***	0.664***	0.794***	0.569***	0.374**	-0.038	0.047	0.215**
Sample size	14 069	6 446	7 304	9 492	11 238	2 831	11 885	31 396	4 644

Note: ***, **, *: statistically significant at 1%, 5% and 10% levels, respectively.

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

Annex 3.A3. Estimates of relative positional mobility

Table 3.A3.1. Probability to exit the bottom quintile

Logistic regression based on labour market change, household changes and other control variables

	Australia	Austria	Belgium	Chile	Czech Republic	Denmark	Estonia	Finland	France	Germany
One labour market transition or more	0.529***	0.501***	0.248	0.429***	1.029***	0.023	0.605***	1.067***	0.536***	0.613***
One household transition or more	-0.072	-0.808**	0.302	-0.199***	-0.535	0.836**	-0.231	0.659***	0.328**	-0.335**
Female	0.134***	0.032	0.082	0.018	0.051	0.104	0.138	0.217*	0.149**	0.197***
Was in a couple last year	-0.654***	-0.409***	-0.918***	-0.020	-0.143	-0.616**	-0.183	-0.897***	-0.831***	-0.878***
Medium-skilled	-0.279***	-0.217	-0.454**	-0.435***	-0.098	0.344	-0.025	-0.193	-0.258***	-0.435***
High-skilled	-0.820***	-0.443**	-1.010***	-1.086***	-0.996***	-0.780*	-0.413**	-0.849***	-0.858***	-1.289***
25-34 years old	-0.087	0.688**	1.116***	-0.168**	-0.209	0.110	-0.470**	0.470**	0.275**	0.528***
35-44 years old	-0.276***	0.076	1.294***	-0.077	-0.023	-0.116	-0.554**	0.242	0.325**	0.212
45-54 years old	-0.367***	0.008	0.959**	-0.196***	0.005	-1.055*	-0.328	-0.310	0.094	-0.075
Above 54 years old	0.025	-0.049	1.458***	-0.371***	-0.252	-0.776	-0.345	-0.134	-0.038	0.360**
One child or more	0.398***	0.586***	0.349*	0.038	0.357**	-0.486	0.197	-0.032	-0.015	0.484***
Sample size	33 684	4 420	4 393	29 026	6 604	3 995	5 442	9 135	21 006	24 138

Table 3.A3.1 Probability to exit the bottom quintile *(Cont.)*

Logistic regression based on labour market change, household changes and other control variables

	Greece	Hungary	Iceland	Ireland	Italy	Korea	Latvia	Luxembourg	Netherlands	Norway
One labour market transition or more	0.913***	0.676***	0.888***	0.533**	0.521***	0.140	1.025***	0.728**	0.856***	0.790**
One household transition or more	-0.115	-0.398	-0.829*	-0.788	0.008	-0.115	-0.159	0.097	-0.194	0.200
Female	-0.014	0.005	0.390*	0.080	0.131*	0.085	0.143	-0.130	0.089	0.151
Was in a couple last year	0.012	-0.457***	-0.975***	-0.308	-0.065	-0.527***	-0.717***	0.090	-1.093***	-1.252***
Medium-skilled	-0.093	-0.604***	0.133	-0.584**	-0.504***	-0.249***	-0.377**	-0.318*	-0.352**	0.650**
High-skilled	-0.615***	-1.423***	0.029	-1.074***	-0.986***	-0.805***	-0.767***	-0.838***	-0.875***	-0.189
25-34 years old	0.141	0.285	0.903**	-0.560	-0.086	-0.231	0.218	0.488	1.036***	0.581
35-44 years old	-0.110	0.244	0.537	-0.730*	-0.248	-0.433***	0.453*	0.134	0.888***	0.215
45-54 years old	-0.084	0.048	-0.171	-0.697*	-0.350**	-0.284*	0.507*	0.190	0.708**	0.400
Above 54 years old	-0.084	0.163	0.251	-0.397	-0.596***	-0.166	0.666**	-0.496	0.606**	0.020
One child or more	-0.042	0.025	1.282***	0.377	-0.002	0.330***	0.306**	0.423**	0.307*	0.612**
Sample size	4 663	6 378	2 248	1 504	16 401	21 259	4 913	3 292	7 688	1 555

	Poland	Portugal	Slovak Republic	Slovenia	Spain	Sweden	Switzerland	Turkey	United Kingdom
One labour market transition or more	1.032***	0.761***	1.020***	0.665***	0.555***	0.613	0.416***	0.621***	0.681***
One household transition or more	0.006	-0.268	0.430	0.406*	-0.290	0.159	0.053	-0.071	-0.113
Female	0.028	0.198*	0.141	0.104	0.128	-0.161	0.116	-0.063	0.068
Was in a couple last year	-0.111	-0.601***	-0.282**	-0.485***	-0.179	-1.375***	-0.539***	-0.236***	-0.274**
Medium-skilled	-0.285***	-0.672***	-0.096	-0.460***	-0.499***	-0.379	-0.206	-0.961***	-0.548***
High-skilled	-0.998***	-1.429***	-0.582***	-1.631***	-1.034***	-0.261	-1.020***	-2.567***	-0.687***
25-34 years old	0.021	-0.176	-0.318	0.249	-0.018	0.895**	0.584***	-0.257***	-0.482*
35-44 years old	0.108	-0.178	0.253	0.216	-0.008	0.391	0.639***	-0.219**	-0.796***
45-54 years old	0.061	-0.027	0.288	0.208	-0.057	-0.134	0.393**	-0.237**	-0.319
Above 54 years old	-0.119	-0.030	-0.276	0.328	-0.075	-0.915*	0.380*	-0.436***	-0.047
One child or more	0.154*	0.345***	0.273**	0.347***	-0.182*	0.330	0.628***	0.912***	0.644***
Sample size	14 069	6 446	7 304	9 492	11 238	2 831	11 885	31 396	4 644

Note: ***, **, *: statistically significant at 1%, 5% and 10% levels, respectively.

Source: OECD calculations based on EU-SILC (2011-14), CNEF(2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

Table 3.A3.2. Probability to enter the bottom quintile

Logistic regression based on labour market change, household changes and other control variables

	Australia	Austria	Belgium	Chile	Czech Republic	Denmark	Estonia	Finland	France	Germany
One labour market transition or more	0.412***	0.152	0.938***	0.294***	0.906***	0.603	0.238	0.684***	0.176	0.680***
One household transition or more	0.602***	1.599***	1.236***	0.297***	1.493***	0.311	0.802***	1.469***	1.243***	0.453***
Female	0.216***	0.165*	0.230**	0.0924***	0.131	0.118	0.088	0.181**	0.161***	0.259***
Was in a couple last year	-0.479***	-0.253*	-0.794***	-0.129***	-0.219	-0.712***	-0.192	-0.363***	-0.474***	-0.660***
Medium-skilled	-0.459***	-0.644***	-0.554***	-0.459***	-0.489***	-0.182	-0.289**	-0.149	-0.509***	-0.688***
High-skilled	-1.137***	-1.137***	-1.217***	-1.090***	-1.533***	-1.227***	-0.830***	-1.067***	-1.326***	-1.669***
25-34 years old	-0.155***	0.297	0.280	-0.084	0.092	0.055	-0.047	-0.470***	-0.050	-0.024
35-44 years old	-0.213***	-0.199	0.136	0.011	-0.046	-0.349	-0.092	-0.845***	-0.191**	-0.461***
45-54 years old	-0.262***	-0.230	0.112	-0.108*	0.230	-1.076***	0.150	-1.223***	-0.327***	-0.512***
Above 54 years old	0.247***	-0.092	0.484**	-0.176***	0.417**	-0.812**	0.323**	-0.828***	-0.276***	-0.085
One child or more	0.010	0.321***	0.283**	0.166***	0.794***	-0.452**	0.196*	0.020	0.409***	0.201***
Sample size	45 019	5 903	5 892	39 079	8 812	5 323	7 277	12 183	28 262	32 264
	Greece	**Hungary**	**Iceland**	**Ireland**	**Italy**	**Korea**	**Latvia**	**Luxembourg**	**Netherlands**	**Norway**
One labour market transition or more	0.761***	0.374**	0.307	-0.324	0.492***	0.666***	0.496***	0.535*	1.015***	-0.418
One household transition or more	0.592***	1.073***	0.829***	0.245	1.156***	0.313***	1.346***	0.570**	1.482***	1.662***
Female	0.017	0.043	0.233	0.271*	0.160***	0.034	0.236**	-0.010	0.095	0.249
Was in a couple last year	-0.479***	-0.648***	-0.498**	-0.114	-0.377***	-0.757***	-0.614***	-0.041	-0.468***	-0.527
Medium-skilled	-0.461***	-0.858***	0.164	-0.569***	-0.666***	-0.416***	-0.557***	-0.564***	-0.529***	-0.800**
High-skilled	-1.266***	-1.716***	-0.277	-1.170***	-1.330***	-1.074***	-1.263***	-1.225***	-1.128***	-1.344***
25-34 years old	-0.493***	0.279*	0.884***	-0.236	-0.089	-0.362***	0.225	0.610**	-0.036	-0.085
35-44 years old	-0.441***	-0.052	0.100	-0.682**	-0.157*	-0.374***	0.270	0.007	-0.104	-0.749
45-54 years old	-0.390**	0.136	-0.779**	-0.200	-0.298***	-0.352***	0.710***	0.135	-0.457***	-0.391
Above 54 years old	-0.468***	0.183	-0.025	-0.173	-0.385***	-0.080	0.769***	-0.054	-0.189	-0.952
One child or more	0.389***	0.410***	0.285	0.405**	0.390***	0.172***	0.441***	1.033***	0.225**	-0.395
Sample size	6 192	8 506	2 999	2 003	22 141	28 453	6 584	4 397	10 248	1 555

Table 3.A3.2. Probability to enter the bottom quintile *(Cont.)*

Logistic regression based on labour market change, household changes and other control variables

	Poland	Portugal	Slovak Republic	Slovenia	Spain	Sweden	Switzerland	Turkey	United Kingdom
One labour market transition or more	0.738***	0.661***	0.731***	0.972***	0.205*	1.018***	0.386***	-0.003	0.276
One household transition or more	0.614***	1.010***	0.666**	1.018***	0.431***	1.022***	0.524***	0.530***	0.497**
Female	0.060	0.128	0.145*	0.153**	0.021	-0.035	0.184***	-0.104***	0.136
Was in a couple last year	-0.250***	-0.302**	-0.009	-0.345***	-0.257***	-0.579**	-0.725***	-0.184***	-0.369***
Medium-skilled	-0.547***	-0.855***	-0.610***	-0.646***	-0.717***	-0.367	-0.353***	-1.153***	-0.591***
High-skilled	-1.493***	-1.519***	-1.191***	-1.806***	-1.308***	-0.395	-1.316***	-2.725***	-0.868***
25-34 years old	0.320***	-0.445***	-0.121	0.397***	0.087	-0.589**	0.476***	-0.176***	-0.451**
35-44 years old	0.221**	-0.265*	0.299**	0.303**	-0.029	-1.261***	0.304**	-0.298***	-0.613***
45-54 years old	0.392***	-0.343**	0.210	0.255*	-0.052	-1.328***	0.106	-0.470***	-0.512***
Above 54 years old	0.350***	-0.182	0.208	0.510***	-0.218*	-1.607***	0.469***	-0.565***	-0.034
One child or more	0.483***	0.513***	0.631***	0.323***	0.509***	-0.003	0.591***	1.017***	0.420***
Sample size	18 788	8 614	9 744	12 673	15 098	3 775	15 874	42 137	6 190

Note: ***, **, *: statistically significant at 1%, 5% and 10% levels, respectively.

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

Table 3.A3.3. Probability to exit the top quintile

Logistic regression based on labour market change, household changes and other control variables

	Australia	Austria	Belgium	Chile	Czech Republic	Denmark	Estonia	Finland	France	Germany
One labour market transition or more	0.311***	0.642***	-0.022	-0.149**	0.387*	-0.065	0.12	0.048	-0.034	0.434***
One household transition or more	0.773***	0.848***	0.146	0.634***	1.277***	0.614***	0.766***	0.632***	0.583***	0.964***
Female	-0.073	0.084	-0.048	-0.046	0.01	0.013	-0.184	-0.094	-0.049	-0.033
Was in a couple last year	0.400***	0.374**	0.649***	0.292***	0.132	0.714***	0.553***	0.370**	0.287***	0.370***
Medium-skilled	0.386***	0.465**	0.645***	0.692***	0.422*	0.313	0.571***	0.182	0.460***	0.685***
High-skilled	0.760***	0.444*	1.127***	1.346***	0.819***	0.323	0.825***	0.231	0.749***	0.908***
25-34 years old	-0.181**	-0.951**	-0.349	0.121	-0.222	-0.912*	-0.337	-0.314	-0.847***	-0.309**
35-44 years old	-0.285***	-0.634*	-0.309	-0.170*	-0.722***	-0.686	-0.433*	-0.310	-0.794***	-0.589***
45-54 years old	-0.171**	-0.267	-0.298	0.136	-0.482*	-0.804*	-0.291	0.219	-0.371***	-0.280*
Above 54 years old	-0.054	0.208	-0.277	0.272***	-0.010	-0.653	-0.289	0.274	-0.135	-0.336**
One child or more	-0.618***	0.241	-0.235	-0.294***	-0.110	-0.136	0.336**	0.584***	-0.134	-0.330***
Sample size	33 684	4 420	4 393	29 026	6 604	3 995	5 442	9 135	21 006	24 138
	Greece	**Hungary**	**Iceland**	**Ireland**	**Italy**	**Korea**	**Latvia**	**Luxembourg**	**Netherlands**	**Norway**
One labour market transition or more	0.373*	-0.366*	0.302	-0.264	0.282**	0.079	-0.104	0.534*	0.263	0.513
One household transition or more	0.009	0.739***	0.954***	1.886***	0.665***	0.906***	0.815***	0.686**	0.848***	0.926**
Female	-0.104	-0.003	-0.020	-0.072	-0.074	0.042	-0.134	0.066	-0.015	-0.041
Was in a couple last year	-0.046	0.251*	-0.138	-0.075	0.046	0.547***	0.698***	0.014	0.195	0.641
Medium-skilled	0.373**	1.375***	0.319	0.923*	0.456***	0.224**	0.299	0.352*	0.103	-0.889**
High-skilled	0.832***	1.846***	0.426*	1.352***	0.511***	0.628***	0.724***	0.697***	0.436***	-0.641*
25-34 years old	0.287	-0.242	-0.686*	-1.454**	0.113	0.254	-0.234	0.109	-1.272***	-1.152
35-44 years old	0.032	-0.681***	-1.061***	-0.991	0.006	0.263	-0.876***	-0.072	-0.942***	-0.963
45-54 years old	0.127	-0.358*	-0.459	-0.814	0.183	0.238	-0.530*	0.187	-0.539*	-0.401
Above 54 years old	0.449	-0.452**	-0.564	0.437	0.457***	0.438**	-0.373	0.765*	0.341	-0.158
One child or more	0.357**	0.468***	-0.172	0.601	0.009	-0.685***	0.065	0.124	1.014***	-0.176
Sample size	4 663	6 378	2 248	1 504	16 401	21 259	4 913	3 292	7 688	1 555

Table 3.A3.3. Probability to exit the top quintile *(Cont.)*

	Poland	Portugal	Slovak Republic	Slovenia	Spain	Sweden	Switzerland	Turkey	United Kingdom
One labour market transition or more	0.456***	-0.400	0.249	0.244	0.328**	0.309	0.297**	0.185**	0.212
One household transition or more	1.100***	0.897***	0.526**	1.438***	0.623***	1.021***	0.660***	0.287***	0.629***
Female	-0.095	-0.122	-0.222**	-0.110	-0.062	0.046	0.056	-0.015	-0.278**
Was in a couple last year	0.109	0.278*	-0.012	0.002	0.069	0.543**	0.360***	0.014	0.441***
Medium-skilled	0.712***	0.668***	0.690***	0.493***	0.461***	-0.275	0.227*	0.530***	0.652***
High-skilled	1.253***	0.840***	1.028***	0.838***	0.555***	-0.120	0.482***	0.273***	0.751***
25-34 years old	-0.080	0.443	-0.119	-0.093	0.259	-0.274	-0.638***	0.127	0.432
35-44 years old	-0.125	-0.045	-0.252	-0.461**	0.156	-0.562	-0.810***	0.133	-0.157
45-54 years old	0.200	0.276	-0.173	-0.032	0.277	-0.298	-0.654***	0.274**	0.250
Above 54 years old	0.254	0.365	-0.023	-0.175	0.720***	0.193	-0.580***	0.335***	0.398
One child or more	-0.030	0.074	0.250**	0.083	0.322***	0.398*	-0.797***	-0.343***	-0.084
Sample size	14 069	6 446	7 304	9 492	11 238	2 831	11 885	31 396	4 644

Note: ***, **, *: statistically significant at 1%, 5% and 10% levels, respectively.

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

Table 3.A3.4. Probability to enter the top quintile

Logistic regression based on labour market change, household changes and other control variables

	Australia	Austria	Belgium	Chile	Czech Republic	Denmark	Estonia	Finland	France	Germany
One labour market transition or more	0.037	-0.042	-0.159	-0.076	0.642***	-0.197	-0.024	0.332	-0.144	-0.051
One household transition or more	-0.227***	-0.362	-0.346	-0.199***	0.13	0.352	-0.007	-0.036	0.123	-0.249*
Female	-0.151***	-0.026	-0.144	-0.0755**	-0.085	-0.041	-0.228***	-0.160***	-0.0927**	-0.046
Was in a couple last year	0.155***	0.438***	0.304**	0.023	0.159	0.061	0.238*	0.126	0.128*	-0.107*
Medium-skilled	0.530***	0.648***	1.045***	0.816***	0.857***	0.575***	0.831***	0.13	0.531***	0.781***
High-skilled	1.172***	1.298***	1.783***	1.775***	1.784***	1.017***	1.395***	0.905***	1.400***	1.660***
25-34 years old	-0.033	-0.576***	-0.376*	0.166***	-0.086	-0.666**	-0.050	0.145	-0.805***	-0.129
35-44 years old	-0.097	-0.343*	-0.077	-0.022	-0.211	-0.282	-0.277*	0.535***	-0.470***	0.051
45-54 years old	0.138**	0.021	0.098	0.343***	-0.116	0.199	-0.334**	0.914***	-0.009	0.408***
Above 54 years old	-0.141**	-0.023	-0.341*	0.405***	-0.317**	-0.018	-0.794***	0.516***	0.067	0.021
One child or more	-0.745***	-0.552***	-0.486***	-0.344***	-0.937***	-0.388***	-0.370***	-0.477***	-0.426***	-0.554***
Sample size	45 019	5 903	5 892	39 079	8 812	5 323	7 277	12 183	28 262	32 264
	Greece	**Hungary**	**Iceland**	**Ireland**	**Italy**	**Korea**	**Latvia**	**Luxembourg**	**Netherlands**	**Norway**
One labour market transition or more	0.595***	0.328**	0.460*	-0.625	0.252**	-0.058	0.101	-0.155	0.289	-0.922*
One household transition or more	0.309	0.113	-0.147	-0.794	-0.055	-0.106	-0.205	0.327	0.160	-0.392
Female	-0.157*	-0.120	-0.094	-0.087	-0.0877**	0.0890**	-0.283***	0.087	-0.092	-0.069
Was in a couple last year	0.107	0.146	-0.003	0.428	0.161**	-0.025	0.342**	0.057	0.278**	0.671***
Medium-skilled	0.712***	1.557***	0.287*	0.779**	0.727***	0.501***	0.452**	0.750***	0.477***	0.613**
High-skilled	1.426***	2.323***	0.662***	1.815***	1.222***	1.183***	1.372***	1.609***	1.186***	0.813***
25-34 years old	0.100	-0.072	-1.454***	-0.566	-0.237**	0.388***	-0.012	-0.305	-0.563***	-0.204
35-44 years old	0.018	-0.238*	-0.985***	-0.026	-0.183**	0.462***	-0.351*	-0.103	-0.106	-0.445
45-54 years old	0.314	-0.071	-0.333	0.040	0.138	0.655***	-0.632***	-0.034	0.006	-0.101
Above 54 years old	0.411**	-0.344**	-0.455**	0.018	0.299***	0.744***	-0.544***	0.090	-0.088	-0.443
One child or more	-0.260**	-0.176*	-0.179	-0.879***	-0.550***	-0.524***	-0.501***	-0.723***	-0.657***	-0.140
Sample size	6 192	8 506	2 999	2 003	22 141	28 453	6 584	4 397	10 248	1 555

Table 3.A3.4. Probability to enter the top quintile *(Cont.)*

	Poland	Portugal	Slovak Republic	Slovenia	Spain	Sweden	Switzerland	Turkey	United Kingdom
One labour market transition or more	0.280*	0.062	0.674***	0.185	-0.119	-1.004*	0.338***	0.214**	0.248
One household transition or more	-0.115	0.196	0.460*	0.047	0.610***	0.911***	0.209*	0.169**	0.611***
Female	-0.180***	-0.191**	-0.173***	-0.201***	-0.058	-0.179	-0.031	0.0678**	-0.310***
Was in a couple last year	0.217**	-0.073	0.099	-0.246**	-0.147	-0.007	-0.064	-0.112*	0.226*
Medium-skilled	0.789***	1.105***	0.662***	0.772***	0.805***	-0.038	0.240**	0.912***	0.774***
High-skilled	1.777***	1.815***	1.021***	1.834***	1.434***	0.679***	0.848***	1.514***	1.157***
25-34 years old	-0.163	0.061	0.008	-0.333***	-0.165	-0.166	-0.478***	0.202***	0.152
35-44 years old	-0.124	0.225	-0.429***	-0.441***	-0.142	0.340	-0.362***	0.278***	0.055
45-54 years old	0.071	0.573***	-0.222**	-0.031	0.148	0.792***	-0.209**	0.497***	0.261
Above 54 years old	-0.179	0.563***	-0.491***	-0.470***	0.379***	0.866***	-0.374***	0.355***	0.072
One child or more	-0.277***	-0.582***	-0.695***	-0.407***	-0.482***	-0.471***	-1.084***	-0.673***	-0.558***
Sample size	18 788	8 614	9 744	12 673	15 098	3 775	15 874	42 137	6 190

Note: ***, **, *: statistically significant at 1%, 5% and 10% levels, respectively.

Source: OECD calculations based on EU-SILC (2011-14), CNEF (2008-13), CASEN for Chile (2006-09) and SILC for Turkey (2011-14).

Annex 3.A4. Decomposition of income changes by income components and household size effect

Income mobility is defined at individual level. Labour market and family events have an impact either on components of household income (following, for example, changes in the participation of the household in the labour market) or on the equivalence scale that adjusts, household income to household size to correct for economies of scale (when the household size is changing, for example, in case of a divorce or the birth of a child). The change in household disposable income is therefore decomposed into a change in income components and a household size effect.

The main income variable is the equivalised disposable income Yt, defined as the ratio between the household income It and the equivalence scale (square root of the household size Nt). The household income is defined as the sum of market incomes (individual earnings of working individuals and capital incomes) and the sum of taxes and transfers (including inter-household transfers):

$$It = MKt + Tt = INDt + OTHER\_INDt + Tt \quad (1)$$

Where Yt=It/Square-root (Nt).

The individual income growth rate is defined as:

$$\Delta It / It = \Delta MKTt/MKTt + \Delta Tt/t = \Delta INDt/INDt + \Delta OTHER\_INDt/ OTHER\_INDt + \Delta Tt/Tt \quad (2)$$

Changes in disposable income can then be decomposed following Accardo (2015) and Alves and Martins (2014) as:

$$\Delta Yt / Yt = \Delta It/Yt - \Delta Nt/Nt \quad (3)$$

The top and bottom centiles of income changes are truncated to avoid outliers.

The OECD average for income components in the total income change are computed as the average of each component across OECD countries.

Chapter 4. From one generation to the next: Mobility of socio-economic status

This chapter looks at intergenerational mobility in occupational status and earnings. It first investigates the extent to which occupational status is correlated across generations and provides evidence on its evolution over time. It then presents estimates of earnings mobility between fathers and sons for a broad range of OECD countries and emerging economies, as well as some results on the intergenerational mobility of daughters. The chapter decomposes earnings persistence into an educational and an occupational component. It also looks beyond individual earnings by exploring intergenerational social mobility in terms of household income. Finally, it discusses the transmission of earnings and wealth at different points of the distribution.

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.

Introduction

Concerns about the extent of equality of opportunity have triggered research on the extent to which an individual's economic outcome is independent of his or her family's socio-economic standing. A higher association of socio-economic status – that is, social class, occupational status, individual earnings or family income – means less mobility. Measuring mobility by the statistical association of income or earnings across generations is a rather recent literature, with most empirical work occurring since the 1990s as new longitudinal data has become available (see Chapter 2). More established is the measurement of mobility by the links between social classes, most often captured by the occupational status of fathers and sons.

This chapter discusses intergenerational mobility in terms of social class based on occupational status and in terms of earnings. Whether individuals obtain their social status through their own achievements or whether it is more likely to be inherited is a question that has generated a great deal of empirical research in sociology. The analysis of class mobility has many advantages in terms of data requirements, although international comparisons remain challenging because detailed occupations are coded differently across countries and over time. At the same time, data restrictions are much less stringent than for earnings or income since retrospective information on the father's occupation is more widely available. Occupations can provide an indication of the position an individual occupies in the economic system of production and classify individuals into social classes.[1]

Looking at social class, the sociological literature has often portrayed the United States through the lens of so-called "American exceptionalism", whereby it was believed that in the US it is easier for children to choose occupations and careers different from those of their parents and that the class structure is less rigid than in other countries. This stands in contradiction with later findings in terms of earnings correlations, which highlighted the relative absence of mobility for the US compared, for instance, with Nordic countries (a similar finding to that found for intragenerational mobility in Chapter 2). Similarly, a debate emerged in the UK between findings from the sociological literature that emphasised the stability of intergenerational mobility and results in terms of intergenerational earnings that hinted at a declining trend (Blanden, 2013). While interrelated – the prestige of occupations is partly expressed in terms of earnings – social class and earnings mobility hence do not need to lead to the same county-specific results and conclusions. Both need to be analysed in detail.

The following main findings emerge from the analyses below:

- There is nothing inevitable about socio-economic advantage or disadvantage being passed from one generation to another. Earnings and social class mobility is high in Nordic countries, and the reverse is true in some central European countries. The cross-country variation shows that policies can make a difference in the degree of mobility.
- With two-thirds of individuals having a different social class than their parents on average across OECD countries, total absolute social class mobility based on occupation is high. Upward class mobility is more common than downward mobility on average.

- In the southern and some central European countries, upward mobility is low while downward mobility is above average. By contrast, downward mobility is low and upward mobility high in most other European countries, the US and Korea. The Nordic countries have above average levels of both upward and downward social class mobility.
- Despite the rise in inequality over the past decades, there is no particular evidence of a generalised decline in mobility over time. If anything, absolute social class mobility tended to decline over time in half of the countries studied and did not change much in the other half. There are no clear cross-country trends in earnings mobility depicted by the analyses as well as national studies, with a set of OECD countries becoming more mobile over time while others remain with the same levels or declining mobility over time.
- Those at the top of the distribution are effective in ensuring that advantage is passed on to their children. Children end up in similar occupations to their parents. Close to 50% of children whose parents are in the managerial class become managers themselves. There is also a sticky ceiling at the top of the earnings distribution with 40% or more of the sons of rich fathers remaining in the top quartile. The risk of sliding down from the top earnings quartile is particularly low in the US and Germany, as well as in in Luxembourg, Hungary and the UK.
- There is also a high transmission of wealth from parents at the top of the distribution to help their children stay at the top. The share of wealth which is inherited increases greatly across the wealth distribution, especially in in Belgium, France, Luxembourg and Spain. The value of inheritances and gifts received by households in the top quintile amounts, on average, to 72% of the mean net wealth across all households, while for those in the bottom quintile it represents less than 1.5%.
- There is less of a sticky floor than there are sticky ceilings, with 72% of people moving up the earnings ladder if their father was in the bottom quartile. In some countries -- the US, Germany and Luxembourg -- children of poor parents have more chances to remain stuck at the bottom of the distribution with 40% of the children remaining in the lowest quartile.
- Also in the middle, earnings prospects are partly determined by the parents' position in the earnings distribution. Sons with a father in the lower middle class are more likely to fall down to the bottom 25% than to reach the top 25%, particularly in Hungary and Germany.
- Overall, in absolute terms social class mobility is lower for women than for men, meaning that parents influence their daughters' social positions more than their sons'. At the same time, in relative terms, for earnings and, in particular for family incomes, intergenerational mobility for daughters tends to be more similar to that for sons.

The first section of this chapter presents estimates of absolute and relative intergenerational mobility of occupation. Absolute mobility captures the extent to which children's social class is different from that of their parents, while relative rates of mobility describe the chances of individuals to be in a certain class or income category, given their parents' classes or income of origin. This section also examines changes in

relative occupational mobility over time. The second section presents new and updated estimates for earnings mobility, captured by earnings elasticities between fathers and sons[2] for a series of countries published previously (OECD, 2010), and for additional countries where no information on intergenerational earnings mobility had previously been available. Most past and recent analyses relate to earnings of sons and fathers, as women have more career breaks, which makes estimating lifetime earnings more difficult. One novel contribution of the third section is the analysis and estimation of earnings elasticities also for daughters and so not just restricted to fathers and sons. This section also explores intergenerational persistence in terms of household income beyond individual earnings. Finally, this section discusses the transmission of high and low earnings and of wealth inheritance.

4.1. The link between parents' and children's social class

This section investigates the extent to which social class is correlated across generations and its evolution over time. Using social class to examine mobility is important, because where an individual fits into society is largely determined by what that person does for a living and, in turn, this is influenced by what your parents did for a living. Class positions are largely determined by how employment relations affect important aspects of individuals' lives in terms of income security and chances of economic advancement but also in their degree of autonomy and control over their work.[3]

4.1.1. Defining social class mobility based on occupation

There are several ways to investigate social class mobility in terms of occupations. The first possibility is to use a continuous measure to rank classes on a scale from 0 to 100 based on the prestige of the job. The second approach is to group occupations into large classes, such as professionals and the self-employed, and compare their class to the parents' class. These are categorical class schemas intended to measure relational issues. The third approach is a continuous measure, not based on occupational prestige or the relationship between education, income and occupation, but rather on patterns of social interaction. The three approaches are discussed in more detail in Box 4.1.

The empirical analysis here follows the work of the second strand, which has been widely replicated and can be more easily mapped for a wide range of countries based on occupation data. This approach was greatly influenced by Erikson, Goldthorpe and Portocarero (1979) and can be performed mapping social classes from the occupational classification (see Box 4.1). Findings from the original work of Erikson and Goldthorpe (1992) revealed a significant association between the class of origin (parental social class) and the class of destination (i.e. offspring's class) in all countries. However, significant differences across countries were shown in the rate of *absolute* social mobility (i.e. the share of offspring with an occupational level different from that of their parents), with higher intergenerational mobility in Sweden and Norway, and lower mobility in Germany, Italy and France (Breen and Luijkx, 2004; Bjorklund and Jäntti, 2000; Blanden, 2013). Class inheritance effects are stronger for employees, small employers, self-employed and farmers (Erikson and Goldthorpe, 2002; D'Addio, 2007). Further, educational attainment is a crucial "mediating" factor for occupational mobility. At the same time, there were lots of similarities across countries in the degree of *relative* mobility or immobility (i.e. looking at movements across occupational groups depending on parental education), measured by a similar degree of association between parents' and children's social class.

Box 4.1. Different approaches to classifying social class

The first type of social class scheme focuses upon the relationship between status or prestige attainment of two generations, in general fathers and sons, and constructs a continuous measure, an index of occupational prestige. Occupation is used as the basis to define status, and alternative scales that attach status levels to occupations have been suggested in this literature. Two main scales exist: the Standard International Occupational Prestige Scale (SIOPS) and the Socio-economic Index (SEI). The SIOPS was based on matching occupational titles from national and local prestige studies conducted in 60 countries to occupational classification (Treiman, 1977). Treiman's SIOPS showed that variation in the prestige allocated to occupations was minimal across societies and time. For the SEI (Duncan, 1961) the construction of prestige scales is based on the weighted average of the mean level of earnings and education of detailed occupations. This was later modified for an international analysis by Ganzeboom in the ISEI (Ganzeboom et al., 1992). It is, however, not possible to formulate a robust picture of differences across countries from these data, as the conclusions are highly dependent on the cohort and level of experience for which the correlation across generations is calculated (Blanden, 2013). Besides occupational titles, additional information on either the degree of occupational prestige or education and income levels is necessary to derive the weighted sum of the socio-economic characteristics in order to construct the index.

The second strand of research defines socio-economic status by social class. A person's occupational class position implies a definite set of social relations, such as control or subordination, with others in different class locations. Social classes are discrete, and the analysis relies on mobility tables looking at the shares of individuals' social class based on their parents and the proportion that is either immobile or follows upward or downward mobility. One of the most widely used class classifications was devised by Erikson, Goldthorpe and Portocarero – hence the EGP classification (1979, 1987, 1992) – and is based on employment relations, and this has been undertaken for several European countries, Australia, the US and Japan. Employment relations in the labour market are used to allocate individuals into social class categories. The EGP schemes identified 11 classes, which can be aggregated into seven, five and three class versions. Later variations of the EGP scheme have been undertaken by Rose and Harrison (2010) in the European Socio-Economic Classification (ESEC) and by Ganzeboom and Treiman (2010) in the International Socio-Economic Classification (ISEC). The ESEC comprises a nine-class categorical measure, with reduced versions of five or three classes. The advantage of this approach is to understand which occupations are linked across generations, but the disadvantage is that it cannot be easily summarised, contrary to the first one, which results in an index.

The third strand of research is the so-called CAMSIS (Cambridge Social Interaction and Stratification) scales of social distance which estimate distances between social relationships, such as who befriends whom and who marries whom. The main idea is that persons sharing a similar social position, in terms of social class or status group membership, are more likely to interact socially on the basis of equality with members of the same group than with members of other groups, and a scale of social interaction distance is created to map a hierarchy of social groups based on the social interaction distance. The scale estimates the relative position of occupations by looking at interaction patterns between persons with different occupations (Prandy and Lambert, 2003). The scale shows that scores for professional and managerial occupations (particularly those requiring high levels of education or training) are placed toward the top of the scale, and labouring and lower-skilled occupations are placed toward the bottom (Bergman et al., 2002). An international version (ICAMS) was developed by De Luca et al. (2010), and the authors suggest that the ranking yields similar results to the ISEI. Chan and Goldthorpe (2004) also constructed a scale extracting social status from the importance of social interactions attached to occupations.

The economic literature on the intergenerational transmission of occupation is more recent and scarce than sociologic literature. It generally also reports a significant correlation between parental and children's occupation (Carmichael, 2000; Ermish and Francesconi, 2002; Di Pietro and Urwin, 2003). Long and Ferrie (2013) find that the United States exhibited a more fluid occupational structure than Great Britain. Checchi and Dardadoni (2002) 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. Most of the literature focuses on male occupations, but a few studies also document the impact of fathers on daughter's occupations (Hellerstein and Morrill, 2011).

The analysis below is based on pooled data of the European Social Survey (ESS), which is a bi-annual cross-national representative survey for European countries. For Australia, Korea and the US, panel surveys are used, but the analysis is based on the comparison of the average differences across time between parents and children, relying on the highest level of occupation attained.

Box 4.2. How to analyse mobility using social class categories

To analyse absolute occupational mobility, tables with the frequencies in each combination of parent's and respondent's class (usually called origin and destination classes) are used (Sobel, Hout, and Duncan, 1985). The analysis in this section follows the construction of discrete social classes as suggested by EGP and is based on the work of Ganzeboom and Treiman (1996), which suggests a consistent methodology to recode ISCO 88 codes at various digit levels (4, 3 and 2-digit levels) into nine categories based on the ESEC. In addition to the ISCO codes, employment relations (self-employment and supervision status) are used. The advantage of the ESec is that it is a classification that is harmonised across countries and is specifically designed for international research, but it is limited in the degree of detail of categories and in the correspondence with the national classification. Cross-national comparisons are still problematic due to variations in occupational classification schemes and they are subject to measurement errors.

The categories include: 1 "Higher Managerial and Professional Workers"; 2 "Lower Managerial and Professional Workers"; 3 "Routine Clerical Work"; 4 "Routine Service and Sales Work"; 5 "Small Self-Employed with Employees"; 6 "Small Self-Employed without Employees"; 7 "Manual Supervisors"; 8 "Skilled Manual Workers"; 9 "Semi- and Unskilled Manual Workers" (and "Agricultural Labour"). In addition, for the most recent data, the new ISCO 2008 has been mapped into the former ISCO-88, using a correspondence table. Information about whether individuals are employed or self-employed and whether they have employees is also used to allocate respondents to some classes. Respondents' class is measured between ages 25 and 64. If both parents are employed, the highest-ranked social class category among the two is used. ISCO categories are provided at 4-digit levels for the children in the ESS (European countries), while it is at the 3-digit level for Korea and at the 2-digit level for Australia. Information from the US is first recoded from the US occupational category into ISCO based on Meyer and Osborne (2005). Analyses for Canada are based on the Standard Official Classification (SOC 1991) – eight categories.

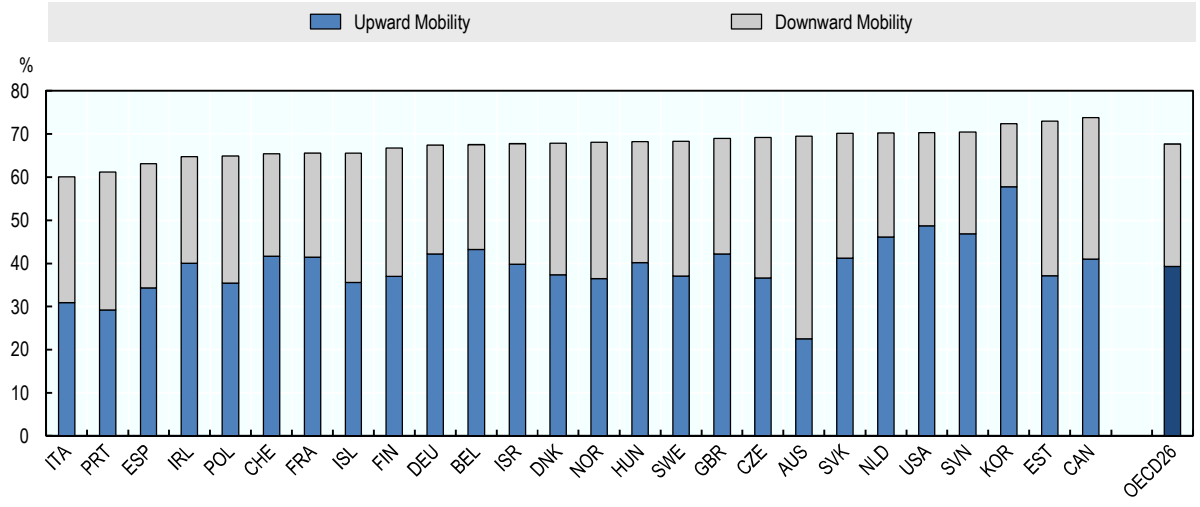
The nine categories are combined into seven categories to avoid having cells with too small sample size to generate mobility tables (7X7) that look at children's social class for each of the parent's social class. Absolute mobility is the percentage of individuals found in the cells of the mobility table that are not in the main diagonal and have a different class than their parents. Upward mobility is calculated using a hierarchical notion of the social class, with class 7 being the lowest class and class 1 the highest class, and thus classes 6 and 7 representing the lower classes and classes 1 and 2 representing the upper classes. Total mobility includes the share of individuals experiencing both upward and downward mobility. Mobility within the classes 3, 4 and 5 is not necessarily considered as ordered between more or less advantaged and is not included in total mobility, and is often labelled horizontal. For the presentation of relative mobility and for the cohort comparisons, an analysis with three classes is also used.

4.1.2. Absolute social class mobility is high but declining

Absolute rates of intergenerational class mobility for parents and children are high, with two-thirds of children being in a different social class than their parents across the OECD ranging from 60-63% in the southern European countries to 72-74% in Korean, Estonia and Canada (Figure 4.1). These results confirm previous studies which estimated total mobility rates for men in a similar range of close to 70-80% for European countries using a similar methodology (Bukodi et al., 2015; 2017).

Figure 4.1. Absolute social class mobility, 2010s

Percentage of 25-64 years old whose social class is higher or lower than that of their parents, 2002-14



Note: Social class is based on the nine European Socio-Economic Classification (ESEC) categories constructed based on occupation.

Source: OECD calculations based on the ESS all seven waves for European countries (2002-2014), PSID for the United States (1999-2013), CNEF for Australia and Korea (2000-14) and the GSS cycle 15 for Canada.

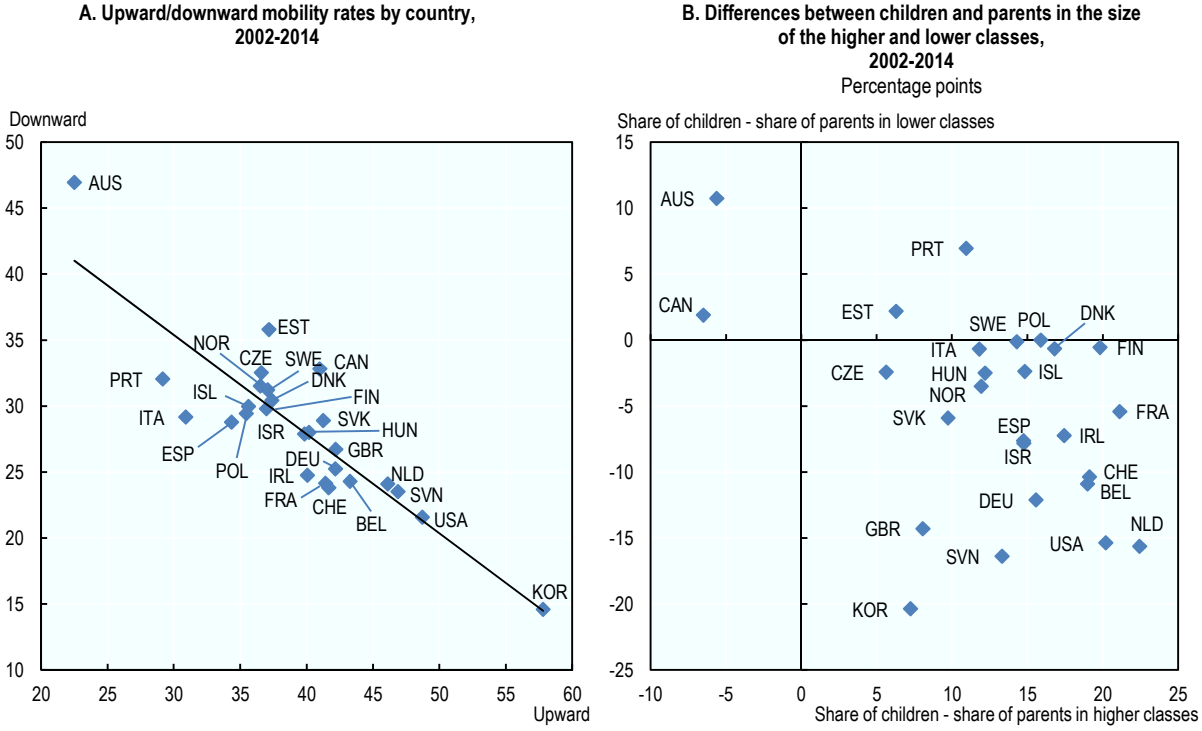
StatLink http://dx.doi.org/10.1787/888933754120

With the exception of Australia, upward class mobility is more common than downward class mobility, in particular in the United States and Korea where almost 50% and 60% of children are in a higher occupational class than their parents, respectively. Downward mobility ranges from 15% in Korea and 22% in the United States to 36% in Estonia and 47% in Australia. The extent of downward mobility is significantly larger than what was reported in previous studies for earlier years (Erikson and Goldthorpe, 1992; Breen, 2004) but similar to what has been found for the past decade (Bukodi et al., 2017), indicating that downward mobility may have increased.

Overall, countries with higher occupational upward mobility tend to have lower downward mobility. (Figure 4.2, Panel A). In Australia and southern European countries, upward mobility is low. Nordic countries and Canada combine average level of upward with above-average levels of downward mobility. At the other extreme, another group of countries have low rates of downward mobility and high rates of upward mobility, including the Netherlands, Belgium, Slovenia, the United States and Korea.

In countries with high upward and low downward mobility, there has been a continuous and marked expansion of the upper classes, while there has been shrinkage of the lower working classes and more moderate change for the middle classes, resulting in a high likelihood of upward mobility (Figure 4.2, Panel B). In countries with a medium level of both types of mobility, the expansion of the managerial classes occurred earlier, and there was less growth for their children, while there was little change in the lower classes and shrinkage of the middle classes, which increases the chances of downward mobility. In Australia and, to a lesser extent, Canada, the upper classes have declined while the lower classes have expanded between the two generations.

Figure 4.2. Understanding cross-country variation in absolute class mobility



Note: Social class is based on the nine European Socio-Economic Classification (ESEC) categories constructed based on occupation.

Source: OECD calculations based on the ESS all seven waves for European countries (2002-14), PSID for the United States (1999-2013), CNEF for Australia and Korea (2000-14) and the GSS cycle 15 for Canada.

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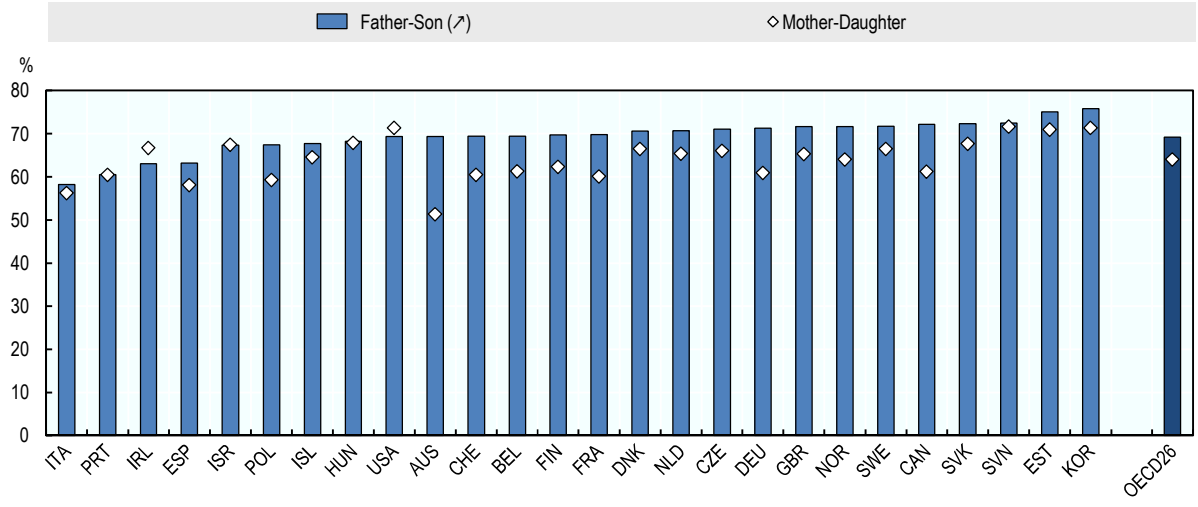
Traditionally, most measures of occupational mobility are based on labour-market participation and have excluded women. Exceptions included when there was no household male head or if women were in a higher social class, in which case the dominance approach was used where the highest social class irrespective of gender is used for the parents. Several studies of class mobility examine men and women, but few directly compare across gender. One exception is Erikson and Goldthorpe (1992), who find a slightly weaker intergenerational association among women across European countries and. Studies of class mobility in the United States suggest no gender differences or a weaker association among men (Hout, 1988; Beller, 2009). Gender variation in mobility would emerge if parents invested differently in the education of their sons compared to their daughters and if such gender difference varied by socio-economic status.

According to our findings, absolute class mobility tends to be higher when comparing fathers and sons (70%) than mothers and daughters (64%) (Figure 4.3). In particular, higher absolute mobility for sons is noticeable in Australia, Canada, most Nordic countries, and many central European countries as well as in France, Germany and the United Kingdom. In other countries mobility does not differ significantly by gender, and

only in Ireland is it slightly higher for daughters. Gender differences in total mobility are driven by lower downward mobility for women in the case of Australia and Estonia, by lower upward mobility for women in the Netherlands, Norway, Belgium and France, and by both lower upward and downward mobility for women in other countries (see Figure 4.A1.1).

Figure 4.3. Absolute class mobility by gender, 2010s

Percentage of 25-64 years old whose social class is higher or lower than their parents, 2002-14



Note: Social class is based on the nine European Socio-Economic Classification (ESEC) categories constructed based on occupation.

Source: OECD calculations based on the ESS all seven waves for European countries (2002-14), PSID for the United States (1999-2013), CNEF for Australia and Korea (2000-14) and the GSS cycle 15 for Canada.

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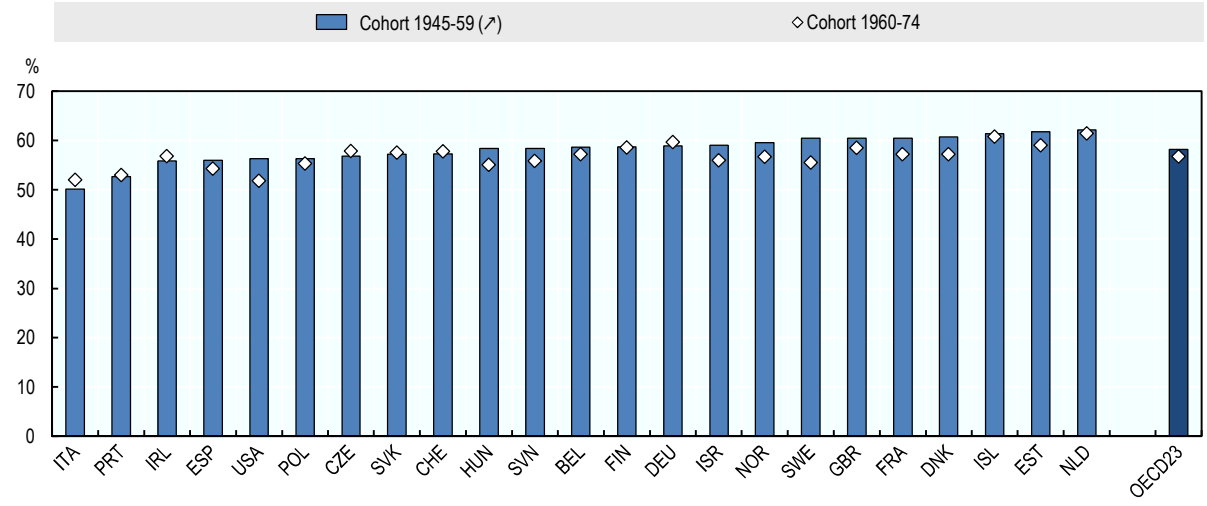
With a few exceptions, absolute class mobility for cohorts born after the middle of the 20th century has not gone up. Trends reveal a broad stability across time in about half of the countries, and a decrease of mobility for the more recent cohort in the other half (Figure 4.4). Countries where absolute mobility has declined by 3 points or more include most Nordic countries (Denmark, Norway, Sweden), Hungary, Israel, France and the US. In some of those countries, such as the Norway and Sweden, this is driven by a combination of a stronger decline in upward mobility and a smaller increase in downward mobility. In other countries (Hungary, US), it is driven by a decline in downward mobility, while in a third group, both upward and downward mobility were lower for the 1960-74 cohort compared with the 1945-59 cohort.

Different cross-country patterns and trends of absolute mobility also depend on the transformation of the class structure over time, or 'structural mobility' (Hout, 1988). Goldthorpe (2013) documented that absolute class mobility steadily increased during the twentieth century, primarily as a consequence of the expansion of the professional and managerial professions and the decline of agricultural work. This transformation has led to a significant upgrade in national class structures, creating "room at the top" – in the professional and non-manual classes – and reducing positions in agriculture. This has

induced a large amount of upward class mobility, but such changes have not occurred at the same pace or time in different countries. At the same time, Goldthorpe's more recent analysis for the United Kingdom (2016) showed what emerges in Figure 4.4 for several countries, that is, that younger generations now face less favourable prospects of upward mobility than did their parents. More individuals are now starting out in life from more advantaged class positions, thus, the numbers of those who could face downward mobility are rising, and those who could benefit from upward mobility are falling.

Figure 4.4. Trends of absolute class mobility

Percentage of 25-64 years old whose social class is higher or lower than their parents, 2002-14



Note: Social class is based on the nine European Socio-Economic Classification (ESEC) categories constructed based on occupation.

Source: OECD calculations based on the ESS all seven waves for European countries (2002-14), PSID for the United States (1999-2013), CNEF for Australia and Korea (2000-14).

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4.1.3. Relative social class mobility shows high persistence at the top and diverging trends over time

Relative social mobility can be described as the probability that the offspring of members of a particular social class remain in that same social class, indicating how open a society is. One way to assess relative class mobility is to look at the share of individuals in the lower and higher social classes whose parents were in the same classes. The analysis below is shown for social classes based on occupation, aggregated into three broad categories for presentation purposes: manual workers, routine workers and managers.

The risks of downward mobility for individuals whose parents were in higher class occupations are limited, indicating sticky ceilings. Close to 50% of children whose parents are in a managerial class become managers themselves (Figure 4.5, Panel A); this share is close to 70% in the US. Very few children of managerial parents end up doing manual work: this percentage ranges from 7% in Canada to a maximum of 24% in Estonia where downward mobility from the upper classes is higher.

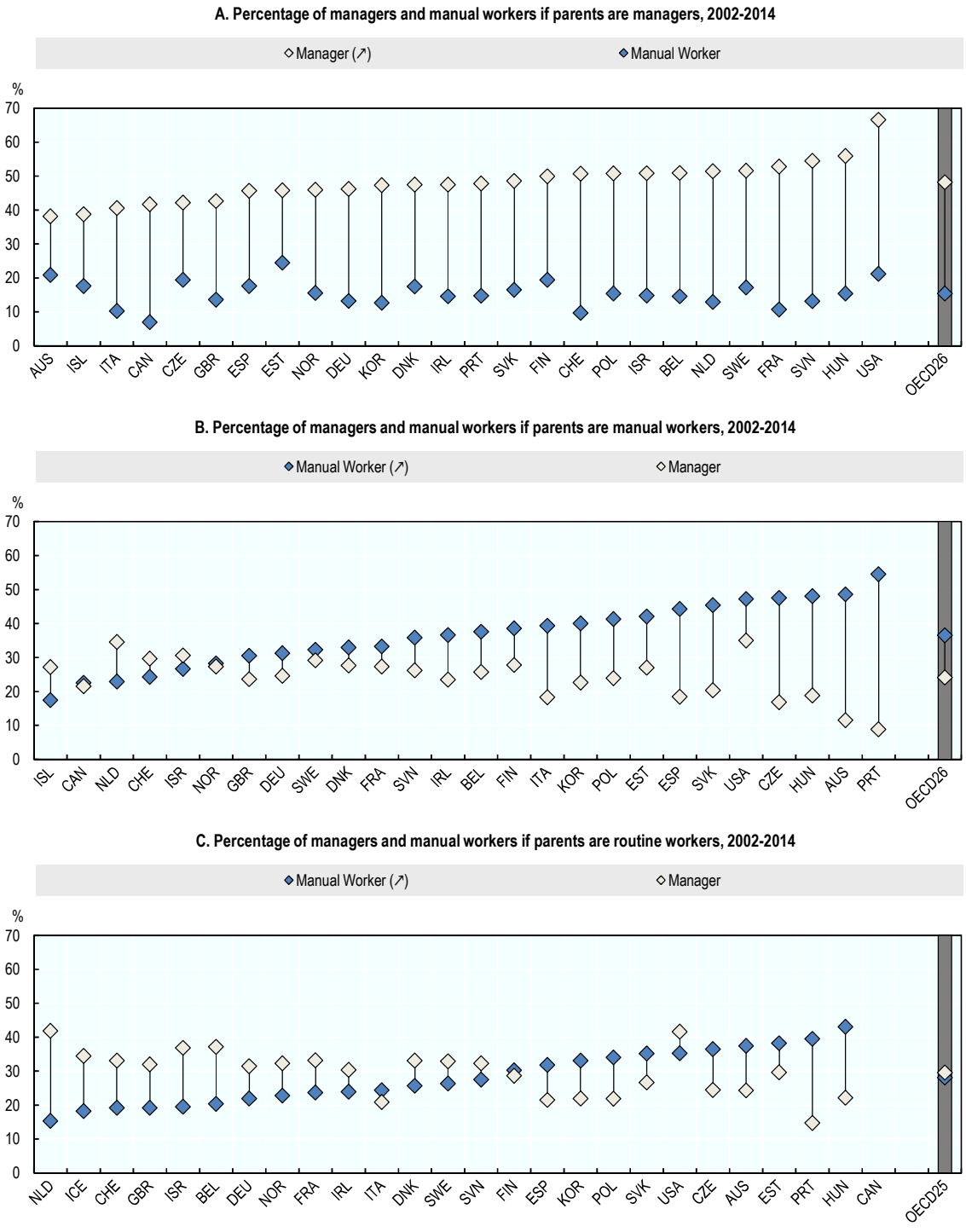
Upward mobility for those born from parents who had manual occupations is high but varies widely: 24% attain a managerial occupation, and this share reaches one third in the Netherlands and the United States (Figure 4.5, Panel B). At the same time, persistence in lower manual occupations – sticky floors – is still higher: it concerns 36% of individuals whose parents were in manual occupations. With close to 50% or more, sticky floors are highest in the US, the Czech and Slovak Republics, Hungary, Australia and especially Portugal. In only a handful of countries, there are more children of manual workers who become managers than those remaining in a manual occupation (Iceland, Netherlands, Switzerland and Israel).

The picture is more mixed for children born from parents who had a routine occupation, with similar levels of upward and downward occupational mobility of about 30% on average (Figure 4.5, Panel C). Still, while a higher share of these children work in a manual occupation in most of Eastern and Southern European countries, Australia and Korea, more of them reach a managerial position in Western Europe, Northern Europe, Israel and the US.

What can explain such sticky floors and sticky ceilings and the degree of cross-country variation? Some types of occupations are transmitted more often than others in that they require job-specific human capital that can be easily and cheaply transmitted from fathers to children. Entrepreneurs and the self-employed but also the liberal professions, where the transmission of skills and knowledge that help to lower the entry barrier to the profession are important, could be among such professions. Hence, there should be more intergenerational association in countries where there are more self-employed (see Laband and Lentz, 1983; Dunn and Holtz-Eakin, 2000; Sørensen, 2007; and Lindquist et al., 2015). This could help explain why persistence in managerial classes is, for instance, higher in Poland, Portugal, Ireland and the Netherlands. At the same time, there is no such association in other countries, suggesting that other factors play a role to explain differences in persistence too.

In particular, differences in social class persistence may also be linked with various other labour market characteristics such as the sectoral composition of higher classes. For instance, there might be some difficulties in entering more prestigious occupations in some professional areas, such as law, medicine, engineering and journalism, which may recruit directly from privileged class backgrounds. Some studies have documented the intergenerational transmission of high skilled jobs, as for example chief executive officers, liberal professionals and doctors (see Lentz and Laband, 1989; Perez-Gonzalez, 2006; Bennedsen et al., 2007; Pelizzari and Pica, 2011; Pelizzari et al., 2011; Aina and Nicoletti, 2014). On the other hand, technical or emerging high-status occupations, particularly those related to IT, appear to recruit more widely. Furthermore, intergenerational class persistence may be related to the existence of entry barriers that limit access to certain professions, such as occupational licensing. Finally, another channel through which persistence in occupations works are family ties, for many jobs are filled through social referral (Mocetti, 2007).

Figure 4.5. Sticky floors and sticky ceilings in occupation



Note: Social class is based on the nine European Socio-Economic Classification (ESEC) categories constructed based on occupation. Canada is excluded from Panel C for comparability reasons regarding the definition of routine workers.

Source: OECD calculations based on the ESS all seven waves for European countries (2002-14), the PSID for the United States (1999-2013), CNEF for Australia and Korea (2000-14) and the GSS cycle 15 for Canada.

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To fully capture the extent of overall relative social class mobility and to be able to trace changes over time, we look at the probability of moving across *all* different social classes, using odds ratios (instead of the simplified picture with only three broad classes given above). Such relative rates indicate the net association – the inherent "stickiness" – that exists between the class positions of children and their parents when all effects of class structural change are discounted. If there were only two classes, for instance managers and manual workers, the odds ratio gives the chance that an individual whose parents were in the managerial class is found to be a manager rather than a manual worker relative to the chance of an individual originating in the manual class being found to be a manager rather than a manual worker. When the odds ratio is at unity, it reflects equality of opportunity, since this means that these chances are equal, and that there is no association between class origin and destination. But if the odds ratio is above 1, this shows a stronger association between the class of origin and of destination. To calculate odds ratios including more than two classes, a uniform difference (UNIDIFF) model is used (see Box 4.3).

Box 4.3. Models for relative social class mobility rates

Relative mobility is defined in terms of log-odds ratios, which for a 2x2 model is:

$$\log \frac{F_{11} x F_{22}}{F_{12} x F_{21}}$$

where F_{ij} is the frequency in cell (I,j) of the contingency table with the parents' class (origin) and children's class (destination).

To compare relative mobility for several classes across countries with a simple indicator, the uniform difference model (Unidiff) is used (Erikson and Goldthorpe, 1992):

$$\mathrm{Log}F_{ijk} = \mu + \lambda_i^{O} + \lambda_j^{D} + \lambda_k^{C} + \lambda_{ik}^{OC} + \lambda_{jk}^{DC} + \beta_k X_{ij}^{OD}$$

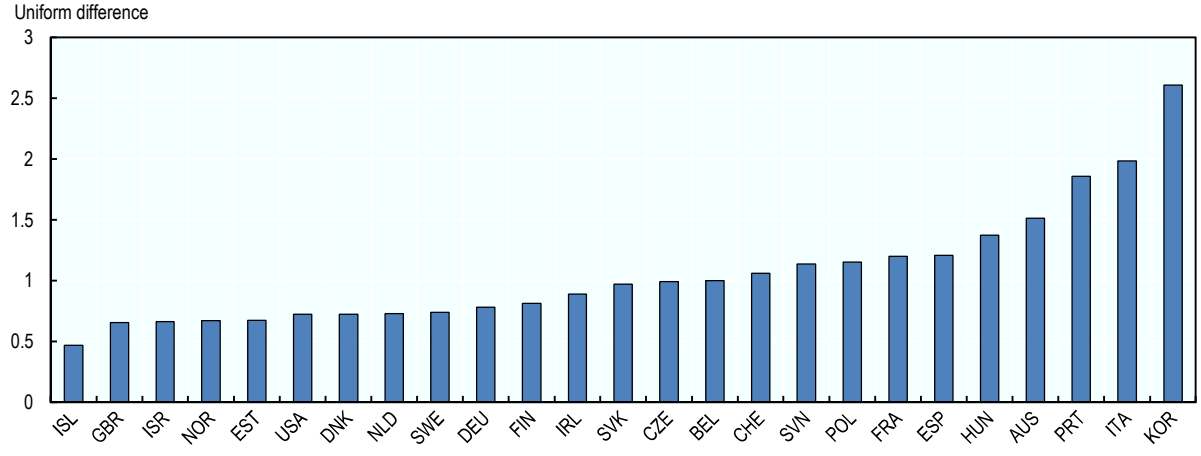
where F_{ijk} is the expected frequency in cell *ijk* of a three-way table comprising origin i (O), destination j (D) and country k (C). On the right-hand side of the equation, μ is a scale factor, and λ_i^{O} λ_j^{D} and λ_k^{C} represent the main effects of the distributions of individuals over origins, destinations and countries. The λ_{ik}^{OC} and λ_{ik}^{DC} terms refer to the associations between origin and country and destination and country. Finally, X_{ij}^{OD} represents the general pattern of the origin-destination association across countries and β_k the relative strength of this association that is specific to a country k. A country with a higher β_k therefore exhibits a stronger origin-destination association, or a lower social fluidity or mobility.

The hypothesis of the Unidiff model is that from cohort to cohort, the odds ratios underlying our mobility tables all change by some common multiplicative factor. If the factor is set at 1 for a particular cohort and then moves below 1 for the next cohort, this means that all odds ratios are decreasing – i.e. the association between class origins and destinations is weakening and social fluidity is rising. If it moves above 1, the reverse is the case. The same is used for comparing mobility or fluidity across countries with one country being set at 1: those below 1 will show lower association between parents and children while those above 1 will show more association.

Another possibility is to assume that the association between class origins and destinations is the same across countries, as in the common social fluidity model (CmSF). Following Bukodi et al. (2017), the Unidiff is preferred as the different approaches lead to largely similar conclusions and Unidiff produces somewhat more differentiated results.

Relative class persistence shows little variability across *most* but not all countries, since it is high for Korea, Australia, southern European countries and Hungary, and low in Iceland, Norway, the UK, Israel and Estonia. The values in Figure 4.6 represent the relative strength of the association between parents and children's for each pair of the 7 social classes, standardised to a value of 1 with respect to the country that has the average value (Belgium). In terms of country rankings, some of the findings are in line with what is reported by Blanden (2013), with Norway having high mobility while France, Poland and southern European countries having low mobility. Another recent cross-country study suggests similar findings (Bukodi et al., 2017).

Figure 4.6. Relative persistence in social class



Note: Social class is based on the nine European Socio-Economic Classification (ESEC) categories constructed based on occupation.

Source: OECD calculations based on the ESS all seven waves for European countries (2002-14), PSID for the United States (1999-2013), CNEF for Australia and Korea (2000-14).

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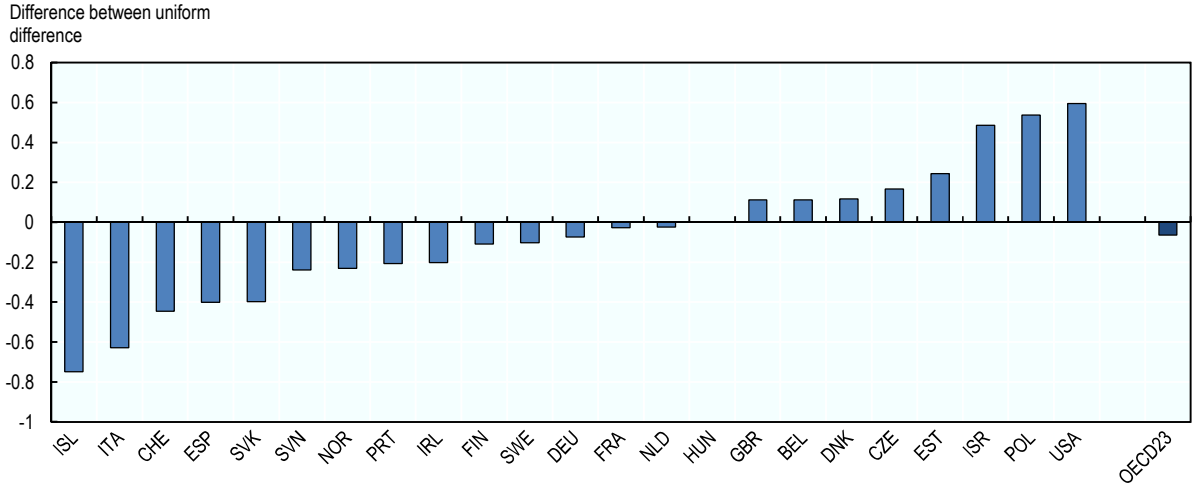
As for trends of relative social class mobility, previous work suggested conflicting findings. Erikson and Goldthorpe (1992) showed that relative social mobility has remained fairly stable up to the beginning of the 1970s in 12 countries despite significant expansions in the public education system. Other empirical studies have challenged this view and argued that social class mobility in industrialised nations increased between the 1970s and the year 2000, albeit slowly (Breen and Luijkx, 2004). Eurofound (2017) showed that social class mobility increased in some countries such as Belgium, Denmark, Finland, Greece, the Netherlands and Slovakia, while in others (Austria, Bulgaria, France and Sweden) it declined and in the remaining ones (Germany, Ireland, Poland and the United Kingdom) it remained stable when comparing cohorts born previous to 1945, between 1946-1964 and between 1965-1974.

Figure 4.7. Changes in relative social class persistence over time

Difference between the 1945-59 and 1960-74 cohort, 2002-14



Note: Social class is based on the nine European Socio-Economic Classification (ESEC) categories constructed based on occupation.

Source: OECD calculations based on the ESS all seven waves for European countries (2002-14), PSID for the United States (1999-2013), CNEF for Australia and Korea (2000-14).

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The analysis of OECD countries reveals that for most countries, relative social class mobility is similar between the 1945-1959 cohort and the 1960-1974 cohort. Figure 4.7 portrays the difference in the strength of association between parents and children for these two cohorts, with a positive difference indicating more persistence (less relative mobility), in the younger compared with the older cohort. In a few countries, Italy, Spain, Switzerland, Slovak Republic and Iceland, relative social class mobility has increased by more than 30%, while in Israel, Poland and the United States, it has declined substantially.

What could explain the diverging trends? Previous studies put forward that countries where relative social class mobility increased also experienced growth in average educational attainment and there was a narrowing of the gaps between people from different social class origins in their attainment. In turn, greater equality in education helped weaken the degree to which class destinations are linked to class origins. Furthermore, if class origins are less important in shaping destinations among highly educated people, then as more people come to acquire higher levels of education, the overall association between origins and destinations will decline (Breen, 2004). In countries where social mobility has declined, changes in education such as unequal access to quality education for some groups may also create barriers to relative mobility.

4.2. Levels, trends and drivers of earnings mobility for sons

This and the subsequent section looks at another measure of socioeconomic status: earnings. Several authors state that intergenerational earnings mobility and intergenerational class mobility are different aspects of a person's position in society and are not necessarily correlated (Bjorklund and Jäntti, 2000; Erikson and Goldthorpe,

2010). Indeed, people's earnings vary significantly even if they share the same social class based on their occupation. There is a large amount of earnings inequality within classes that is transmitted to the next generation (Bjorklund and Jäntti, 2000). For instance, parents may influence their children's outcomes, such as job referrals, nepotism and the transmission of employers, in ways that are not captured in social class but translate into earnings (e.g. Magruder 2010; Corak and Piraino, 2011). Finally, several authors suggest that measurement errors in both earnings and social class mean that measured rankings differ.

This section presents evidence on the strength of the association between fathers' and sons' earnings and the sources of such earnings transmission. Most of the research has focused on fathers' and sons' earnings because in the past married women's labour force participation rates were lower than men's and they had more career breaks, making estimates of lifetime earnings more difficult.

4.2.1. Like father, like son: assessing earnings mobility across generations

The most commonly used measure of intergenerational earnings mobility (or, more accurately, its opposite – *persistence)* is the elasticity of earnings across generations, which explains how closely related an offspring's economic status is to that of his or her parents. This measure can be interpreted as follows: If the elasticity is zero, that means that a child's adult earnings is not related at all to parental status and that there is highest relative earnings mobility, while if it is 100%, it will mean that all earnings are determined by the father's earnings and that mobility is lowest. Intergenerational persistence in earnings in OECD countries ranges from an elasticity of 12% to 76% (Figure 4.8).

However, measuring the degree of intergenerational earnings mobility in a society is not straightforward. Sources of estimation biases include measurement error in the recording of parental earnings and the sensitivity of estimates to the life cycle. It requires detailed data on parents' and children's earnings, ideally measured at several points in time to capture permanent earnings. Obtaining estimates of permanent earnings by averaging earnings over several years and measuring fathers' and sons' earnings at prime age to avoid life-cycle bias are proxies to capture the most accurate picture of persistence. International comparisons of intergenerational earnings mobility based on individual country studies should therefore be interpreted with caution, since mobility differences may reflect differences in measurement and the statistical approach (Jäntti et al., 2006). New and improved data and methodology, for instance, show much higher estimates for Australia, Canada and Korea than those previously reported, indicating that these countries are rather closer to middle-ranking countries in terms of mobility rather than being among the most mobile as formerly estimated (Mendolia and Siminski, 2016; Kim, 2013; Chen et al., 2017).

In addition, data limitations currently do not allow for a systematic cross-country analysis using the same methodology. Estimates presented here rely for many countries on a two-step approach, where earnings of parents are predicted based on parents' characteristics using another source of data (see Box 4.4). In addition, estimates for Germany and the United States use information on both fathers' and sons' longitudinal data. The analysis is supplemented by the most recent or reliable estimates from the literature for other OECD countries, some of them based on longitudinal data or administrative tax records and others on the two-sample, two-step method, which makes the comparability of estimates across countries challenging. Taken together, this means that results will not be perfectly comparable across countries and need to be interpreted with great caution.

Box 4.4. Measurement issues to calculate earnings elasticities

Intergenerational elasticity estimates may suffer from various measurement errors, which are discussed below. In addition, as it is difficult to obtain estimates of earnings for both fathers and sons in the same dataset, alternative estimation methods are also discussed.

Life-cycle bias may arise in parent-children earnings when children's permanent earnings are approximated by yearly current earnings; this is likely to introduce measurement errors due to the variation of transitory earnings components. Several studies have shown for income in particular that when only one year is used, the degree of persistence across generations tends to be underestimated (Solon, 1992; Zimmerman, 1992). This is also compounded by underestimation due to the usage of sons' earnings early in their career.

In addition, estimates may also be affected by another bias coming from the lack of appropriate estimates from fathers' lifetime earnings, because this results in significant errors-in-variables (downward) biases. To avoid this problem, multi-year averages have been used. The age at which fathers' incomes are averaged also matters, as they may be too young or old to capture permanent income. Prime-time age multi-year (5 years or preferably at least 10 years) is therefore preferred for both fathers and sons (Mazumder, 2005; Chen et al., 2017). Estimates computed by the OECD for Germany and the US are thus produced with earnings information for at least 8 years for parents and where parents and sons are of a similar age range of 30 to 55.

An additional challenge is to compute elasticities when there is no information on fathers' earnings in the same dataset. In this case, an earlier survey is used to obtain a sample of "synthetic fathers". The technique of two-sample, two-stage least squares (TS2SLS) is used to predict the earnings of fathers in the sample, following the work of Björklund and Jäntti (1997). This methodology has been used in the literature to construct the elasticities for Australia, Chile, France, Italy, Japan, Korea, Spain, Switzerland and in emerging economies (see Mendolia and Siminski, 2016; Nuñez and Miranda, 2010; Lefranc, 2011; Mocetti, 2007; Lefranc et al., 2013; Kim, 2013; Cervini-Plá, 2015; and Bauer, 2006).

The same methodology is applied here for countries for which information is currently not available in the literature: Austria, Belgium, Greece, Hungary, Ireland, Luxembourg, the Netherlands and Portugal, and updated estimates are provided for Chile, Spain and the UK.

In the first sample, there is information about pseudo-fathers' earnings and their socio-economic characteristics. In this regression, W_{it}^{f} are the fathers' earnings of individual i at time t in the supplemental sample and this can be seen as the sum of the fathers' permanent earnings W_{i}^{f} plus time-variant characteristics such as age Ait and a disturbance term vit. Permanent income, in turn, may be defined as the sum of time-invariant determinants, such as education and occupational classification (matrix Zi), and time-invariant disturbances (ni).

$$W_{it}^{f} = W_{i}^{f} + A_{it}^{f} + v_{it}^{f} = Z_{i}\,\delta + A_{it}^{f} + n_{i}^{f} + v_{it}^{f} \quad (1)$$

This allows to obtain the predictor of fathers' permanent earnings based on parental characteristics (education, occupation and age) included as dummy variables:

$$\hat{W}_{i}^{f} = Z_{i}\,\hat{\delta} \quad (2)$$

This is regressed with the data on sons' log earnings to estimate the intergenerational income elasticity coefficient β from:

$$W_{it}^{s} = \beta(z_{i}\,\hat{\delta}) + A_{it}^{s} + u_{it} \quad (3)$$

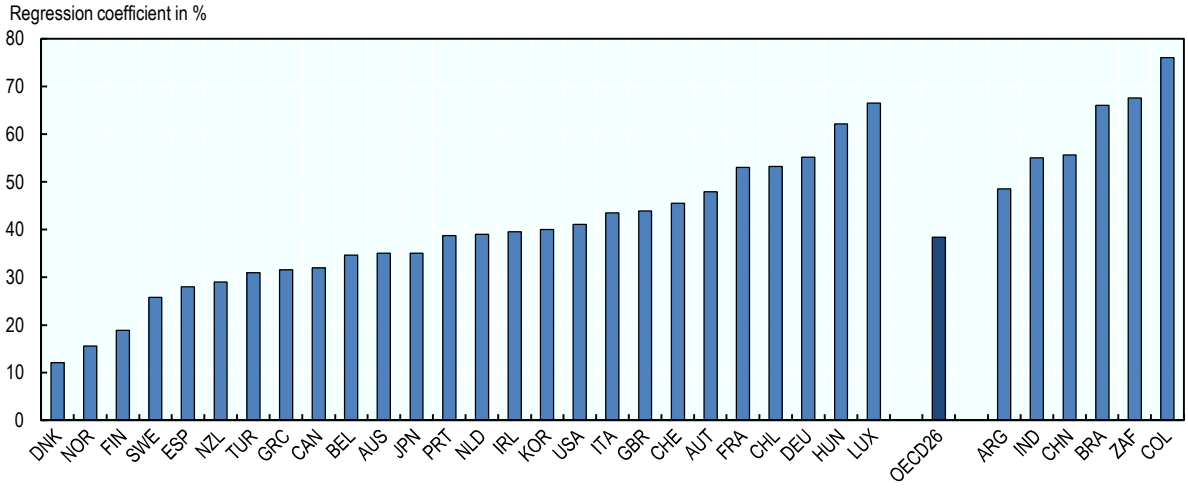
Where $u_{it} = \mu_{i} + \beta n_{i}^{f} + v_{it}^{s} + \beta Z_{i}(\delta - \hat{\delta})$

Age is controlled for as incomes are affected by age. At the same time, individuals in both samples are selected between 30-50 years of age to minimise life-cycle bias and to avoid measurement errors in earnings for the sons, which, if measured at a young age, will be negatively correlated with long-run income. Several years are used for both fathers' and children's earnings to reduce measurement error in transitory earnings. Sensitivity analysis shows that the coefficients are fairly similar when the sample is restricted to parents having at least two or three years of earnings compared with estimates when all years are used without restrictions. Standard errors are estimated using the bootstrap procedure in order to take into account that fathers' earnings in the second-stage regression are an estimated value.

The TS2SLS estimator of the intergenerational elasticity could be under- or overestimated when the auxiliary variables are endogenous and do not perfectly explain the fathers' log earnings. Indeed, in this case omitted variables in the error term are correlated with the auxiliary variables. Moreover, variables commonly used to predict parental earnings (e.g. education, occupation, geographic location, etc.) are likely to be correlated with sons' earnings. If the first-stage variables have a separate positive impact on the child's earnings, this will result in an upward bias in the TSTSLS estimate of β. Previous studies that have used this methodology acknowledge this possibility and tend to treat their estimates as upper bounds of the "true" intergenerational elasticity. At the same time, Björklund and Jäntti (1997) take advantage of good quality US data to compare their TSTSLS estimate with the value found by averaging actual fathers' earnings over five years. They conclude that single-equation estimates of the intergenerational elasticity (IGE) obtained from longitudinal data are about 0.1 lower than those obtained from the TSTSLS method.

Across OECD countries, intergenerational earnings mobility is lowest in Chile and some central European countries, and highest in the Nordic countries. It is also very low in the emerging economies. The results shown in Figure 4.8 imply, for instance, that if one father had twice the earnings of another father, the richer father's child would then have 76% more earnings than the child of the poorer father in Colombia, while the earnings would be 12% more in Denmark and 40% more in Korea.[4] The findings mirror those found for relative social class mobility above for Nordic countries but also point to a number of differences: 1) earnings mobility is below average level for the UK and the US, while it is high in terms of social class, 2) southern European countries and Korea have low social class mobility while, in terms of earnings, they appear to have higher mobility for Spain or medium levels for Italy and Korea. However, cross-national variation in intergenerational earnings mobility may be overstated by the simple picture provided in Figure 4.8, as this includes "best point estimates", which are nonetheless not perfectly comparable across countries and, for a number of countries, alternative specifications or sources exist. Intervals of values obtained from different specifications and sources can be large and are provided in Annex 4.A1, Figure 4.A1.4.

Figure 4.8. Earnings elasticities for father to son, late 2000s



Note: The height of each bar represents the best point estimate of the inter-generational earnings elasticity. The higher the parameter, the higher is the persistence of earnings across generations, and thus the lower is inter-generational mobility. The estimate for Luxembourg is not strictly comparable with those of other OECD countries as it exhibits a specific migration pattern, with 46% of people who were foreign born in 2015, compared to 13% on average in the OECD (OECD, 2017b). Many of these individuals did not grow up and study in Luxembourg.

Source: OECD calculations based on the GSOEP (all waves: 1984-2013) for Germany, the PSID (all waves: 1968-2013) for the United States. Based on the ECHP and EU-SILC 2011 module using the two-sample two-stage least squares estimator for Austria, Belgium, Ireland, Luxembourg, the Netherlands, Portugal, Spain, Greece, Italy, and the United Kingdom, based on the MHP and the EU-SILC 2011 module for Hungary, on CASEN 2009 for Chile. For other countries, estimates from Jiménez, Maribel and Mónica Jiménez (2009) for Argentina, Mendolia and Siminski (2015) for Australia, Guimaes Ferreira and Veloso (2006) for Brazil, Chen et al. (2017) for Canada, Nuñez Miranda (2010) for Chile, Chyi et al. (2014) for China, Ramirez Zuloaga (2016) for Colombia, Bratsberg et al, (2006) for Denmark and Finland, Lefranc (2011) for France, Hnatkovska et. al. (2013) for India, Lefranc et al. (2014) for Japan, Kim (2015) for Korea, Gibbons (2010) for New Zealand, Jantti et al, (2006) for Norway and Sweden, Bauer (2006) for Switzerland, and Mercan (2016) for Turkey. All estimates except for Canada, Denmark, Finland, Norway and Sweden are based on the two-sample, two-stage least squares estimator.

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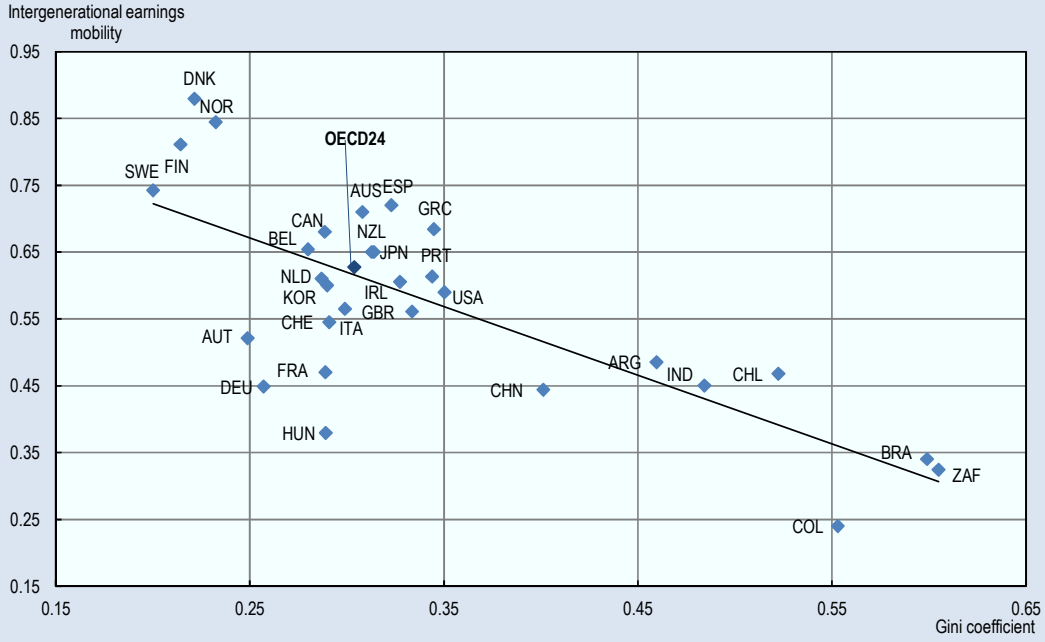
Box 4.5. The Great Gatsby Curve

The extent to which conventional measures of income inequality at a point in time reflect people's opportunities to move up the income ladder during their lifetime is likely to matter a lot for how income inequalities are perceived by individuals and policy makers. Given that measures of intergenerational earnings mobility provide one yardstick against which statements about equal opportunities are often assessed, the relationship between income inequality and mobility has raised an increasing interest. While there is no clear-cut theoretical association between income mobility across generations and income inequalities at a point in time, this relationship has been examined empirically on a cross-country basis first based on data gathered by the economist Miles Corak (2006) and extended by OECD (2008). The resulting "Great Gatsby curve" – the term was first used by Alan Krueger in a speech in 2012 -- is the graphical representation of the negative relationship between inequality and intergenerational earnings mobility across countries: higher inequality of outcomes (proxied by Gini coefficients of income inequality) is related to lower equality of opportunities (proxied by earnings mobility between fathers and sons). On the assumption of such negative association, one would expect mobility to have declined in the OECD area given the trend increase in inequality since the 1980s.

The Gatsby curve displayed in Figure 4.9 shows that the negative association between inequality and intergenerational mobility still holds but gets more complex compared to OECD (2008) when including additional countries and newer estimates. In particular, the association is weakened by the inclusion of some low-inequality low-mobility European countries (Hungary, Austria) and new, lower estimates of mobility for France or Germany. By contrast, new estimates for emerging economies strengthen the relationship by exhibiting both high Gini coefficients and low levels of mobility.

Figure 4.9. Intergenerational earnings mobility and income inequality



Note: Mobility is proxied by 1 minus the intergenerational earnings elasticity (see Annex 4.A1). Income inequality measured by the Gini coefficient of the mid-1980s to early 1990s.

Source: OECD calculations for Austria, Belgium, Greece, Hungary, Ireland, Italy, the Netherlands, Portugal, Spain and the United Kingdom based on EU-SILC ad-hoc module and ECHP (MHP for Hungary), for Germany based on the GSOEP, and for the United States based on the PSID. Jiménez, Maribel and Mónica Jiménez (2009) for Argentina, Mendolia & Siminski (2015) for Australia, Guimaes Ferreira and Veloso (2006) for Brazil, Chen et al. (2017) for Canada, Nuñez Miranda (2010) for Chile, Chyi et al. (2014) for China, Ramirez Zuloaga (2016) for Colombia, Bratsberg et al, (2006) for Denmark and Finland, Lefranc (2011) for France, Hnatkovska et. al. (2013) for India, Lefranc et al. (2014) for Japan, Kim (2015) for Korea, Gibbons (2010) for New Zealand, Jantti et al, (2006) for Norway and Sweden, and Bauer (2006) for Switzerland. Gini based on the *OECD Income Distribution Database* for total population, late 80s and early 90s and Milanovic (2014) for Argentina.

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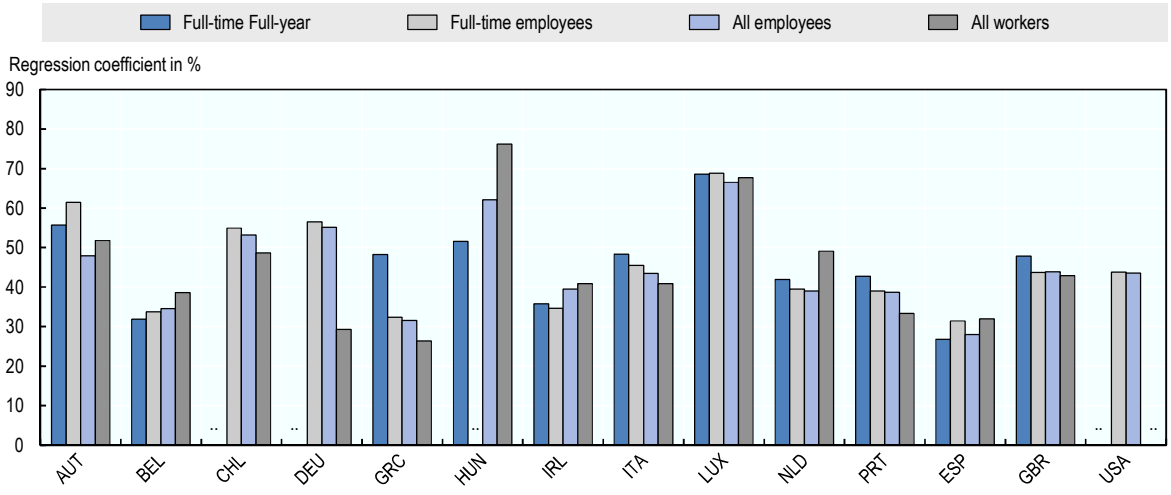
It should be noted that these elasticity estimates partly differ for some countries from the ones presented in OECD (2008). Beyond the use of updated data, this is to a large extent be due to the sensitivity of these estimates to the selected proxy for permanent income or the age at which fathers' earnings are measured (Corak, 2006). For Australia, Mendolia & Siminski (2015) used 11 waves of HILDA data, while Leigh (2006) used the 2004 wave only. Estimates for Germany and the United States were computed by the OECD Secretariat based on all available waves of respectively SOEP (1984-2013) and PSID (1968-2013) data, and by averaging income over a minimum of 8 years to obtain more appropriate estimates for permanent income. For the same reason, Chen et al. (2017) averaged fathers' earnings over at least 10 years to compute their estimate for Canada. By contrast, Grawe (2004) used only 5 years averages for Canada, Germany or the United States. Finally, for France, Lefranc (2011) used predicted pseudo fathers' earnings at age 40, while Lefranc and Trannoy (2003) assigned children to several pseudo father selected at different ages. Luxembourg estimates have been excluded as it exhibits a very specific migration pattern, with 46% of people who were foreign born in 2015, compared to 13% on average in OECD countries (OECD, 2017b). Many of these individuals did not grow up and study in Luxembourg. Therefore, the level of mobility cannot be meaningfully related to the level of cross-sectional inequality. For elasticity estimates obtained from different specifications and sources intervals can be large and are provided in Annex 4.A1, Figure 4.A1.4

Hours worked and the type of employment affect the degree of earnings mobility across generations. Looking at full-time and full-time, full-year employees instead of all employees will obtain a more homogeneous sample and possibly will exclude employees less attached to the labour market, with less irregular and possibly lower earnings. There is some evidence in the literature of the transmission of work hours, suggesting that fathers that work more hours than their cohort's average tend to have children who also work more hours than their cohort's average. This is possibly related to a transmission of leisure preferences from parents to children (Toledo, 2007).

The estimates above refer to all employees and exclude the self-employed. Figure 4.10 shows intergenerational earnings elasticities between fathers and sons for a more selective sample in the left-bar, which includes only full-time full-year employees, to the right-hand bar, which includes all workers, i.e. all employees and the self-employed. For most countries, hours worked or type of employment matter little for earnings mobility, although it can have an impact on the country ranking. There are however some noteworthy exceptions. For Greece, mobility is much lower for full-time, full-year employees (more than 50%), related to a much higher intergenerational persistence of earnings at the top of the earnings distribution. If the analysis would exclude part-time workers or would focus on full-time, full-year employees, Greece would have much higher levels of earnings persistence among OECD countries. In contrast, persistence is lower when including the self-employed for some countries: it is 50% lower in Germany and 15% lower in Greece and Portugal. For Hungary and the Netherlands, the reverse is found with a degree of persistence 23% and 25% higher when including the self-employed.

Figure 4.10. Individual earnings elasticities by employment status



Note: The height of each bar represents the point estimate of the inter-generational earnings elasticity. The higher the parameter, the higher is the persistence of earnings across generations, and thus the lower is inter-generational mobility. ..: not available.

Source: OECD calculations based on the GSOEP for Germany (all waves: 1984-2013), the PSID (all waves: 1968-2013) for the United States, the ECHP and EUSILC 2011 module for Austria, Belgium, Ireland, Luxembourg, the Netherlands, Portugal, Greece, Italy, and the United Kingdom, the MHP and the EU-SILC 2011 module for Hungary, CASEN 2009 for Chile.

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4.2.2. What drives the degree of intergenerational earnings mobility?

Education and the labour market are the two most important factors to affect intergenerational earnings mobility. Some part of lack of mobility refers to the transmission of both cognitive and non-cognitive skills. Education attainment can be influenced by more educated parents being more aware of the psychological and economic value of education, and therefore putting more pressure on their children to achieve more at school.[5] How the labour market rewards education and how families help their offspring enter into the labour market is another channel through which earnings are correlated.[6] Family ties can have an impact on access to jobs through family connections.[7] At the same time, different choices in public policy influence all of these factors as well as the cross-national variation in earnings mobility. The decomposition described in Box 4.5 presents a method to assess national differences in the degree to which earnings persistence is influenced through either persistence in education or persistence in occupation.

The correlation between children's and fathers' occupations is the most important component of intergenerational earnings elasticity, accounting for, on average, 35% of elasticity, and more than half in Austria, France, Ireland and Spain. The father's occupation also influences intergenerational elasticity through its effect on children's education, especially in Belgium, the Netherlands and southern Europe. This confirms the findings from previous research in Spain and Italy (Cervini-Plá, 2009; Piraino, 2007).

Box 4.5. Decomposing intergenerational earnings elasticity

To understand whether the correlation of occupation or education across generations is the most important component of the intergenerational elasticity between earnings, a decomposition analysis is performed. Two-sample instrumental variable estimation allows for a decomposition of the sources of earnings elasticity across generations. Using the decomposition developed by Bowles and Gintis (2002) and followed by Lefranc and Trannoy (2005), W_{it}^{f} fathers' earnings and W_{it}^{c} offsprings' earnings can be expressed as:

$$W_{it}^{f} = \alpha^{f} E_{i}^{f} + \gamma^{f} O_{i}^{f} + n_{i}^{f} \quad (4)$$

$$W_{it}^{c} = \alpha^{c} E_{i}^{c} + \gamma^{c} O_{i}^{c} + n_{i}^{c} \quad (5)$$

Where E_{i}^{f} and E_{i}^{c} refer respectively to the education of fathers and sons, and O_{i}^{f} and O_{i}^{c} the occupation of fathers and sons respectively.

The elasticity of β from the intergenerational elasticity equation (3) in Box 5.4 can be expressed as:

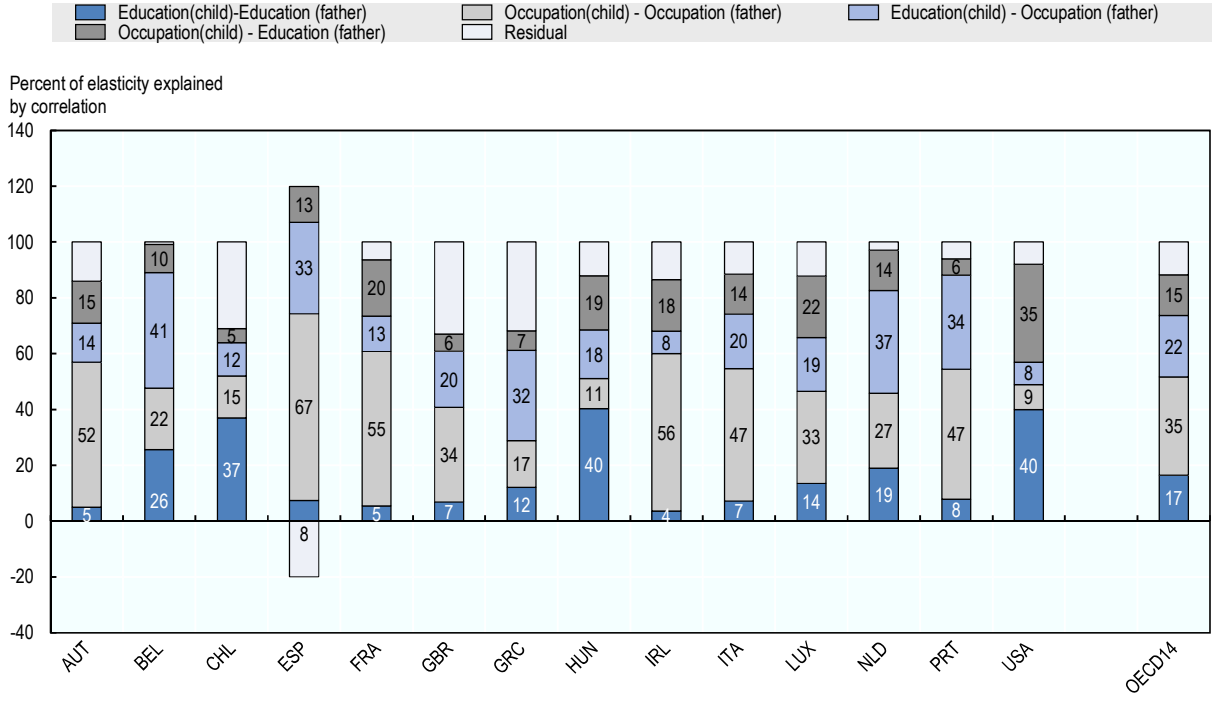
$$\beta = \frac{\operatorname{cov}(W_{it}^{c}, \alpha_{i}^{f} E_{i}^{f} + \gamma^{c} O_{i}^{f})}{V(\alpha_{i}^{f} E_{i}^{f} + \gamma^{c} O_{i}^{f})}$$

$$= \frac{1}{V(\alpha_{i}^{f} E_{i}^{f} + \gamma^{c} O_{i}^{f})} \times [\alpha^{c} \operatorname{cov}(E_{i}^{c}, \alpha^{f} E_{i}^{f}) + \gamma^{c} \operatorname{cov}(O^{c}, O^{f})\gamma^{f} + \alpha^{c} \operatorname{cov}(E_{i}^{c}, O^{f})\gamma^{f}$$
$$+ \alpha^{f} \operatorname{cov}(E_{i}^{f}, O^{c})\gamma^{c} + \operatorname{cov}(n_{i}^{c}, E_{i}^{f})\alpha^{f} + + \operatorname{cov}(n_{i}^{c}, O_{i}^{f})\gamma^{f}$$

β can be decomposed into the sum of six terms corresponding to the covariance of fathers' education and social status on children's education, occupation and the earnings residual, each multiplied by the effect of the relevant variable on children's and fathers' permanent incomes, respectively. This decomposition should be seen only as a descriptive device along the lines suggested in Bowles and Gintis (2002) and not as an analysis of causal effects.

Comparatively, father's education accounts for a smaller share of intergenerational persistence in earnings. On average, around 17% of elasticity is driven by the correlation between a father's and child's education. Only in Hungary and the United States does the intergenerational transmission of education explain as much as 40% of the earnings association, and this effect is also larger in Belgium and the Netherlands. In the United States, the pathway through offspring education is relatively more important, primarily because of the higher returns to education and skills and the stronger relationship between income and tertiary education in the United States (Blanden et al., 2013). If in addition to the transmission of education, the impact of a father's education on his son's occupation is accounted for, the father's education helps to explain 75% of the earnings elasticity in the US and 60% in Hungary. In the case of Chile, education also appears as the main explanatory factor of persistence, but this result could also be related to the lack of precision in measuring fathers' occupations.

Figure 4.11. Drivers of intergenerational earnings elasticities between fathers and sons, early 2010's



Source: OECD calculations based on the ECHP and EU-SILC 2011 module for Austria, Belgium, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom, based on the MHP and the EU-SILC 2011 module for Hungary, on CASEN 2009 for Chile and the PSID (all waves: 1968-2013) for the United States.

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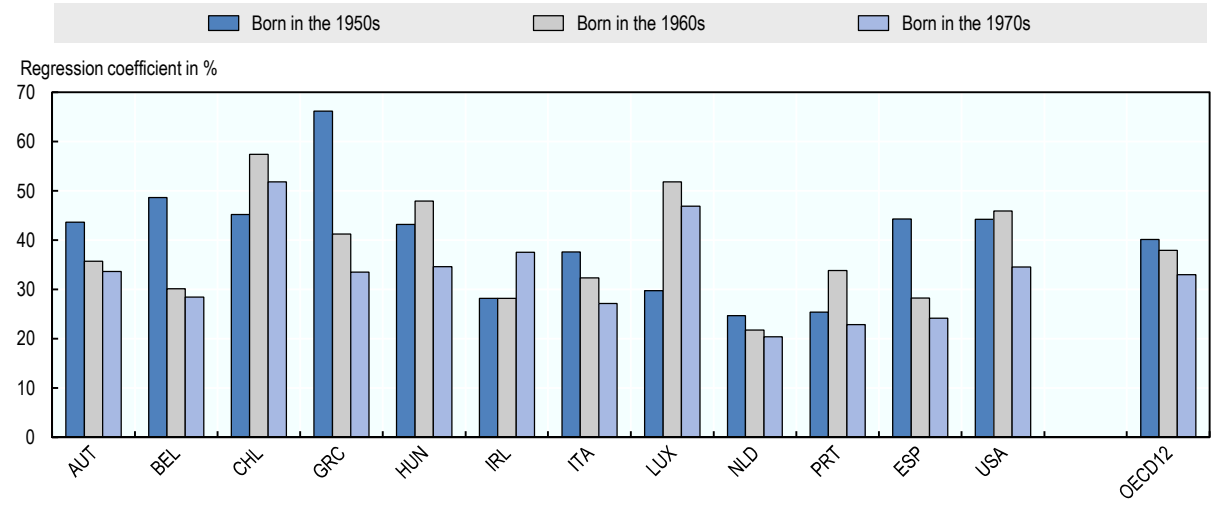
4.2.3. Has relative earnings mobility declined?

OECD analysis does not confirm generalised trends across countries (Figure 4.12). Because the analysis, with the exception of the Germany and the US, is based on one year of cross-sectional data, it is difficult to disentangle age and cohort effects. Persistence may be falling for younger cohorts because the age at which earnings is observed is lower. To avoid such bias, the elasticity is calculated using predicted earnings for both fathers and sons at the same age (40) for each cohort. Comparing trends across three 10-year cohorts, between those born in the 1950s, in the 1960s and in the 1970s, there are different groups of country trends. In one group of countries, which includes Austria, Belgium, Greece, Italy and Spain, earnings mobility has continuously increased across the three cohorts (i.e. the elasticity became lower). In Hungary Portugal and the United States, mobility was lower for the second but higher for the last cohort. In Chile and Luxembourg which have the lowest mobility estimates, the decline occurred mostly between the first and second cohort.

Figure 4.12. Cohort analysis of intergenerational earnings persistence



Note: The height of each bar represents the point estimate of the inter-generational earnings elasticity. The higher the parameter, the higher is the persistence of earnings across generations, and thus the lower is inter-generational mobility.

Source: OECD calculations based on the PSID for the United States, based on the ECHP and EUSILC 2011 module for Austria, Belgium, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom, based on the MHP and the EU-SILC 2011 module for Hungary, on CASEN for Chile.

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This mirrors the inconclusive results across different national studies. For the US, the literature finds no consensus on the evolution of mobility when looking at cohorts born between the 1920s and the early 1970s. A set of studies based on the PSID shows little systematic trend among men (Hertz, 2007; Lee and Solon, 2009), while other findings suggest that there has been a rise of intergenerational mobility (Fertig, 2003; Mayer and Lopoo, 2004), though this may be driven by imprecise earnings estimates. The estimates for women in Hertz (2007) and Lee and Solon (2009) suggest decreasing mobility for the early cohorts but little change for those born in 1960 and onwards. More recent work from Chetty et al. (2017) looking at absolute mobility suggests that the share of children having higher real earnings than their parents has fallen in the US from 90% for those born in 1940 to 50% for those born in the 1980s. In Japan, results indicate that intergenerational mobility has been roughly stable over the last decades. One particularly contested UK finding is that mobility has decreased, based on the finding that the intergenerational earnings elasticity estimated for the cohort born in 1958 (NCDS) is greater than for the cohort born in 1970 (BCS), but the results could be driven by differences in the data sources used.

For other European countries, there is more of a consensus on the increase in mobility for post-WWII cohorts while more research is needed for the more recent cohorts, born since the 1970s. In Finland, the mobility for cohorts born between 1930 and 1970 increased substantially and this has been related to comprehensive school reforms (Pekkala and Lucas, 2007). For Norway, Bratberg et al. (2005) find broad stability over time if not a small increase in father–son and father–daughter earnings mobility from 1950 to 1965 cohorts. They suggest that the series of educational reforms, with equality of opportunity as a central aim, also have contributed to this result. In Sweden, there is a

large increase in mobility between pre- and post-war cohorts while the association is flat across post-WWII cohorts (Bjorklund, Jantti and Lindquist, 2009). Finally, in France there is evidence of a V-shaped trend in mobility with the lowest point pertaining to males born in 1930s, after which it increased for those born in the period from 1940 to 1950 due to the benefits of educational and social equality policy, but then fell again for people born in 1970 (Lefranc, 2011).

4.3. Going beyond average father-son correlations: How parental background affects resources at different points of the distribution and for daughters

Research on the distribution of earnings from an intergenerational perspective has shown that there is more persistence at both ends and that affluence and poverty are both partially inherited. The section below therefore examines how mobility depends on the part of the earnings distribution where the individual is situated. The second section examines wealth rather than earnings at different points of the distribution. The final section provides estimates of the degree of mobility of earnings for daughters – an area where empirical evidence has been notoriously scarce.

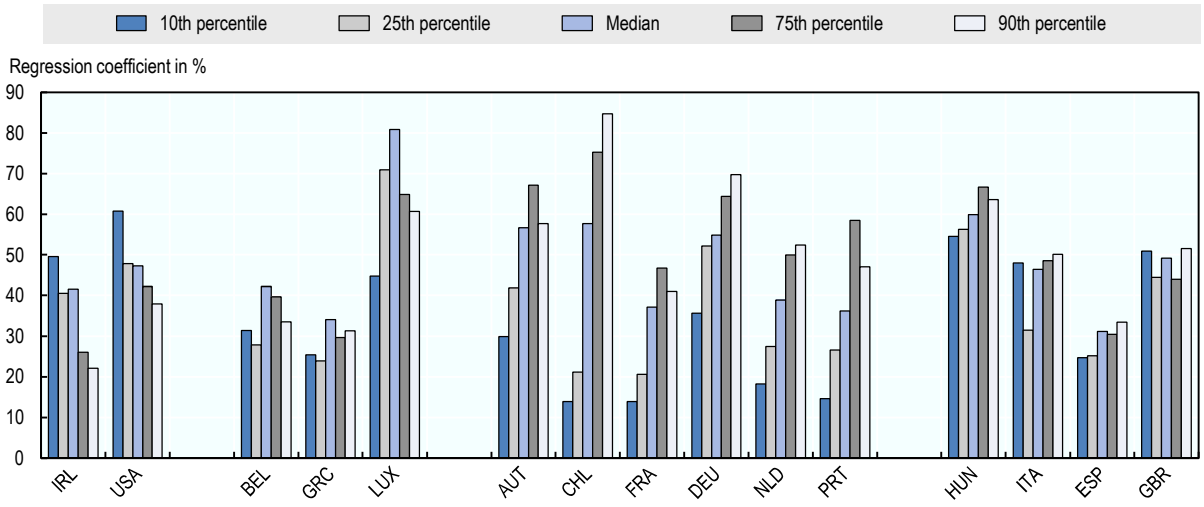
4.3.1. Are mobility patterns different at the top and bottom of the distribution?

Estimates of average mobility patterns such as the elasticities presented above mask heterogeneity in the degree of mobility or persistence across the population, namely that that earnings persistence is not the same nor does it increase or decrease linearly along the distribution.[8] Quantile regressions for a selection of OECD countries are used below to evaluate the influence of fathers' earnings at each specific quantile (the 10^{th}, 25^{th}, 50^{th}, 75^{th} and 90^{th} percentiles).

Such cross-country analysis confirms that the intergenerational persistence of earnings varies greatly across the distribution and differs by country (Figure 4.13). Four country groups emerge. In a first set of countries, mobility is highest for those at the bottom percentiles of the father's earnings distribution (bottom 10%). Such higher degree of upward mobility for sons born to low-earning fathers exists in Austria, Chile, France, Germany, the Netherlands and Spain. In all those countries persistence increases linearly for those with higher earnings until the 75^{th} percentile but then falls again for the 90^{th} percentile, except in Chile, Germany and the Netherlands. In contrast, in a second set of countries, Ireland and the US, intergenerational mobility is highest for those born of richer fathers and lowest for those born of the poorer fathers.

In a third group of countries, mobility is higher on both ends of the distribution and lowest among the middle classes, i.e. those with median earnings: Belgium, Greece and Luxembourg. Finally in the fourth group of countries (Hungary, Italy, Spain and UK), differences in mobility across the father's earnings distribution are less pronounced. That said, there is a slight tendency for lower mobility at the top in Hungary, Italy and Spain. This is in line with previous findings for Spain and Italy, which show a higher stickiness at the top (Cervini-Plá, 2015; Mocetti, 2007) and compares this with results for Canada (Chen et al., 2016).

Figure 4.13. Earnings elasticities for different quantiles of the distribution, early 2010s



Note: The height of each bar represents the point estimate of the inter-generational earnings elasticity. The higher the parameter, the higher is the persistence of earnings across generations, and thus the lower is inter-generational mobility.

Source: OECD calculations based on the GSOEP for Germany, the PSID for the United States, the ECHP and EU-SILC 2011 module for Austria, Belgium, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom, the MHP and the EU-SILC 2011 module for Hungary, CASEN 2009 for Chile.

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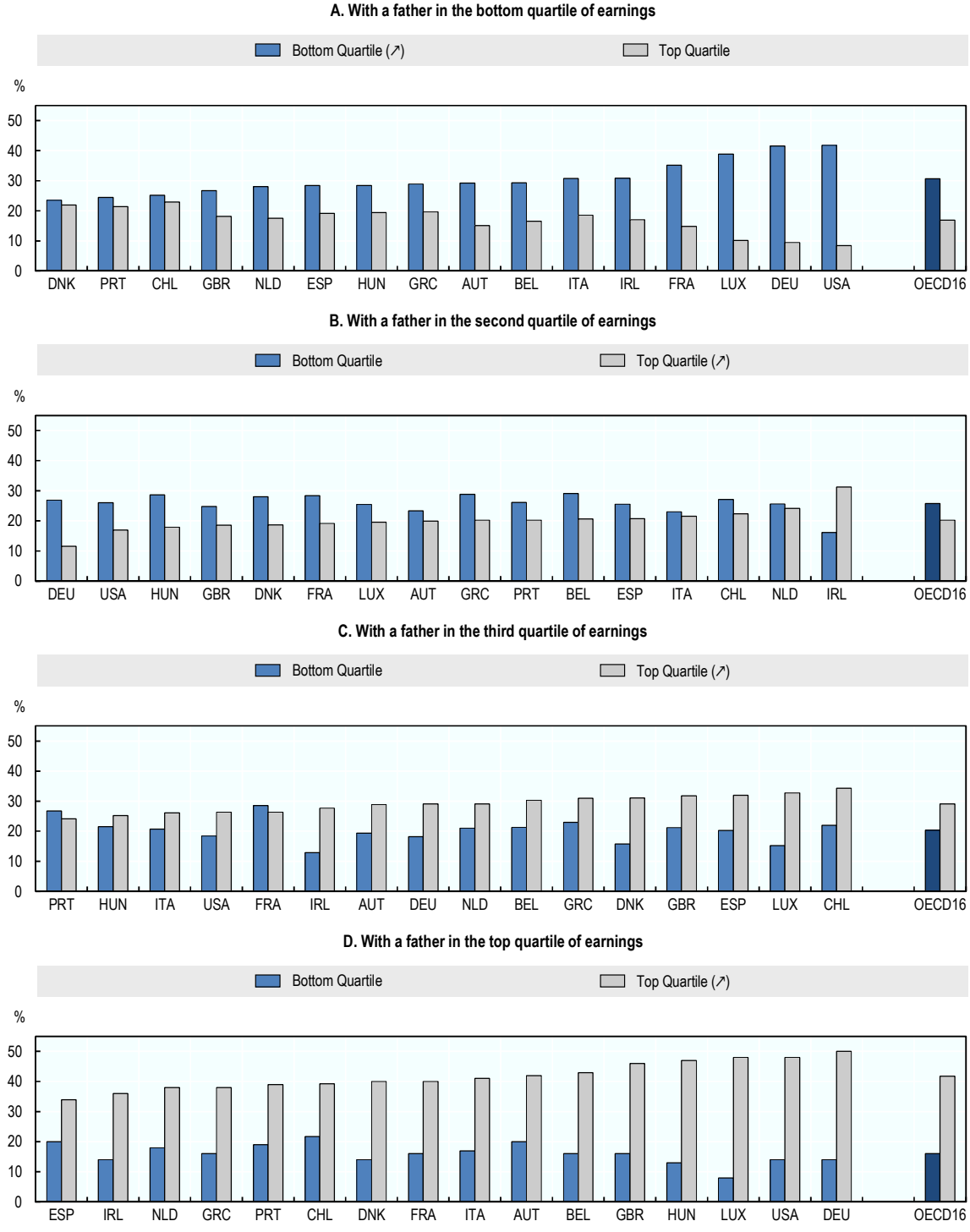
Children born into lower-income families may face familial, educational, informational and cultural barriers and remain stuck on the bottom rung of the ladder. A useful way to distinguish the patterns of intergenerational upward mobility and downward mobility is provided by transition matrices, which can be interpreted as the probability of a son being in quantile i^{th}, conditional on his father being in the same quantile or in another earnings quantile. For instance, this will show which percent of adult children in the top quintile come from parents who are also in the top and which percentage of adult children whose parents were in the bottom parent quantile move up the ladder and make it to the top. Upward mobility from the bottom quantile is actually high: on average, 71-72% of individuals are in a higher earnings quartile than the bottom one if their father was in the bottom quartile (Figure 4.14, Panel A).

However, most upward mobility from the bottom quantile is to the immediately higher quantile (the second), except in France where there is also more upward mobility from the bottom to the third quantile but, at the same time, there is more of a sticky floor than in other countries at the bottom (35%). A smaller fraction of sons reach the top earnings quantile when their fathers were in the bottom quantile: around 15-20% in most countries, but it is 10% or lower in the US, Germany and Luxembourg. By contrast, upward mobility from the bottom is high in Portugal and Denmark since the shares of sons of low-earning fathers remaining at the bottom and reaching the top quantile are almost the same. This confirms other findings that show significantly lower rates of upward mobility from the bottom of the distribution in the United States compared to the Nordic countries (Jantti et al., 2006).

At the same time, those born into more affluent families may be protected from falling by a "sticky ceiling", i.e. the fact that parental income and advantage can help their offspring limit the risk of downward mobility (Reeves and Howard, 2013). The implications of the stickiness at both ends of the distribution are that relative intergenerational upward mobility will be limited by equivalent rates of downward mobility. Sticky ceilings range from 35% in Spain to close to 50% in the UK, Hungary, Luxembourg, the US and Germany (Figure 4.14, Panel D). Downward mobility from the top is fairly low in the UK, while overall upward mobility from the bottom is above average. In turn, downward mobility from the top to the bottom quartile ranges from 8% in Luxembourg to 22% in Chile.

Also in the middle, earnings prospects are largely affected by the parents' position in the earnings distribution. In all countries with the notable exception of Ireland, sons with a father in the lower middle income class (the second quartile of the earnings distribution) will be more likely to fall down to the bottom quartile than reaching the top (Figure 4.14, Panel B). In Germany, 27% of children with a father in the second quartile reach the bottom quartile, while only 11% of them reach the top quartile. At the same time, the chances for sons with a father in the higher middle income class (third quartile) to reach the top are generally higher than to fall to the bottom quartile (Figure 4.14, Panel C). Only in France and Portugal the risk to slide down to the lowest quartile is slightly higher.

Figure 4.14. Percentage of sons in the top and bottom earnings quartile by father's quartile



Source: OECD calculations based on the GSOEP for Germany, the PSID for the United States, the ECHP and EU-SILC 2011 module for Austria, Belgium, Denmark, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom, the MHP and the EU-SILC 2011 module for Hungary, CASEN 2009 for Chile.

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4.3.2. Intergenerational transmission of wealth status

While there has been much interest and research on the association of earnings across generations, much less is known about the transmission of wealth status from parents to their children. The available literature for a few countries suggests that children of wealthier parents are more likely to be wealthy relative to children of less wealthy parents, but evidence on the strength of this association vary largely within and across countries (Charles and Hurst, 2003; Pfeffer and Killewald, 2015, for the US; Boserup et al., 2014, for Denmark; Adermon et al., 2016, for Sweden).

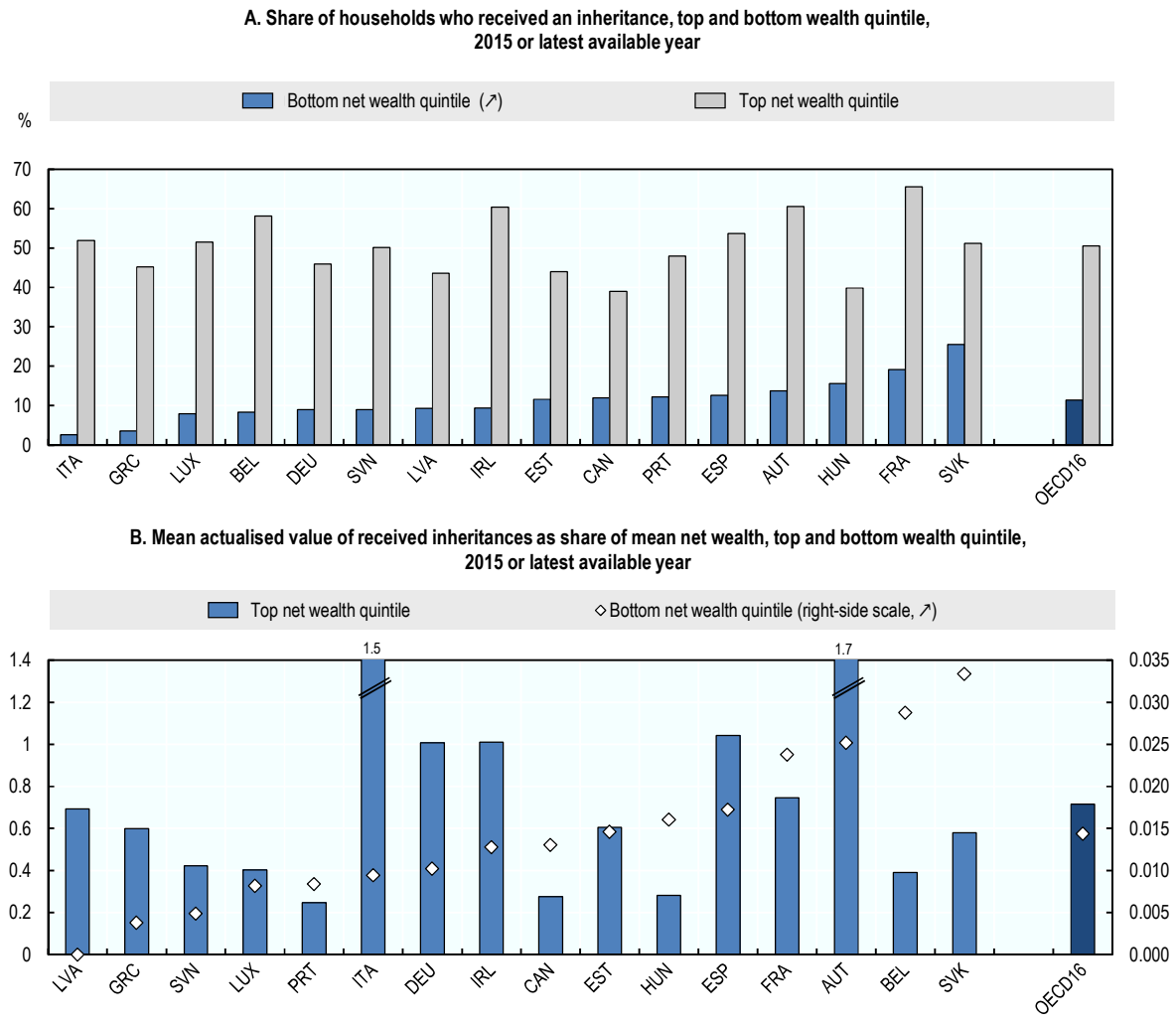
Inheritance is an important factor in wealth associations. There is nevertheless much discussion about the actual share of inheritance in wealth, and, depending on the country and study, estimates for the share of inheritance in net wealth vary from 10% to over 50% (Kotlikoff and Summers, 1988; Modigliani, 1988; Wolff and Gittleman, 2011; for the US; Karagiannaki, 2011, for the UK; Kessler and Masson, 1989, for France; Klevmarken, 2006, for Sweden). More recent work suggests that inheritance can explain between half and as much as three-fourths of wealth persistence (Adermon et al., 2016).

New OECD data on the transmission of wealth from parents to children allow partly filling this gap, shedding light on the importance of inheritances and gifts as a source of people's wealth (Figure 4.15, Panel A). On average, across the 16 OECD countries for which information is available, about one in three households declared having received gifts or bequests in their lifetime. Large cross-country variation exists: in Latvia, only one in four households reports having received inheritances or gifts while, at the other end of the spectrum, this share is almost two times larger in France. National variations are also evident when considering patterns along the wealth distribution. While, in all the countries considered, there is a positive gradient in the chance of inheriting across wealth quintiles, this gradient is particularly strong in Belgium, Greece and Italy. In France, the annual inheritance flow has been increasing since the 1950s, after a decline between the 1930s and 1950s, generating a growth in wealth driven by inheritance and leading to a debate about the so-called "*société d'héritiers*" (Piketty, 2011).

Across the OECD countries with available information, the actualised value of the inheritances and gifts received by households in the top net wealth quintile amounts, on average, to 72% of the mean net wealth across all households, while for those in the bottom net wealth quintile it represents less than 1.5% of the mean net wealth of the total population (Figure 4.15, Panel B).

Many different drivers help explain such differences. First, countries differ widely in the overall mean wealth held by households and in the concentration of wealth. Austria, for instance, which shows a high share of inheritance in the top wealth quintile, also has a high wealth concentration, contrary to Greece. At the same time, some countries have more stringent taxation of inheritance and gifts while others, such as the Slovak Republic, do not tax wealth transfers. The composition of wealth in terms of the distribution of financial and non-financial assets also plays a role, as do the corresponding rules on property taxes. Finally, differences in population ageing across countries are another driver as accumulation of wealth tends to increase with age.

Figure 4.15. Inheritances and gifts, by net wealth quintile



Source: OECD (2017), *How's Life? 2017: Measuring Well-being*, OECD Publishing, Paris, http://dx.doi.org/10.1787/how_life-2017-en.

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4.3.3. Is mobility higher or lower for daughters?

A few studies have compared intergenerational earnings mobility between sons and daughters and suggest that daughters have a similar degree of mobility or are somehow even more mobile than sons. Indeed, some studies find that elasticity is rather similar for sons and daughters in Japan, Spain and the US (Mazumder, 2005; Lefranc et al., 2013; Cervini-Plà, 2009). Scandinavian evidence suggests that intergenerational earnings mobility is somewhat greater for women than for men, when measured by individual earnings – see Österberg (2000), Österbacka (2001), Bratberg et al. (2005; 2007), and Jäntti et al. (2006) – but another multi-country study including Denmark, Finland, Norway, the UK and the US found that women's intergenerational income persistence is very similar across countries when relying only on individual earnings (Raaum et al., 2007). Other countries such as Canada, France, Italy and New Zealand show slightly

lower elasticity for daughters (Lefranc, 2011; Moroni, 2015; Chen et al., 2017; Gibbons, 2010).

Estimating the earnings mobility of daughters entails a problem of selection because earnings are observed only for those employed and are affected by the lower participation of women. For instance, women are more likely to experience career breaks related to child-bearing and child-rearing during the early stages of their working life, and they are generally not as strongly attached to the labour market as men. Employed women are a self-selected sample, and estimates will therefore be biased if the interpretation is to be extended to the entire sample of daughters. In addition to the father-son's estimation requirement, a Heckman-type of correction estimation for sample selection needs to be used (see Box 4.6).

Box 4.6. Correction for sample selection when calculating daughters' individual elasticities

As for sons, the intergenerational earnings elasticity will be estimated using the information from pseudo-father's earnings and their socio-economic characteristics to predict the father's permanent earnings W_i^f :

$$W_{it}^f = W_i^f + A_{it}^f + v_{it}^f = Z_i\ \delta + A_{it}^f + n_i^f + v_{it}^f \quad (1)$$

Where W_{it}^f is the father's earnings of individual i at time t, which can be decomposed into permanent earnings W_i^f and time-variant characteristics A_{it}^f. Permanent earnings is decomposed in time-invariant determinants Z_i and time-invariant disturbances n_i.

This allows to obtain the predictor of the father's permanent earnings based on parental characteristics (education, occupation and age) included as dummy variables:

$$\hat{W_i^f} = Z_i\ \hat{\delta} \quad (2)$$

And regress it with the data on the daughter's log earnings to estimate the intergenerational income elasticity coefficient β from:

$$W_{it}^d = \beta(z_i\ \hat{\delta}) + A_{it}^d + u_{it} \quad (3)$$

Where $u_{it} = \mu_i + \beta n_i^f + v_{it}^s + \beta Z_i(\delta - \hat{\delta})$

The selection equation is a probit model where the dependent variable, d, is a dichotomous variable which is equal to 1 if the daughter works and zero otherwise and is represented by:

$$d_i = Z_i\gamma + u_i$$

Where Z_i contains marital status, a dummy variable for having children and the log of the spouse's earnings. Since these variables are unlikely to affect earnings though other channels than the probability to work, the exclusion restriction holds and the Heckman correction can be used.

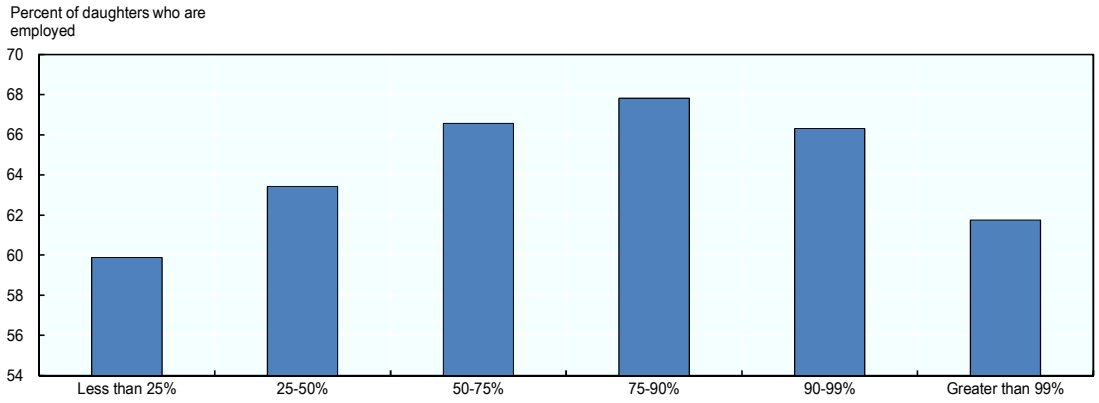
Heckman suggests estimating the probit selection equation using maximum likelihood for the whole sample and compute the inverse Mills ratio which is then used as an additional regressor in the intergenerational equation as:

$$W_{it}^d = \beta(z_i\ \hat{\delta}) + A_{it}^d + \mu\hat{\lambda} + u_{it} \quad (3)$$

Where λ is the inverse Mills ratio.

Figure 4.16. Employment rate for daughters by father's earnings percentile

Employment rate for daughters by father's earnings percentile, average for 13 OECD countries, around 2011



Source: OECD calculations based on the GSOEP for Germany, the PSID for the United States, based on the ECHP and EU-SILC 2011 module for Austria, Belgium, Ireland, Luxembourg, the Netherlands, Portugal, Greece, Italy, and the United Kingdom, based on the MHP and the EU-SILC 2011 module for Hungary, on CASEN for Chile.

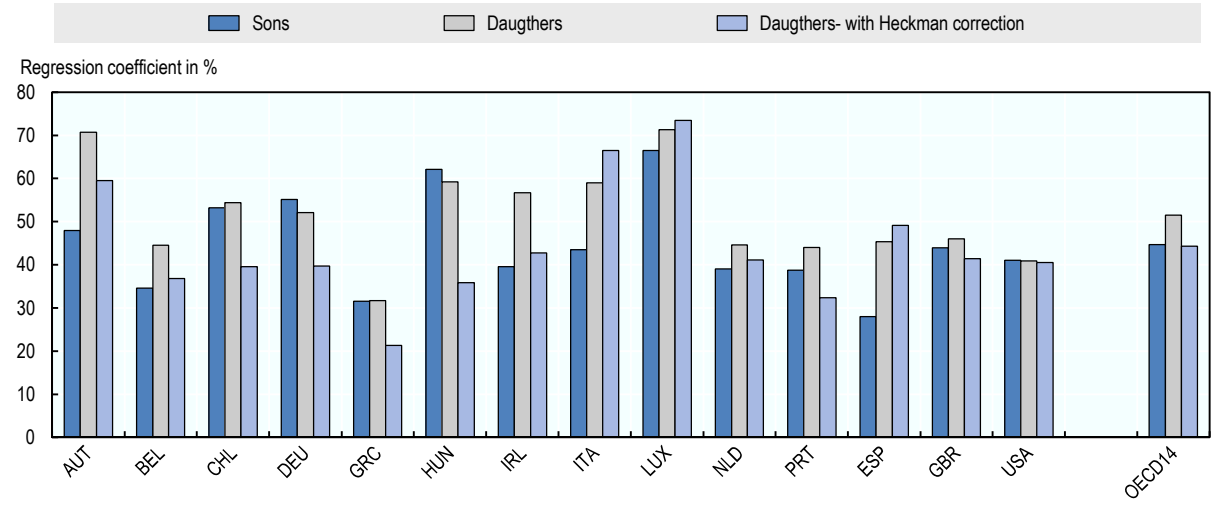
StatLink http://dx.doi.org/10.1787/888933754405

Overall, the elasticity between fathers' earnings and daughters' earnings is smaller (i.e. mobility is higher) when we correct for the employment selection with a Heckman selection model. This suggests that women with the lowest earnings potential are less likely to participate in the labour market. Figure 4.16 suggests an inversed u-pattern: employment rates tend to be the lowest for the women of low-earning fathers, but they are also lower for the daughters of very high earners.

Figure 4.17 compares elasticities for sons with elasticities for daughters, also correcting for participation. Correcting for participation reduces the estimates for elasticity in most countries, particularly in Greece, Hungary, Ireland and Portugal. In Italy, by contrast, the elasticity for daughters increases when correcting for participation, indicating that women with the greatest earnings potential are less likely to participate in the labour market. Lower participation for women with higher expected earnings has also been found in Japan (Lefranc et al., 2013).

Intergenerational earnings mobility for daughters tends to be similar to mobility for sons in most countries. Mobility is significantly higher for daughters than for sons (more than 10 points) in Chile, Germany, Greece and Hungary, while it is lower for daughters in Austria, Luxembourg and, in particular, Italy and Spain.

Figure 4.17. Earnings elasticity between fathers and daughters compared with sons



Note: The height of each bar represents the point estimate of the inter-generational earnings elasticity. The higher the parameter, the higher is the persistence of earnings across generations, and thus the lower is inter-generational mobility. Results for daughters presented in the third bar use Heckman's correction for selection bias.

Source: OECD calculations based on the GSOEP for Germany, the PSID for the United States, based on the ECHP and EUSILC 2011 module for Austria, Belgium, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom, based on the MHP and the EU-SILC 2011 module for Hungary, on CASEN for Chile.

StatLink http://dx.doi.org/10.1787/888933754424

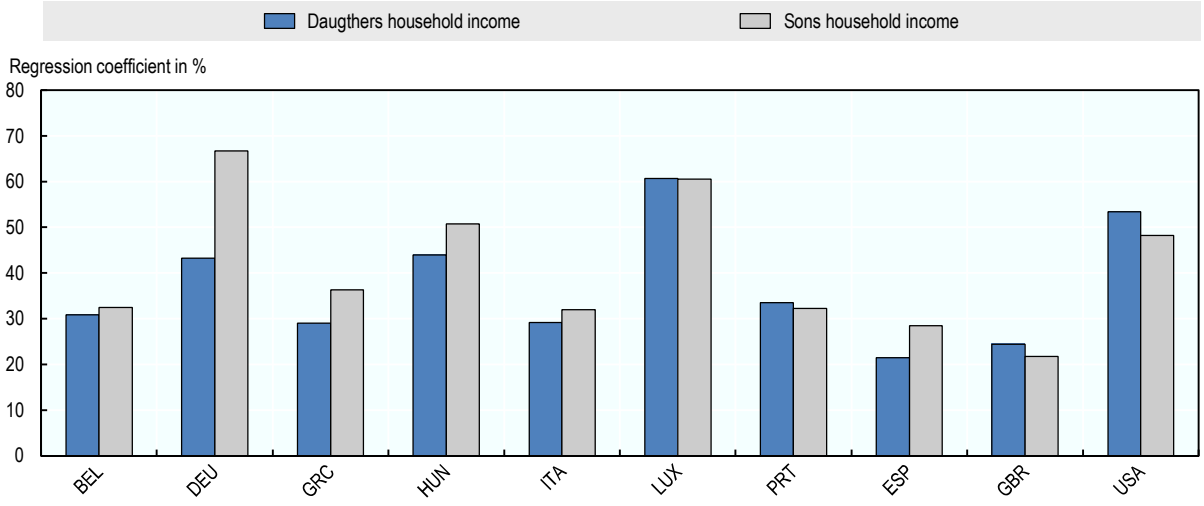
High rates of part-time work and long-term economic inactivity and occupational sex segregation complicate the analysis and interpretation of these results. In addition, assortative mating –the growing tendency of people to live together with spouses with similar education or earnings levels – may also affect the extent of the intergenerational association, so one alternative is to look at household income instead of individual earnings. How inequality evolves over generations depends on more than just one's own labour income or human capital, but also on who marries whom. Sons and daughters eventually become someone's spouse, and the way in which this matching occurs may have consequences for their own socio-economic position.

According to Raaum et al. (2007), country differences in intergenerational family earnings mobility are potentially driven by four factors: (1) individual wage mobility across generations, (2) labour supply responses with respect to own wage, (3) the degree of assortative mating, and (4) labour supply responses with respect to the spouse's wage, arising from joint labour supply decisions in households. A number of studies have shown that assortative mating contributes significantly to intergenerational income elasticity (Raaum et al., 2007; Black and Devereux, 2011; Chadwick and Solon, 2002; Ermisch et al., 2006). With respect to labour supply decisions in countries, there could be negative cross elasticities of labour supply/wages in couples because women marrying rich men respond to the high wage of their husband by working fewer hours or by withdrawing from the labour market. In the UK and the US, this cross-wage labour supply response turns out to be stronger than the direct labour supply effect arising from the fact that women marrying rich men also tend to have high earnings potential

themselves. A similar finding emerges from Japan. On the other hand, in the Nordic countries, the latter effect (i.e. direct labour supply) dominates.

Household disposable income is, in principle, a better measure of the intergenerational association in living standards than looking at individuals and individual earnings only (Jenkins and Jantti, 2013). Such analysis can be done, however, only for a subset of countries (see Box 4.7). Comparing mobility between sons and daughters using household income for this sub-set of countries shows that differences in mobility between sons and daughters are much less pronounced than in the case of individual earnings, with the notable exception of Germany. As is the case for earnings mobility, income mobility for daughters is considerably higher than for sons in Germany (Figure 4.18). For the remaining countries, if anything, income mobility for daughters is higher than for sons in Greece, Hungary and Spain, and lower in the United States.

Figure 4.18. Comparing daughters and sons' income elasticities based on household income, 2011



Note: The height of each bar represents the point estimate of the inter-generational earnings elasticity. The higher the parameter, the higher is the persistence of earnings across generations, and thus the lower is inter-generational mobility. ..: not available.

Source: OECD calculations based on the GSOEP for Germany, the PSID for the United States, based on the ECHP and EU-SILC 2011 module for Belgium, Greece, Italy, Luxembourg, Spain, Portugal and the United Kingdom, based on the MHP and the EU-SILC 2011 module for Hungary.

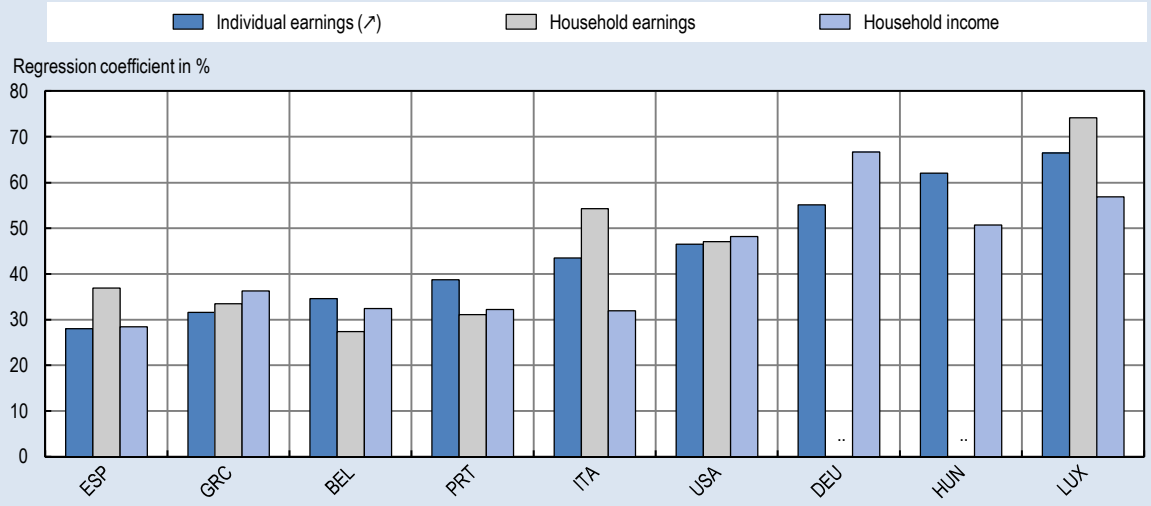
StatLink http://dx.doi.org/10.1787/888933754443

Box 4.7. How moving from earnings to income affects the intergenerational association

The majority of studies have focused on individual labour market earnings. However, household incomes are less volatile than earnings and should be better predictors of permanent living standards. Looking at income requires including other income components (capital income, transfers) and individuals who are not working and receiving benefits, and it is uncertain how this will affect mobility estimates. For instance, there could be a stronger correlation because of government assistance being correlated across generations.

The use of income rather than earnings affects the degree of mobility in different ways across countries. In Germany and Greece, mobility is lower when using household income. In Belgium, Portugal and Luxembourg, on the other hand, mobility is higher when using household income rather than individual earnings. In other countries, mobility is similar or slightly higher if income is used but mobility is lower if household earnings are compared.

Figure 4.19. Comparing earnings and income elasticities, late 2000's



Note: The height of each bar represents the best point estimate of the inter-generational earnings elasticity. The higher the parameter, the higher is the persistence of earnings across generations, and thus the lower is inter-generational mobility. ..: not available.

Source: OECD calculations based on the GSOEP for Germany, the PSID for the United States, the ECHP and EU-SILC 2011 module for Belgium, Greece, Italy, Luxembourg, Portugal and Spain, and the MHP and the EU-SILC 2011 module for Hungary.

StatLink http://dx.doi.org/10.1787/888933754462

4.4. Conclusion

This chapter has analysed the mobility of socio-economic status across generations first using social class rankings based on occupation and, second, looking at the association of earnings and incomes between parents and children. The analysis suggests that while absolute social class mobility in terms of occupations is high, it has declined over time in half of the countries studied and did not change much in the other half. In particular, upward mobility has declined and downward mobility has increased in some countries as a result of structural social changes. This implies that to increase upward

mobility, further upgrading of the occupational class structure is needed with policies aiming to create more top-end jobs.

In terms of intergenerational earnings mobility, the chapter has documented a wide variation in the levels of relative mobility across countries and along the earnings distribution. In particular, in most countries there is less earnings mobility at the top of the distribution. In spite of the rise in income inequality over the past decades, there is less of a consensus on the evolution of earnings mobility across generations. The relative significance of the transmission of occupations and education levels across generations and returns to education explain part of this cross-country variation in earnings mobility. Diverging trends appear across countries, between men and women and depending on the cohorts examined. More research, across multiple cohorts of parents and offspring, is needed to understand whether there has been a decline in relative earnings mobility for more recent generations.

Some countries fare better with regard to social mobility in all dimensions of socioeconomic status, while the ranking of others depends on the particular dimension. For instance, most Nordic countries have below-average transmission of advantages and disadvantages in terms of earnings but also in terms of social class based on occupation.[9] At the same time, some countries in western and central Europe show fairly low mobility in earnings: this is the case for Austria, France, Germany, Hungary and Switzerland. On the other hand, southern European countries have low mobility in terms of social class but not in terms of earnings. Low mobility in social classes in these countries is partly explained by relatively larger agricultural sectors and the prevalence of small-scale enterprises where there is an important intergenerational transmission of professions but where the earnings dispersion can be large. In the US, there is more mobility when looking at the transmission of social class from parents to children than in terms of earnings. Higher economic returns to education in the US than in other countries and the importance of parental income in promoting educational attainment and higher earnings via parental networks, together with a higher degree of assortative mating, may help explain why earnings persistence is higher than persistence in social class.

Notes

1. Social classes are deemed to include members who should be typically comparable, on the one hand, in terms of their sources and levels of income, their degree of economic security and chances of economic advancement, and, on the other hand, in their degree of autonomy in performing their work tasks and roles and the socio-economic relations that individuals share with each other on the basis of their occupations.

2. Earnings elasticities are a measure of intergenerational earnings persistence and range between zero, which means that a child's adult earnings are not related at all to parental status (high relative mobility), and 1, which means that all earnings are determined by parental earnings (low relative mobility).

3. While the labour market has changed significantly since the 1980s, researchers have provided empirical evidence that individuals in different classes do inhabit different economic worlds, as characterised by security, stability and prospects, and that this arises not from the attributes of individuals per se but from their location within the social relations of labour markets (Goldthorpe and McKnight, 2006).

4. Ueda (2013) finds lower values of 0.22 – 0.25 for earnings elasticities for father to sons aged 30-39. Intervals of values obtained from different specifications and sources are provided in Annex 4.A1.

5. Blanden et al. (2007) and Buchner et al. (2012) suggest that the role of cognitive skills is important for mobility and operates mainly via educational attainment.

6. Mood et al. (2012) suggest for Sweden, that the transmission of personality traits (social maturity, emotional stability and leadership capacity) also has an important impact on the labour market outcomes of children.

7. Pellizzari (2010) and Kramarz and Skans (2014), for instance, show that, given the level of education, in EU countries family networks affect the probability of a person finding a good job or of being employed.

8. Such 'non-linearities' have been explained by credit constraints (Becker and Tomes, 1979, 1986): low-earning parents are constrained in the possibility to finance the education of their children; hence, the latters' earnings fall below the earnings of non-constrained children with the same ability. Other researchers argue that findings are at odds with this hypothesis, because low-earning families actually show higher mobility, likely related to the support by the education systems (Grawe, 2004).

9. That said, when looking at the very long term, according to a study of surnames, there is low social mobility across most countries, including Sweden, England, Japan and the United States (Clark, 2014). The study suggests that it would take several generations – 10 to 15 – to remove the advantage transmitted through family wealth.

References

Adermon, A., M. Lindahl and D. Waldenström (2016), "Intergenerational wealth mobility and the role of inheritance: Evidence from multiple generations", *CEPR Discussion Paper* No. DP11456, http://cepr.org/active/publications/discussion_papers/dp.php?dpno=11456.

Aina, C., and Nicoletti, C. (2014), The intergenerational transmission of liberal professions: nepotism versus abilities. *University of York Discussion Papers in Economics*, 14.

Bauer, P. (2006), "The intergenerational transmission of income in Switzerland: A comparison between natives and immigrants", *WWZ Discussion Paper* 06/ 01, University of Basel.Becker, G. S. and N. Tomes (1986), "Human capital and the rise and fall of families", *Journal of Labor Economics*, Vol. 4/3, pp. S1-S39.

Becker, G.S. and N. Tomes (1979), "An equilibrium theory of the distribution of income and intergenerational mobility", *Journal of Political Economy*, Vol.87/6, pp. 1153-1189.

Beller, E. (2009)," Bringing intergenerational social mobility research into the twenty-first century: Why mothers matter". *American Sociological Review*, Vol. 74/4, pp. 507-528.

Bennedsen, M., K.M. Nielsen, F. Pérez-González and D. Wolfenzon (2007), "Inside the family firm: The role of families in succession decisions and performance". *The Quarterly Journal of Economics*, Vol. 122/2, pp. 647-691.

Bergman, M.M., P.S. Lambert, K. Prandy and D. Joye (2002), "Theorisation, construction and validation of a social stratification scale: Cambridge Social Interaction and Stratification Scale (CAMSIS) for Switzerland", *Swiss Journal of Sociology,* Vol. 28, pp. 441-460.

Björklund, A. and M. Jäntti (2000), "Intergenerational mobility of economic status in comparative perspective", *Nordic Journal of Political Economy*, Vol. 26, pp. 3-32.

Björklund, A. and M. Jäntti (1997), "Intergenerational income mobility in Sweden compared to the United States", *American Economic Review*, Vol. 87/5, pp. 1009-1018.

Bjorklund, A., M. Jantti and M. Lindquist (2009), "Family background and income during the rise of the welfare state: Brother correlations in income for Swedish men born 1932-1968", *Journal of Public Economics*, Vol. 93/5-6, pp. 671-680.

Black, S.E. and P.J. Devereux (2011), "Recent developments in intergenerational mobility", *Handbook of Labor Economics*, Elsevier, https://ideas.repec.org/h/eee/labchp/5-16.html.

Blanden, J. (2013), "Cross-country rankings in intergenerational mobility: A comparison of approaches from economics and sociology", *Journal of Economic Surveys*, Vol. 27/1, pp. 38–73.

Blanden, J., P. Gregg and L. Macmillan (2013), "Intergenerational persistence in income and social class: The effect of within-group inequality", *Journal of the Royal Statistical Society*, Series A/176, pp. 1-23.

Blanden, J., P. Gregg and L. Macmillan (2007), "Accounting for intergenerational income persistence: Noncognitive skills, ability and education", *The Economic Journal,* Vol. 117, pp. C43–C60.

Boserup, S.H., W. Kopczuk and C.T. Kreiner (2014), "Intergenerational wealth mobility: Evidence from Danish wealth records of three generations", *Working Paper*, University of Copenhagen.

Bowles, S. and Gintis, H. (2002), "The inheritance of inequality", *Journal of Economic Perspectives*, Vol. 16, pp. 3-30.

Bratsberg, B., et al. (2007), "Nonlinearities in intergenerational earnings mobility: consequences for cross-country comparisons". *The Economic Journal*, Vol. 117, p. 519.

Bratberg, E., Ø. Anti Nilsen and K Vaage (2005), "Intergenerational earnings mobility in Norway: Levels and trends", *Scandinavian Journal of Economics*, Vol. 107, pp. 419–435.

Breen, R. (ed.) (2004), *Social Mobility in Europe*, Oxford University Press, Oxford, New York..

Breen, R. and R. Luijkx (2004), "Conclusions", Chapter 15 in R. Breen (ed.), *Social Mobility in Europe,* Oxford University Press, Oxford.

Büchner, C.I.R., W. Smits and R. Van der Velden (2012), "Education, cognitive skills and earnings of males and females", *Research Memorandum*, No 010, Maastricht University, Maastricht Research School of Economics of Technology and Organization.

Bukodi, Ee, J.H. Goldthorpe, L. Waller and K. Jouni (2015), "The mobility problem in Britain: New findings from the analysis of birth cohort data", *The British Journal of Sociology*, Vol. 66/1, pp. 93-117.

Bukodi, E., and Goldthorpe, J.H. (2016), "Educational attainment-relative or absolute-as a mediator of intergenerational class mobility in Britain". *Research in Social Stratification and Mobility*, Vol. 43, pp. 5-15.

Bukodi, E., M. Paskov and B. Nolan (2017), "Intergenerational class mobility in Europe: A new account and an old story", *INET Oxford Working Paper*, no. 2017-03, Oxford.

Carmichael, F. (2000), "Intergenerational mobility and occupational status in Britain", *Applied Economics Letters*, Vol. 7/6, pp. 391-396.

Cervini-Plá, M. (2015), "Intergenerational earnings and income mobility in Spain", *Review of Income and Wealth*, https://scholar.google.es/scholar?oi=bibs&cluster=14277689325857077420&btnI=1&hl=en

Cervini-Plá, M. (2009), "Measuring intergenerational earnings mobility in Spain: A selection-bias-free approach", *Working Paper* 0904, Department of Applied Economics at Universitat Autonoma of Barcelona.

Chadwick, L. and G. Solon (2002), "Intergenerational income mobility among daughters", *American Economic Review*, Vol. 92/1, pp. 335–344.

Chan, T.W. (2010), "The social status scale: Its construction and properties", in T. W. Chan (ed.), *Social Status and Cultural Consumption*, Cambridge University Press, Cambridge.

Chan, T.W. and J.H. Goldthorpe (2004), "Is there a status order in contemporary British society", *European Sociological Review***,** Vol. 2/(5, pp. 383-401.

Charles, K.K. and E. Hurst (2003), "The correlation of wealth across generations", *Journal of Political Economy*, University of Chicago Press, Vol. 111, pp. 1155-1182, http://ideas.repec.org/a/ucp/jpolec/v111y2003i6p1155-1182.html.

Checchi, D. and V. Dardanoni (2002), "Mobility comparisons: Does using different measures matter?" *Departmental Working Papers,* 2002-15, Department of Economics, University of Milan, Italy.

Chen, W.-H., Y. Ostrovsky and P. Piraino (2017), "Lifecycle variation, errors-in-variables bias and nonlinearities in intergenerational income transmission: New evidence from Canada", *Labour Economics*, Vol. 44/C, pp. 1-12.

Chetty, R. et al. (2017), "The fading American dream: Trends in absolute income mobility since 1940", *Science*, Vol. 356/6336, pp. 398-406, http://doi.org/10.1126/science.aal4617.

Chyi, H., et al. (2014), "An estimation of the intergenerational income elasticity of China". *Emerging Markets Finance and Trade*, Vol. 50/6, pp. 122-136.

Clark, G. (2014), *The Son Also Rises: Surnames and the History of Social Mobility*, 1st ed., Princeton University Press.

Corak, M. and P. Piraino (2011), "The intergenerational transmission of employers". *Journal of Labor Economics*, Vol. 29/1, pp. 37-68.

Corak, M. and P. Piraino (2010), "Intergenerational earnings mobility and the inheritance of employers", Unpublished.

D'Addio, A. (2007), "Intergenerational transmission of disadvantage: Mobility or immobility across generations?" *OECD Social, Employment and Migration Working Papers***,** No. 52, OECD Publishing, Paris, http://dx.doi.org/10.1787/217730505550.

Dearden, L., S. Machin and H. Reed (1997), "Intergenerational mobility in Britain". *The Economic Journal*, pp. 47-66.

De Luca, D., C. Meraviglia and H.B.G. Ganzeboom (2010), ICAM: The International CAMSIS scale, First presented at ISA RC28, Hafia, 14 April.

Di Pietro, G. and P. Urwin (2003), "Intergenerational mobility and occupational status in Italy", *Applied Economics Letters*, Vol. 10/12, pp. 793-797.

Duncan, O.D. (1961), "A socio-economic index for all occupations" and "Properties and characteristics of the socioeconomic index", in in A.J. Reiss (ed.), *Occupations and Social Status*, Free Press, Glencoe, pp. 109-161.

Dunn, T., and D. Holtz-Eakin (2000), "Financial capital, human capital, and the transition to self-employment: Evidence from intergenerational links". *Journal of labor economics*, Vol. 18/2, pp. 282-305.

Erikson, R. and J.H. Goldthorpe (2010), "Has social mobility in Britain decreased? Reconciling divergent findings on income and class mobility". *The British journal of sociology*, Vol. 61/2, pp. 211-230.

Erikson, R. and J.H. Goldthorpe (2002), "Intergenerational inequality: A sociological perspective", *Journal of Economic Perspectives*, Vol. 16/3, pp. 31-44.

Erikson, R. and J. Goldthorpe (1992), *The Constant Flux: A Study of Class Mobility in Industrial Societies*, Clarendon Press, Oxford.

Erikson, R. and J. Goldthorpe (1987), "Commonality and variation in social fluidity in industrial nations. Part I: A model for evaluating the FJH hypothesis", *European Sociological Review*, Vol. 3/2, pp. 54-77.

Erikson, R., J. Goldthorpe and L. Portocarero (1979), "Intergenerational class mobility in three Western European societies", *British Journal of Sociology*, Vol. 30/4, pp. 415-441.

Eriksson, T., B. Bratsberg and O. Raaum (2005), "Earnings persistence across generations: Transmission through health?" *Memorandum* n. 35/2005, Department of Economics, University of Oslo.

Ermisch, J. and M. Francesconi (2002), "Intergenerational social mobility and assortative mating in Britain", *ISER Working Paper* no. 2002-06, University of Essex.

Ermisch, J., M. Francesconi and T. Siedler (2006), "Intergenerational economic mobility and assortative mating", *The Economic Journal*, Vol. 116, pp. 659–679.

Eurofound (2017), Social mobility in the EU, Publications Office of the European Union, Luxembourg.

Fertig, A.R. (2003), "Trends in intergenerational earnings mobility in the US", *Journal of Income Distribution*, Vol. 12/3-4, pp. 108-130.

Ganzeboom, H.B.G., P. De Graaf and D.J. Treiman (with J. De Leeuw) (1992), "A standard international socio-economic index of occupational status", *Social Science Research*, Vol. 21/1, pp. 1-56.

Ganzeboom, H.B.G. and D. Treiman (2010), "Occupational status measures for the new international standard classification of occupations ISCO-08", Mimeo.

Ganzeboom, H.B.G. and D.J. Treiman (1996), "International stratification and mobility file: Conversion tools", Department of Social Research Methodology, Amsterdam.

Gibbons, M. (2010), "Income and occupational intergenerational mobility in New Zealand", *Working Paper* 10/06, New Zealand Treasury, Wellington.

Goldthorpe, J.H. (2016), "Social class mobility in modern Britain: Changing structure, constant process", *Journal of the British Academy*, Vol. 4, pp. 89-111.

Goldthorpe, J.H. (2013), "Understanding—and misunderstanding—social mobility in Britain: The entry of the economists, the confusion of politicians and the limits of educational policy", *Journal of Social Policy*, Vol. 42, pp. 431-50.

Goldthorpe, J.H. and A. McKnight (2006), "The economic basis of social class", in S. Morgan, D.B. Grusky and G. S. Fields (eds.), *Mobility and Inequality: Frontiers of Research from Sociology and Economics,* Stanford University Press, Standford.

Grawe, N. (2004), "Reconsidering the use of nonlinearities in intergenerational earnings mobility as a test for credit constraints", *Journal of Human Resources*, Vol. 39/3.

Groves, M.O. (2005), "How important is your personality? Labor market returns to personality for women in the US and UK", *Journal of Economic Psychology*, Elsevier, Vol. 26/6, pp. 827-841, https://ideas.repec.org/a/eee/joepsy/v26y2005i6p827-841.html.

Guimarães-Ferreira, S. and F.A. Veloso (2006), **"**Intergenerational mobility of wages in Brazil", *Brazilian Review of Econometrics*, Vol. 26/2, http://bibliotecadigital.fgv.br/ojs/index.php/bre/issue/view/26-2.

Hellerstein, J.K. and M. Morrill (2011), "Dads and daughters: The changing impact of fathers on women's occupational choices", *Journal of Human Resources*, Vol. 46/2.

Hertz, T. (2007), "Trends in the intergenerational elasticity of family income in the United States", *Industrial Relations*, Vol. 46/1, pp. 22-50.

Hout, M. (1988), "Expanding universalism, less structural mobility: The American occupational structure in the 1980s", *American Journal of Sociology*, Vol. 93, pp. 1358-1400.

Hnatkovska, V., Lahiri, A. and S.B. Paul (2013), "Breaking the caste barrier intergenerational mobility in India". *Journal of Human Resources*, Vol. 48/2, pp. 435-473.

Hyson, R.T. (2003), Differences in intergenerational mobility across the earnings distribution. US Department of Labor, Bureau of Labor Statistics, Office of Employment and Unemployment Statistics.

Jäntti, M. et al. (2006), "American exceptionalism in a new light: A comparison of intergenerational earnings mobility in the Nordic countries, the United Kingdom and the United States", *Discussion Paper* 1938, IZA, Bonn.

Jenkins, S.P. and M. Jantti (2013), "Income mobility", *IZA DP* no. 7730.

Karagiannaki, E. (2011), "The impact of inheritance on the distribution of wealth: Evidence from the UK", June 2011 Paper No CASE/148" (21 August 2013), https://ssrn.com/abstract=2320329 or http://dx.doi.org/10.2139/ssrn.2320329.

Kessler, D. and A. Masson (1989), "Bequest and wealth accumulation: are some pieces of the puzzle missing?" *Journal of Economic Perspectives*, Vol. 3/3, pp. 141-152.

Kim, S. (2013), "Intergenerational Earnings Mobility in Korea", (21 August 2013) http://dx.doi.org/10.2139/ssrn.2320329

Klevmarken, N.A. (2006), "The distribution of wealth in Sweden: Trends and driving factors", *Working Paper Series* 2006/4, Uppsala University, Department of Economics.

Kotlikoff, L. and L. Summers (1988), "The contribution of intergenerational transfers to total wealth: A reply", *NBER Working Papers* 1827, National Bureau of Economic Research, Inc.

Kramarz, F. and O.N. Skans (2014), "When strong ties are strong: Networks and youth labour market entry". *Review of Economic Studies*, Vol. 81/3, pp. 1164-1200.

Kramarz, F. and O. Skans (2007), "With a little help from my parents? Family networks and youth labor market entry", *CREST Working Paper*.

Laband, D.N., and B.F. Lentz (1983), "Like father, like son: Toward an economic theory of occupational following". *Southern Economic Journal*, pp. 474-493.

Lambert, P.S., K. Prandy and W. Bottero (2007), "By slow degrees: Two centuries of social mobility and reproduction in Britain", *Sociological Research Online,* Vol. 12/1**,** http://www.socresonline.org.uk/12/1/prandy.html.

Lee, C.I. and G. Solon (2009), "Trends in intergenerational income mobility", *Review of Economics and Statistics*, Vol. 91/4, pp.766-772.

Lefranc, A. (2011), "Educational expansion, earnings compression and changes in intergenerational economic mobility: Evidence from French cohorts, 1931-1976", *THEMA Working Paper* 11, Université de Cergy-Pontoise, http://www.u-cergy.fr/thema/repec/2011-11.pdf.

Lefranc, A., F. Ojima and T. Yoshida (2013), "Intergenerational earnings mobility in Japan among sons and daughters: Levels and trends", *Journal of Population Economics*, pp. 1–44.

Lefranc, A. and A. Trannoy (2005), "Intergenerational earnings mobility in France: Is France more mobile than the U.S.?" *Annales d'Economie et de Statistique*, Vol. 78/03.

Lentz, B.F., and D.N. Laband (1989), "Why so many children of doctors become doctors: nepotism vs. human capital transfers". *Journal of Human Resources*, pp. 396-413.

Lindquist, M. et al. (2015), "Why do entrepreneurial parents have entrepreneurial children?" *Journal of Labor Economics*, Vol. 33/2, pp. 269-296.

Long, J. and J. Ferrie (2013), "Intergenerational occupational mobility in Great Britain and the United States since 1850", *American Economic Review*, Vol. 103/4, pp. 1109-37.

Magruder, J.R. (2010), "Intergenerational networks, unemployment, and persistent inequality in South Africa". *American Economic Journal: Applied Economics*, Vol. 2/1, pp. 62-85.

Mayer, S.E. and L.M. Lopoo (2004), "What do trends in the intergenerational economic mobility of sons and daughters in the United States mean?", in M. Corak, (ed.), *Generational Income Mobility in North America and Europe*, Cambridge University Press, Cambridge.

Mazumder, B. (2005), "Fortunate sons: New estimates of intergenerational mobility in the US. Using social security earnings data", *Review of Economics and Statistics*, Vol. 87/2, pp. 235-55.

Mendolia, S. and P. Siminski (2016), "New estimates of intergenerational mobility in Australia", The Economic Record, The Economic Society of Australia, Vol. 92/298, pp. 361-373, https://ideas.repec.org/s/bla/ecorec.html.

Mercan, M.A., and H. Barlin (2016), "Intergenerational Income Elasticity in Turkey: A New Estimate". *International Journal of Research in Business and Social Science*, Vol. 5/3, p. 30.

Meyer, P.B. and A.M. Osborne (2005), Proposed category system for 1960-2000 census occupations. US Department of Labor, Bureau of Labor Statistics, Office of Productivity and Technology.

Mocetti, S. (2007), "Intergenerational earnings mobility in Italy", The B.E. Journal of Economic Analysis & Policy, De Gruyter, Vol. 7/2, pp. 1-25, https://ideas.repec.org/a/bpj/bejeap/v7y2007i2n5.html.

Modigliani, F. (1988), "Measuring the contribution of intergenerational transfers to total wealth: Conceptual issues and empirical findings", in Kessler, D. and A. Masson, eds., *Modelling the Accumulation and Distribution of Wealth*, Oxford: Clarendon Press, pp. 21-52.

Mood, C., J.O. Jonsson and E. Bihagen (2012), "Socioeconomic persistence across generations: cognitive and noncognitive processes". Chapter, 3, pp. 53-83.

Moroni, P. (2015), "The intergenerational income mobility in Italy and its dynamics: Evidence from 2000-2012 SHIW", University of Bologna.

Nuñez, J. and L. Miranda (2010), "Intergenerational income mobility in a less-developed, high-inequality context: The case of Chile", *The B.E. Journal of Economic Analysis & Policy*, Vol. 10, p. 1.

OECD (2017a), *How's Life? 2017: Measuring Well-being*, OECD Publishing, Paris. http://dx.doi.org/10.1787/how_life-2017-en

OECD (2017b), *International Migration Outlook 2017*, OECD Publishing, Paris, http://dx.doi.org/10.1787/migr_outlook-2017-en.

OECD (2011), "An Overview of Growing Income Inequalities in OECD Countries: Main Findings" in *Divided We Stand Why Inequality Keeps Rising*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264119536-en

OECD (2005), "A Family Affair: Intergenerational Social Mobility across OECD Countries" in *Economic policy reforms: Going for growth*, OECD Publishing, Paris. http://dx.doi.org/10.1787/growth-2005-en

Österbacka, E. (2001), "Family background and economic status in Finland", *Scandinavian Journal of Economics*, Vol. 103/3, pp. 467–484.

Österberg, T. (2000), "Intergenerational income mobility in Sweden: What do tax data show?" *Review of Income and Wealth*, Vol. 46, pp. 421–436.

Pekkala, S. and R.E.B. Lucas (2007), "Differences across cohorts in Finnish intergenerational income mobility", *Industrial Relations*, Vol. 46/1, pp. 81-111.

Pellizzari, M. (2010), "Do friends and relatives really help in getting a good job?" ILR Review, Cornell University, ILR School, Vol. 63/3, pp. 494-510, https://ideas.repec.org/a/sae/ilrrev/v63y2010i3p494-510.html.

Pellizzari, M. et al. (2011), Family ties in licensed professions in Italy. A report for the Fondazione Rodolfo Debenedetti, Milan

Pellizzari, M., and G. Pica (2011), "Liberalizing professional services: Evidence from Italian lawyers". *IGIER Working Paper 372*.

Pérez-González, F. (2006), Inherited control and firm performance. American Economic Review, Vol. 96/5, pp. 1559-1588.

Pfeffer, F.T. and A.A. Killewald (2015), "How rigid is the wealth structure and why? Inter- and multigenerational associations in family wealth", *PSC Research Report* No. 15-845.

Piketty, T. (2011), "On the long-run evolution of inheritance – France 1820-2050", *The Quarterly Journal of Economics*, Vol. 126/3, pp. 1071-1131.

Piraino, P. (2007), "Comparable estimates of intergenerational income mobility in Italy", *The B.E. Journal of Economic Analysis & Policy*, Vol. 7/2.

Prandy, K. and P. S. Lambert (2003), "Marriage, social distance and the social space: An alternative derivation and validation of the Cambridge Scale", *Sociology*, Vol. 37, pp. 397-411.

Raaum, O. et al. (2007), "Marital sorting, household labor supply and intergenerational earnings mobility across countries", *The B.E. Journal of Economic Analysis & Policy*, Vol. 7/2,, Article 7.

Ramírez Zuluaga, J.S. (2016), Movilidad social intergeneracional por ingresos en Colombia (Doctoral dissertation, Universidad Nacional de Colombia-Sede Bogotá).

Reeves, R. and K. Howard (2013), *The parenting gap. Center on Children & Families at Brookings*.

Rose, D. and E. Harrison (eds.) (2010), *Social Class in Europe. An Introduction to the European Socio-economic Classification*, Routledge, Oxford.

Schnitzlein, D.D. (2012), Inter-and Intragenerational Economic Mobility: Germany in International Comparison (Vol. 332). W. Bertelsmann Verlag.

Sobel, M.E., M. Hout and O.D. Duncan (1985), "Exchange, structure, and symmetry in occupational mobility", *American Journal of Sociology,* Vol. 91, pp. 359–72.

Solon, G. (1992), "Intergenerational income mobility in the United States", *American Economic Review*, Vol. 82/3, pp. 393-408.

Sørensen, J.B. (2007), "Closure and exposure: Mechanisms in the intergenerational transmission of self-employment". in *The sociology of entrepreneurship* (pp. 83-124). Emerald Group Publishing Limited.

Toledo, M. (2007), "On the Intergenerational Persistence of Work Hours". Universidad Carlos III, Madrid.

Treiman, D.J. (1977), *Occupational prestige in comparative perspective*, Academic Press, New York.

Ueda, A. (2013), "Intergenerational mobility of earnings in South Korea". *Journal of Asian Economics*, Vol. 27, pp. 33-41. http://dx.doi.org/10.1016/j.asieco.2013.05.002.

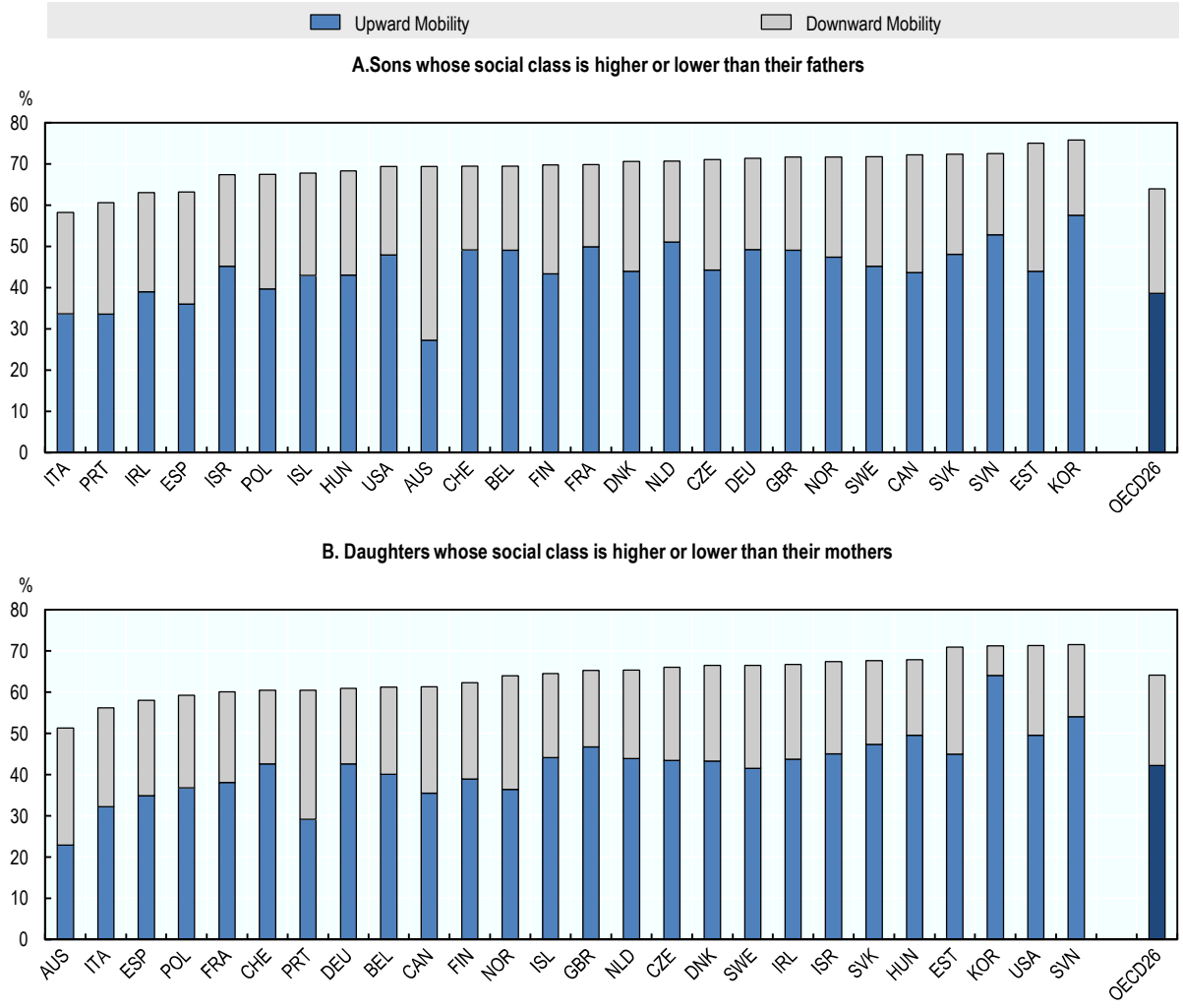
Wolff, E. and M. Gittleman (2011), "Inheritances and the distribution of wealth or whatever happened to the great inheritance boom? Results from the SCF and PSID", *NBER Working Paper* No. 16840.

Zimmerman, D. (1992), "Regression toward mediocrity in economic stature", *American Economic Review*, Vol. 82/3, pp. 409-429.

Annex 4.A1. Additional analyses

Figure 4.A.1.1. Absolute social class mobility by gender, 2010s

Percentage of 25-64 years old whose social class is higher or lower than that of their parents by gender, 2002-14

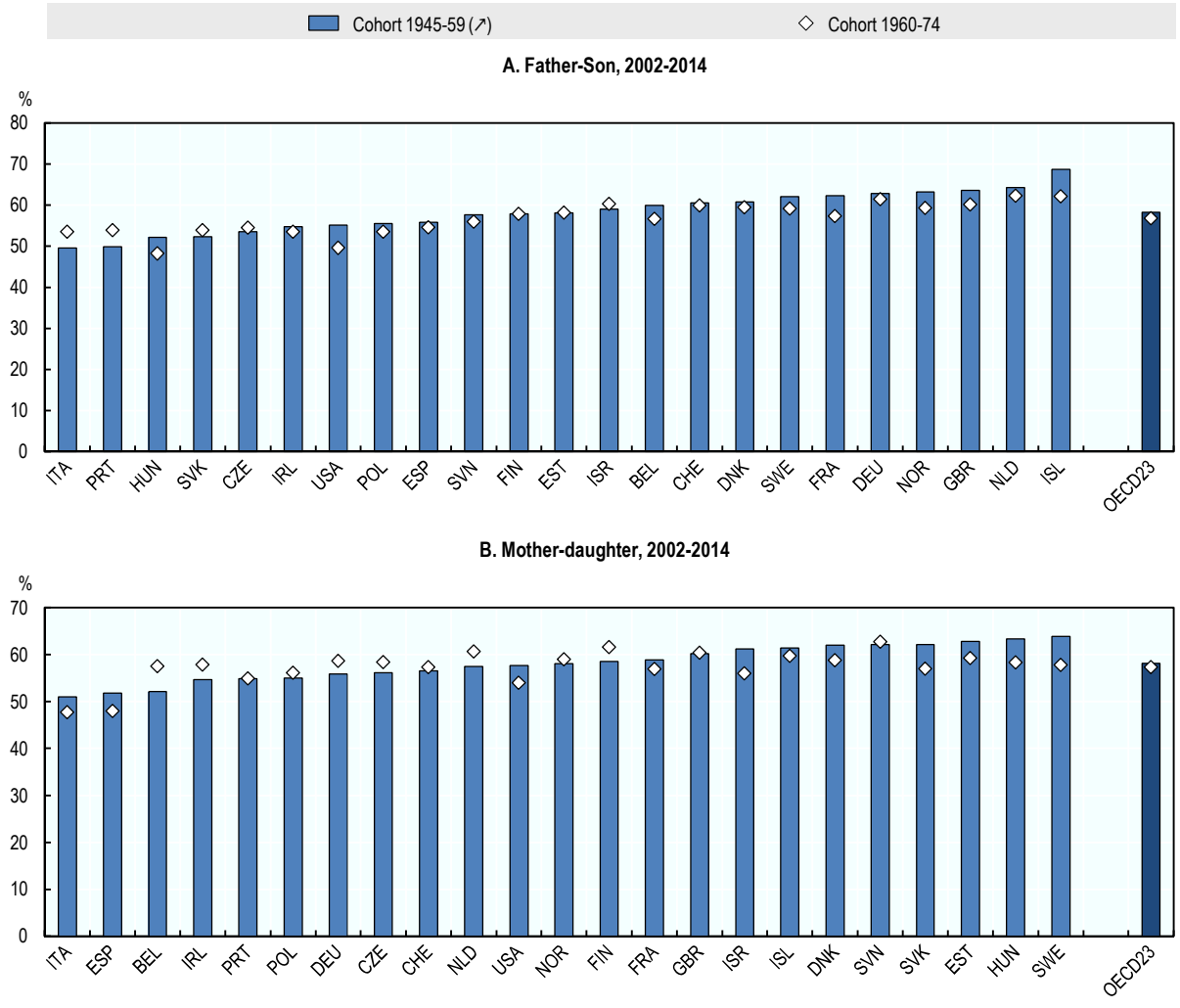


Note: Social class is based on the nine European Socio-Economic Classification (ESEC) categories constructed based on occupation.

Source: OECD calculations based on the ESS all seven waves for European countries (2002-14), PSID for the United States (1999-2013), CNEF for Australia and Korea (2000-14).

Section 4.1.2 above documented trends in absolute class mobility for all persons, comparing cohorts born 1945-59 with cohorts born 1960-74. No overall difference emerges from the analysis of cohort changes for men and women but gender differences in trends in absolute mobility depend greatly on the country (Figure 4.A1.2). In a group of countries absolute mobility became lower for the 1960-74 cohort: this includes most Nordic countries, Estonia, Slovenia, Hungary, France, Israel, the UK and the US. In the rest of countries, which comprise Southern European countries, Belgium, Ireland and some Central European countries, absolute social class mobility was stable over time. For the countries with downward mobility over time, this trend is driven by different gender patterns: there is lower mobility among women in several countries (Denmark, Estonia and Norway) or for both men and women (Hungary, Sweden and the US) while it is driven by lower mobility among men in France and the UK. In countries where stability in absolute mobility is observed, there are some diverging trends between men and women. This is the case in Belgium and Ireland where absolute mobility declined for men while it increased for women and the reverse was found in Italy. Overall there is more stability in upward mobility for women across countries while for men, in six out of 23 countries, there was a decline in upward mobility and in other six countries there was an increase. On the contrary, more countries showed a decrease in downward mobility for women than an increase (nine and three respectively).

Figure 4.A.1.2 Changes in absolute class mobility by gender



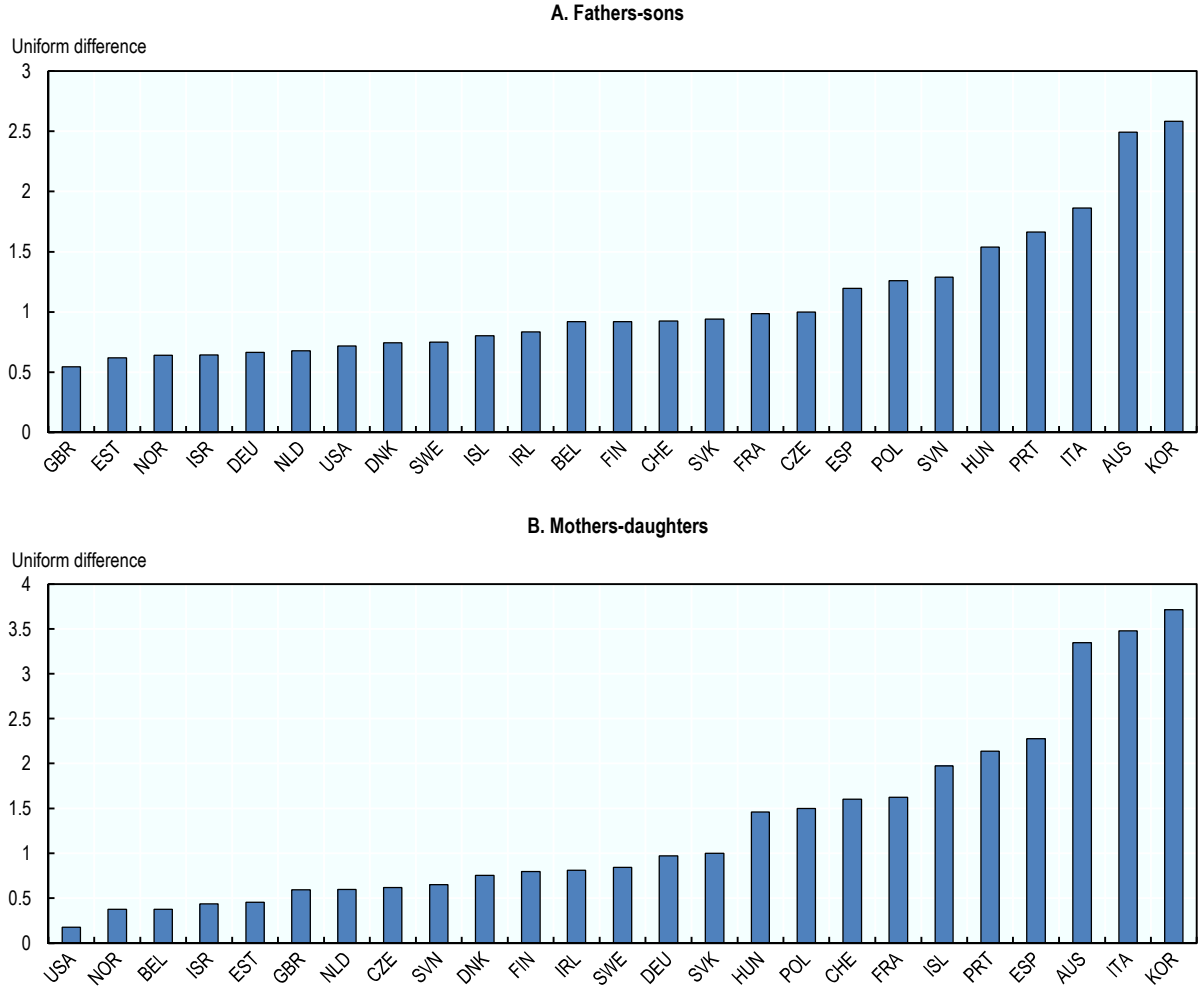
Note: Social class is based on the nine European Socio-Economic Classification (ESEC) categories constructed based on occupation.

Source: OECD calculations based on the ESS all seven waves for European countries (2002-2014), PSID for the United States (1999-2013), CNEF for Australia and Korea (2000-2014).

Figure 4.6 in Section 4.1.3 above suggests that relative social class mobility shows little variability across most but not all countries, for all persons. That said, relative mobility for daughters is more diverse across countries, with a wider set of countries having either high or low relative mobility (Figure 4.A1.3, Panel B). Although the model used to estimate relative persistence does not allow for a straightforward gender comparison, relative mobility appears similar by gender in 11 out of 25 countries, while it is lower for men in nine countries and lower for women in five countries. For both sons and daughters, mobility is low in Southern European countries, Australia and Korea though mobility appears lower for daughters than for sons. In such countries, higher persistence for daughters might be driven by the selection effect of participation where predominantly women are working who are highly educated, likely to be in a high social class and whose parents were also in a high social class are working. In countries with

higher mobility for women, this might also be related in part to a participation effect of women, whereby more women are participating in lower classes because they work part-time or have interrupted careers, although their parents came from a high social class. Bukodi et al. (2016) found for instance that in Great Britain increasing fluidity for women was indeed related to part-time work.

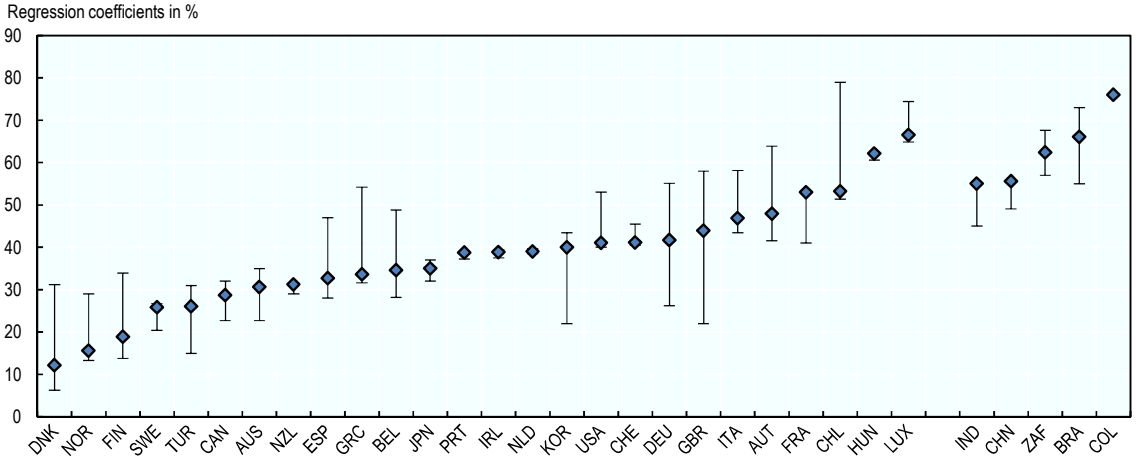
Figure 4.A.1.3 Relative persistence in social class by gender



Note: Social class is based on the nine European Socio-Economic Classification (ESEC) categories constructed based on occupation.

Source: OECD calculations based on the ESS all seven waves for European countries (2002-14), PSID for the United States (1999-2013), CNEF for Australia and Korea (2000-14).

Figure 4.A1.4. Estimates for earnings elasticities for fathers to sons for different specifications and sources, late 2000s



Source: OECD calculations based on the GSOEP for Germany, the PSID for the US. Based on the ECHP and EUSILC 2011 module using the two-sample two-stage least squares estimator for Austria, Belgium, Ireland, Luxembourg, the Netherlands, Portugal, Spain, Greece, Italy, and the UK, based on the MHP and the EU-SILC 2011 module for Hungary, on CASEN for Chile. This calculations are complemented by estimates from Mendolia & Siminski (2015) for Australia, Chen et al. (2017) for Canada, Nuñez and Miranda (2010) for Chile, Bratberg et al. (2007) for Denmark and Finland, Lefranc (2011) and Lefranc and Trannoy (2003) for France, Schnitzlein (2012) for Germany, Kim (2013) for Korea, Lefranc et al. (2012) for Japan, Jantti et al. (2006) and Jäntti et al. (2006) for Norway, Cervini-Plá (2015) for Spain, Jantti et al. (2006) for Sweden, Gibbons (2010) for New Zealand, Bauer (2006) for Switzerland, Mercan and Barlin (2016) for Turkey, Dearden Machin Reed (1997) for the UK, Hyson (2003) and Hertz (2007) for the US, Chyi et al. (2014) for China, Ramirez-Zuluaga (2016) for Colombia, Hnatkovska et al. (2012) for India, Piraino (2015) for South Africa, Guimaraes-Ferreira and Veloso (2006) for Brazil.

Chapter 5. How parental background affects chances early in life: The transmission of health and educational outcomes

This chapter studies intergenerational mobility in health and educational outcomes. In the first part, the chapter looks at how parents' socio-economic characteristics influence the health status of their offspring and analyses intergenerational persistence in self-assessed health and health behaviour. It compares the parents' health status with other determinants of children's health. In the second part, the chapter considers intergenerational educational mobility. It analyses upward and downward mobility in educational attainment for children compared to their parents, and looks at movements across educational groups depending on parental education. Finally, it assesses the respective roles of parental background, individual attitudes and various school and school policy effects for educational outcomes.

Introduction

Rising inequality in the past three decades has raised the concern that parents' background is playing an increasingly stronger role for the outcomes of their offspring and that inequalities perpetuate over generations. Many people think that opportunities to move up the social ladder have fallen over time, and they are concerned about the prospects for the next generation because they believe that social mobility has stalled. This raises the question to what extent the conditions and circumstances of early life constrain success in adulthood, particularly inequality of educational and health opportunities. Increases in the perceived returns to education and health might be accentuating the diverging fortunes of children from advantaged and disadvantaged households as more advantaged households invest more heavily in their children's quality of education and their health inputs. This chapter looks at intergenerational mobility in terms of both health and educational outcomes.

The following main findings emerge:

1. Health and health behaviour depend significantly on parents' health and socio-economic status:

- The socio-economic status, living arrangements and health behaviour of parents have an impact on the probability that their children will experience health problems. The probability of having a chronic condition is 13% lower when parents are wealthy. Childhood health, in turn, has a long-lasting impact on later health in adulthood. Chronic conditions during childhood increase the probability of poor health in adulthood by 5.5%.
- The intergenerational persistence in self-assessed health is lowest in Denmark and highest in Estonia. The correlation ranges from 0.13 to 0.34.
- Having parents with poor health increases one's own risks of poor self-assessed health. Being in the lowest wealth quintile or having no education is nevertheless a better predictor of one's own poor health than parental poor health, but parental health matters more than family circumstances (being divorced or widowed). When accounting for individual heterogeneity, parental poor health becomes less important to explain own poor health than changes in marital status such as getting divorced or getting older.
- Having parents that smoked increases the probability of own smoking by 8%. Parental drinking during childhood is also associated with a higher chance of drinking (5% for men and 4% for women). The impact of parental smoking is higher than that of several socio-demographic variables such as being in the lowest quintile of wealth or having low education.

2. Absolute educational mobility (which refers to the extent to which people do better than their parents) across generations is high, but relative mobility remains a concern:

- There is a considerable amount of absolute social mobility in education outcomes, with 50% of adult children having a different level of education from their parents. Upward mobility is considerably more common (39%) than downward mobility (11%) and is highest in Finland and Korea. At the same time, absolute educational mobility in education has declined from 41% to 33% for more recent generations.

- Relative mobility in education remains a concern, as it indicates that an individual's chances to do better than their parents in terms of education still depend on where her parents were ranked in the social ladder. There is a sticky ceiling in education, with 63% of individuals with highly educated parents achieving tertiary levels and being protected from falling to lower levels of education. Only 7% of individuals with university-educated parents have only a primary education, compared with 42% of those whose parents' highest level of education was lower secondary.
- Intergenerational persistence in lower secondary education has declined: 47% of individuals whose parents had less than upper secondary schooling remained in the same category in 1950, while this was only 35% in 1985, opening up the prospects for upward mobility. At the same time, the probability of relative upward mobility towards tertiary education has stagnated for people born post-1975 at 15%.
- Individual family characteristics and school effects are important in explaining variation in PISA test scores. At the same time, school effects are driven by the selection of better students into schools, which is partly a parental choice, partly a school choice and partly the result of tracking or other institutional policies.
- Both individual behaviour – such as motivation and belief in their own ability – and school resources matter for students' resilience, that is, for the capacity of disadvantaged students to become top performers.

Inequalities in health status persist in most OECD countries, in part because health endowments and behaviours are transmitted from parents to children. In addition, health affects the intergenerational transmission of inequalities in other dimensions. Good health makes people more productive and may increase future earnings, whereas poorer health causes low productivity, leading to inequalities in earnings and wealth accumulation. Most research points to inequality starting at birth or even before and describes how interventions during the prenatal phase can make a difference and have a long-term impact on later outcomes.

Evidence suggests furthermore that high inequality hinders the ability of individuals from low economic backgrounds to invest in their human capital, both in terms of the level of education but even more importantly in terms of the quality of education. The extent of the persistence of educational attainment and performance across generations is likely to be related to the strength of the transmission of parental characteristics, the efficacy of investment in children's human capital, the earnings return to human capital, and the progressivity of public investment in children's human capital (Solon, 2004). Heckman (2007) has emphasised the importance of human capital investment and the role of public policies at the earliest stage in the lifecycle in order to correct for disadvantageous individual conditions inherited from parents.

The first part of this chapter considers the health dimension of social mobility. It looks first at how parental socio-economic status and circumstances during childhood influence the health status of children. It then presents intergenerational associations in self-assessed health[1] and in the probability of drinking and smoking. It compares the importance of parental health with other drivers in influencing children's health. In the second part, the chapter presents estimates for absolute mobility of education (i.e. the percentage of children with an education level different from their parents) and relative mobility (i.e. looking at movement across educational groups depending on parental

education). Finally, in the last part, it assesses the relative importance for educational outcomes of individual attitudes, parental background and school policy variables such as resources, teaching practices or selection, among others.

5.1. To what extent do parents influence their offsprings' health status and health behaviour?

This section focuses on how intergenerational mobility is affected by children's earliest life experiences, mainly to what extent parents influence children's health outcomes first at a young age. It then considers how early health is related to later outcomes and then documents the extent of persistence in health status and health behaviour between parents and children. Despite rising concerns about health inequalities, there is still limited evidence on the intergenerational transmission of health outcomes. Recent evidence points to the importance of the prenatal period and early childhood years in shaping children's capabilities that affect individuals throughout their life-courses and suggests that inequality begins in the womb (Heckman, 2007; Aizer and Currie, 2014). Currie (2009) concludes that there is strong evidence that childhood health is related to parental socioeconomic status. In addition, health is a potentially important transmission mechanism for the intergenerational correlation of income and education, because health in childhood is a determinant of both educational attainment and health in adulthood, which in turn affect adults' employment opportunities and wages.[2]

5.1.1. Impact of parental background on children's health in early life

Parents influence the health of their children already before they are born through their own health endowment, health behaviour and socio-economic status. First, parents transmit their own health capital endowment to their children through biological channels. Mothers from more disadvantaged households are more likely to influence the child's outcomes negatively via poor maternal health because of a greater susceptibility to acquire contagious diseases and have poor nutrition. Second, parental health behaviour during the pregnancy (nutrition, smoking, drinking, prenatal care, exposure to toxins) affects children through "fetal programming". This describes the process whereby a stimulus during a critical period of development (in utero) has lasting or lifelong effects, which can be latent for many years (Barker, 1995). Such parental factors influence the probability of pre-term birth, low child birth weight and being born with a chronic illness at birth, and birthweight in turn is associated with educational outcomes. Third, economic difficulties representative of family adversity can contribute to the impaired physical and mental health of children. Because of lower housing costs, poorer families might live closer to sources of pollution. Exposure to harmful environmental factors such as pollution, violence and stress have been linked to poorer infant health (see box). A recent study also found that children from lower-income families had differences in brain surface area in comparison with children from higher-income families (Noble et al., 2015).

Disparities in poor health at birth would have only limited effects if parents are able to offset them through investments; in reality, disparities are often reinforced after birth. Adverse family circumstances impinge on the ability to provide proper nutrition, timely immunisation, and adequate access to health care for children, whereas more affluent parents continue to invest in the health of their children. In addition, chronically stressful life experiences and health-related behaviours also affect the transmission of non-communicable diseases. Parental background influences health behaviour, as more

educated parents are more likely to influence their children positively by avoiding unhealthy behaviour such as smoking and drinking (Cutler and Lleras-Muney, 2010; Sassi, 2015). They also influence it indirectly when poor parental health leads to fewer hours worked in the household and lower family income. In addition, evidence from the supplemental programmes points to the fact that prenatal and postnatal investment may be complementary and for instance might be less effective for those already born below a certain birthweight (Aizer and Currie, 2014). At the same time, children with poor neonatal health born to more educated families are able to overcome their initial health shortcomings better than those from less educated families. Studies examining the association between especially the mother's socio-economic status and her children's health have confirmed the importance of maternal education (Strauss and Thomas, 1998, for developing countries; Currie and Moretti, 2003, for the US).

Box 5.1. Birthweight determinants

Birthweight is affected by a range of factors, including environmental factors and health behaviour during the pregnancy. Several studies examining natural experiments in the US and the Netherlands found that in-utero exposure to influenza or famine had negative effects on birthweight and increased the likelihood of disability during adulthood (Aizer and Currie, 2014; Scholte, van den Berg and Lindeboom, 2012). Similarly, some studies have found an impact of prenatal exposure to pollution. Other studies have shown the impact of maternal behaviour during the pregnancy, including smoking and alcohol consumption in particular and prenatal care, with respect to birth weight or term birth through either randomised controlled trials or sibling comparisons (Currie, 2009; Sassi,2015). Maternal education has also been found to have an effect on birth weight in the US and the UK (Currie and Moretti, 2003; Chevalier and O'Sullivan, 2007). Studies have shown that the expansion of health insurance coverage strongly reduced the probability of low birthweight and infant mortality. Results from Canada illustrate the importance of some maternal behaviour, such as smoking during the pregnancy and family living arrangements, but do not confirm an independent effect of socio-economic status, although it is possible that it is correlated with other variables.

Table 5.1 Parental background and prenatal effects on health at birth in Canada

	Birthweight (in grams)	
	Coefficient	Bootstrapped standard error
Female	-0.121***	(0.010)
Mother age at birth		
Less than 20	-0.017	(0.024)
20-24	-0.015	(0.012)
Above 35	-0.014	(0.014)
Parity (birth order)		
First child	-0.144***	(0.011)
Third child and above	0.030	(0.014)
Gestational age (weeks)	0.165***	(0.003)
Multiple birth (twins, triplets,…)	-0.480***	(0.028)
Pregnancy visits	0.024	(0.016)
Pregnancy complications	0.028**	(0.011)
Mother smoked during pregnancy	-0.185***	(0.013)
Mother drank during pregnancy	-0.005	(0.015)
Low socio-economic status	0.006	(0.014)
Two-parent family	0.111**	(0.048)
Mother Employed	0.014	(0.009)
Living in rural area	-0.007	(0.011)
Constant	-2.849***	(0.125)
Sample size	41,158	
R-squared	0.414	
Race/Ethnicity dummies	Yes	
Province dummies	Yes	
Birth-cohort dummies	Yes	

Note: OLS estimation on pooled data using the NLSCY sample weights and bootstrap weights provided by Statistics Canada. ***, **, *: statistically significant at 1%, 5% and 10% levels, respectively.

Source: OECD estimates based on NLSCY cycles 5 to 8.

Previous researchers have examined the effects of poor nutrition (Lumey, 1998), pollution (Currie and Walker, 2011) and infection (Schwandt, 2014) on birth outcomes. Exposure to influenza in utero has been linked with worse newborn health and worse long-term outcomes. At the time they delivered their own children, mothers who were born in high disease environments were more likely to have low birthweight offspring and to be suffering from diabetes than were other women (Smeeding, 2015). Evidence that psychological stress is causally related to birth weight comes from quasi-experimental studies that exploit natural disasters (Glyn et al., 2001; Torche, 2011), unexpected acts of extreme violence (Eskenazi et al., 2007; Mansour and Rees, 2012) or tragic events such as the loss of a parent (Black et al., 2014; Persson and Rossin-Slater, 2014).

A series of studies have demonstrated the extent of the intergenerational correlations in birth weight (Black et al., 2005; Currie and Moretti, 2007; Currie, 2011) – an anthropometric health measurement that suffers less from measurement error and recall bias than self-reported measures of health. Emanuel et al. (1992) find a positive relation between infants' and parents' birth weights using the 1958 British Birth Cohort Study. Conley and Bennett (2000) use panel data (PSID) from the US and apply grandmother fixed effects to control for unobservable family factors to estimate the heritability of child birthweight. They find that a child born to a mother who was born with low birthweight (LBW) is 6.6 times as likely to be of LBW compared to a relative whose mother was not born with LBW. Currie and Moretti (2007) revisit the same question using individual birth records from California and show substantial intergenerational correlation in health i.e. that women who were low birth weight are more likely to deliver low birth weight infants, and this effect is greater if the women are living in a low income neighborhood. In fact, it is not just the mother's current health status that affects children but rather the longstanding maternal health represented by the mother's own low birth-weight, which is associated with a higher probability of her children experiencing low birth weight (Currie and Moretti, 2007). Currie and Moretti (2007) estimate an average intergenerational correlation of 0.17, meaning that a 100 g increase in the birth weight of a mother is associated with a 17 g increase in the birth weight of her children. Trying to quantify the impact of health at birth on adult outcomes, the estimates in Black, Devereux and Salvanes (2005) suggest that a 7.5% increase in birth weight would lead to a 1.1% increase in the birth weight of a person's children in Norway.

5.1.1.1. Evidence from health surveys

Parental socio-economic status, living arrangements and health behaviour[3] are predictive of children experiencing health problems. Table 5.2 shows how, for 13 European OECD countries and Canada, a positive socio-economic environment and parental health behaviour are associated with better health at childhood, while malnutrition is heavily detrimental. Childhood health is measured by several questions that respondents answer, recalling their health at around age ten.[4]

Homeownership at birth, in particular, is positively correlated with good or very good reported health, a lower likelihood of chronic conditions (except in Canada), missing school for health reasons and hospitalisation.

Father's absence is associated with lower self-reported health, and in Europe a higher likelihood of chronic conditions and hospitalisation. Father's employment is negatively associated with poor child health in Canada.

In addition, the analysis for European countries follows the previous literature on the topic of the impact of episodes of hunger (Angelini and Mierau, 2012), which is a strong predictor of negative health during childhood. While malnutrition has an impact on immediate health, previous hunger episodes also affect self-assessed health and hospitalisation.

Finally, parental health behaviour such as heavy drinking affects all health variables negatively in European countries. On the other hand, having regular health care is associated with lower chances of bad health outcomes.

Good health in early life has a long-lasting impact on health in adulthood. According to Case and Paxson (2008), prenatal and childhood health both appear to have direct effects on health and economic status in middle age: controlling for educational attainment, socio-economic status and health in earlier adulthood, they find that markers of prenatal and childhood health are significant predictors of health and economic status at age 42. In addition, poor childhood health could limit economic success later in life, because children with health problems tend to be less well educated than other children: they may have greater difficulty learning and may leave school when they are younger. Analysis from 11 OECD countries shows that suffering from a chronic illness during childhood increases the risk of reporting poor health during adulthood in all countries (except Sweden), even after controlling for adult socio-demographic characteristics such as education, employment status, marital status, age and wealth quintile (Figure 5.1). The coefficient for the impact of early childhood conditions is highest in some Southern European countries such as Greece and Spain and it is lower in France. The impact of childhood health is more important than certain other socio-demographic and labour market variables in adulthood but plays less role than having low education, and being older than age 75 increases the probability of poor health in all the countries studied.

Table 5.2. The impact of parental & socio-economic background on childhood health

A. European country average

		Poor health	Chronic condition	Missing school	Hospitalisation
Female		0.016***	0.030***	0.009**	-0.003
Mother age at birth	30-39 years old	-0.002	0.007	0.016**	0.009
	40-49 years old	0.000	0.016**	0.031***	0.014**
	Above 49 years old	-0.004	0.023***	0.030***	0.023***
Parental socio-economic status	Parent's homeownership at birth	-0.016***	-0.024***	-0.013***	-0.009**
	Living in rural area at birth	-0.009**	-0.007	-0.023***	-0.012***
	Number of rooms at age 10	-0.001	-0.004	-0.007	-0.012***
	Father elementary occupation	-0.003	-0.005	0.007	0.010**
Parent's absence	Father	0.027***	0.018**	0.009	0.017***
	Mother	-0.011	0.015	0.011	0.002
Episodes of hunger	At age 0-2	0.050**	0.036	-0.002	0.022
	At age 3-9	0.098***	0.039***	0.040***	0.000
Parental health behaviour	Heavy drinking affects	0.038***	0.044***	0.024***	0.028***
	All vaccinations	0.007	-0.003	0.012	0.009
	Had regular healthcare	-0.001	-0.037***	-0.038***	-0.014*
Constant		0.068***	0.069***	0.109***	0.058***
Sample size		21 940	21 940	21 890	21 922
R-squared		0.016	0.014	0.020	0.014

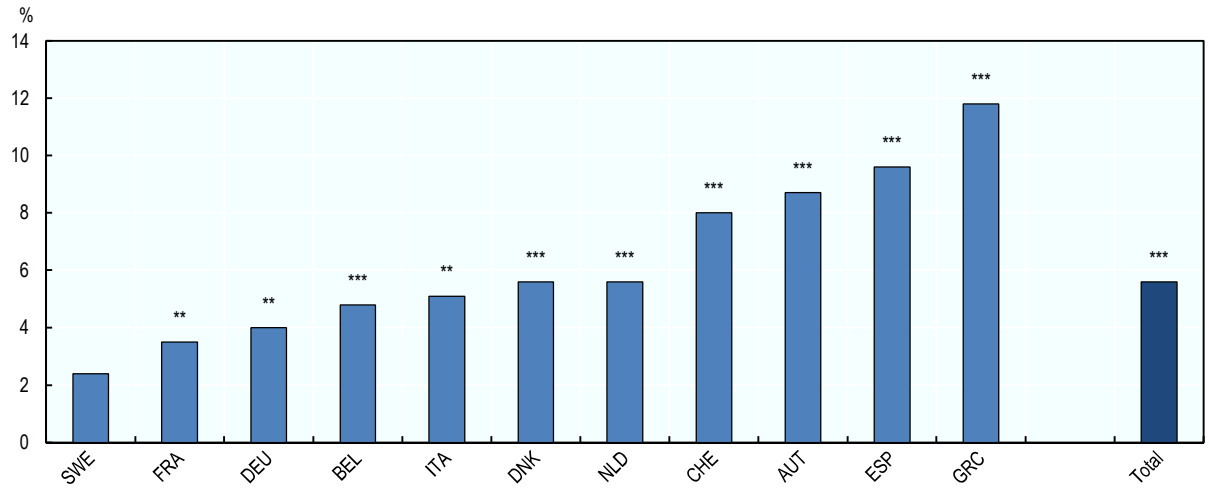
B. Canada

		Poor health	Chronic condition	Missing school
Female		-0.002	-0,047***	-0.001
Immigrant		0.004	-0.026 ***	0,003
Parental socio-economic status	Parent's homeownership at birth	-0.010 ***	-0.008	-0,011 ***
	Living in rural area	-0.004 **	-0.032 ***	-0.004
	Number of rooms per person	0.000	0.001	0,000
	At least 25 books at home	-0.003	0.016***	0,000
	Father in employment	-0.016 **	-0.038*	-0,028 ***
Parent's absence	Father	0.001	-0.027 *	-0,018 **
	Mother	-0.023***	-0.042	-0,013
Mother's education level	Low	0.002	-0.039	-0.010
	Medium	0.013 *	-0.001	0,005
Father's education level	Low	0.009	0.018	0,014
	Medium	-0.016 **	-0.019	-0.014
Parental health behaviour	Heavy drinking affects	-0.003	-0.002	-0,008 *
Constant		0.039 ***	0.358 ***	0,056 ***
Sample size		69 978	69 978	46 747
R-squared		0.005	0.030	0.009
Race/Ethnicity dummies		Yes	Yes	Yes
Province dummies		Yes	Yes	Yes
Birth-cohort dummies		Yes	Yes	Yes

Note: The results show the probability of having poor self-assessed health at age 10, a chronic condition at age 10, whether missed school for a month due to health reasons, or whether was hospitalised at age 10). Estimation on pooled data using the NLSCY sample weights and bootstrap weights provided by Statistics Canada.

Source: Estimations based on SHARELIFE (2008/9) for 13 countries (Austria, Belgium, the Czech Republic, Denmark, France, Germany, Italy, Greece, the Netherlands, Poland, Spain, Sweden and Switzerland), for Canada NLSCY cycles 5 to 8 and children aged 0 to 15 years old (4 to 15 years old for the last column) provided by Statistics Canada.

Figure 5.1. The impact of early childhood health on poor adult self-assessed health status



Note: The results show the probability of having poor or fair self-assessed health at current adult age on whether individuals reported a chronic condition at age 10. Any childhood health refers to chronic conditions which include diabetes or high blood sugar, heart trouble, severe headaches or migraines, epilepsy, fits or seizures, emotional, nervous or psychiatric problems, neoplastic diseases and other serious health conditions. Estimates are from a limited probability model. For further details, see Annex Table 5.A1.1. ***, **, *: statistically significant at 1% and 5% levels, respectively.

Source: OECD estimates based on SHARELIFE (2008/9).

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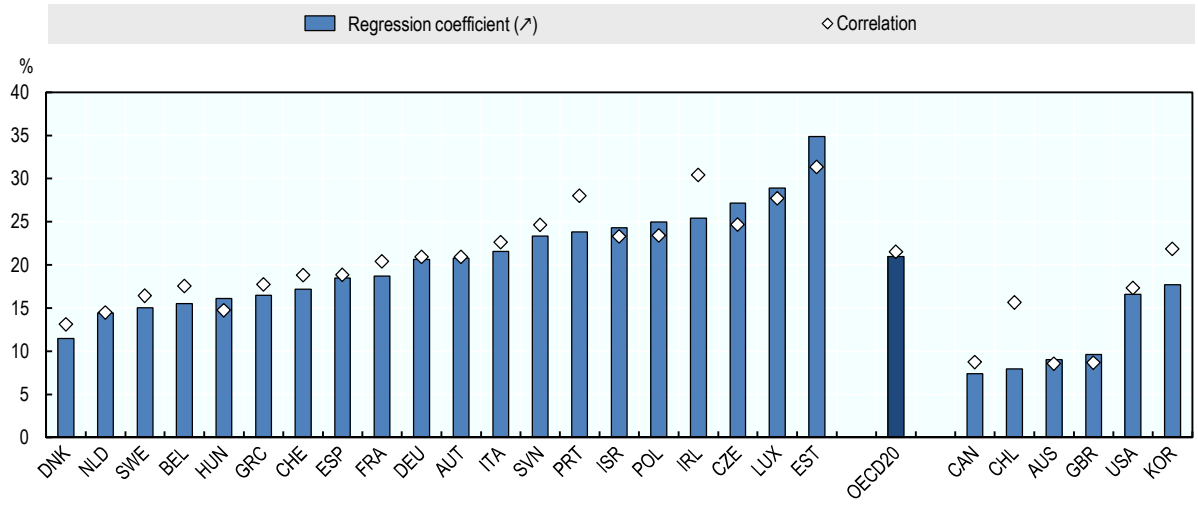
5.1.2. Intergenerational mobility in health status for adults

Figure 5.2 presents the intergenerational persistence in health, using regression coefficients for the self-assessed health of both parents and children for 26 OECD countries, for the most recent year available (see Box 5.1 for the estimation details). Because of a lack of data, only a limited number of studies have investigated the extent of intergenerational health mobility: most surveys that collect information on child health do not have information on parental health. Self-assessed health is measured with a 1 to 5 variable, where 1 is excellent and 5 is poor (the average score is 3), and it is reported by the survey respondents who also report their assessment of their parents' health. If there were perfect mobility, the correlation between the parents' health and the children's health would be zero, while 1 would indicate a total absence of mobility. The level of parental health has a modest impact on offspring health in all countries; the association between parental and offspring self-assessed health ranges from 0.11 in Denmark to 0.35 in Estonia, implying that there is a great deal of mobility in health across generations, compared with for instance indicators of earnings persistence across generations. The Nordic countries have the highest level of intergenerational health mobility in the sample while the Mediterranean countries, Germany and Austria lie somewhere in the middle, and Ireland, the Czech Republic and Estonia have the lowest mobility. For the countries where estimations include another age range (see note to Figure 5.2), Canada shows a greater degree of health mobility, while Korea shows a lower level.

Figure 5.2. Relation between parental and children's self-assessed health



Note: Estimates are for adults older than 45-years for European countries except the United Kingdom. For Australia, Korea, the United Kingdom and the United States, the results are based on individuals aged 16 or older and are therefore not strictly comparable with the other countries. Similarly, for Canada estimates are for youth aged 18 to 25 years old. For Chile, calculations are made based on co-resident parents and children and with a self-assessed measure on a seven-point scale instead of a five-point scale as for other countries and comparisons should be done with care. Estimates refer to a regression on the self-assessed health of children as a function of parental self-assessed health, without additional controls. The correlation is the regression coefficient of the regression multiplied by the standard deviation of the health measure for parents and divided by the standard deviation of the health measure for children.

Source: OECD estimates based on SHARE for European countries except the United Kingdom; for Australia, Korea, the United Kingdom and the United States, the results are based on CNEF; for Canada, estimates are based on NLSCY cycles 1 and 8; for Chile, estimates are based on CASEN 2015.

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How important is parental health for self-assessed health status relative to other drivers? Individuals have an 8% higher probability of poor health if either one of the parents has poor or fair health, 8.5% higher if the mother is deceased and 6% if the father is dead (Table 5.3, column 1). In comparison, being over 70 increases the chance of poor health by 10% (for those aged 70-74) and being over 80 by 28%. Once parental education and the demographic variables for children are accounted for (column 2), parental poor health still increases the probability of own poor health by 7%, and this becomes 6% if additional socio-economic variables are taken into account (column 3). Parental poor health is a more important predictor of one's poor health than being divorced or widowed, but is slightly less important than being in the lowest quintile of wealth or having no education.

Table 5.3. Determinants of the probability of poor health

Probability of self-assessed poor health status

		Model 1	Model 2	Model 3
Poor parental health		0.077***	0.070***	0.061***
Life Events	Mother dead	0.085***	0.081***	0.061***
	Father dead	0.059***	0.053***	0.037***
Mother's education level	Low		0.020***	-0.003
	Medium		0.009	0.017
Father's education level	Low		0.048***	0.014**
	Medium		-0.033***	-0.012
Female			0.044***	0.026***
Immigrant			0.057***	0.034***
Marital status	Never married		0.053***	0.018**
	Divorced		0.051***	0.016**
	Widowed		0.034***	0.011
Wealth quintile	First quintile			0.077***
	Second quintile			0.023***
	Fourth quintile			-0.027***
	Fifth quintile			-0.043***
Education (ISCED-97)	ISCED 0			0.169***
	ISCED 1			0.088***
	ISCED 2			0.027***
	ISCED 4			-0.029***
	ISCED 5			-0.041***
	ISCED 6			-0.032
Labour force status	Employed			-0.076***
	Unemployed			0.024*
	Permanently sick/disabled			0.412***
Age group	60-64 years old	0.022***	0.021***	-0.001
	65-69 years old	0.042***	0.035***	0.008
	70-74 years old	0.108***	0.091***	0.054***
	75-79 years old	0.178***	0.149***	0.099***
	Above 80 years old	0.277***	0.238***	0.175***
Constant		0.104***	-0.006	0.118***
Sample size		104,482	75,497	74,900
R-squared		0.090	0.093	0.150

Note: Estimates are coefficients based in a limited probability model for poor assessed health for pooled years and for 11 European countries (Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Sweden and Switzerland). ***, **, *: statistically significant at 1%, 5% and 10% levels, respectively.

Source: OECD estimates based on SHARE waves 1 to 5.

The probability of experiencing poor or fair health if any of the parents is suffering from poor health is halved once individual heterogeneity is controlled for, but it remains significant (Figure 5.3). Surveys following individuals over time, such as SHARE, provide the opportunity to distinguish whether the association between parents' and children's health is driven by unobservable individual heterogeneity correlated with both parental health and child health (such as genetic endowments common to the parent), as

well as reverse causality (whether parental health affects child health or *vice versa*). In addition, self-reported bias when health information on both parents and children is reported by the same person (parents' reports of their children's health may be influenced by parental health states and vice-versa) might lead to biased estimates of intergenerational correlation in health using self-reported health measures. For instance, a study for Australia had found that once the potential endogeneity of maternal mental health is controlled for, there was no impact of maternal health on child health (Le and Nguyen, 2015). After controlling for unobserved heterogeneity, for the 11 OECD countries on average, the chances of poor health are 3% higher if any of the parents is also experiencing poor or fair health, instead of 6% for men or 7% for women if unobserved heterogeneity is not controlled for. Becoming a widow, on the other hand, is associated with a 4.5% higher chance of poor health for women, but the effect is not significant for men. Ageing remain the most important predictor of poor health.

Research has also documented the increased likelihood of certain health conditions if parents also suffer from the condition. Kim et al. (2015) document associations in health (as measured by general health status or ADLs) between Indonesian parents and their older adult children. They find that health correlations persist even after controlling for the respondent's socio-economic status, and that they are higher in poorer regions, suggesting the importance of health policies in less developed areas. Thompson (2014) estimates the correlation of same specific chronic health conditions between parents and their young children, looking at own children and adoptees. In the case of chronic health conditions like asthma, severe headaches, diabetes and hay fever, it is found that children with a parent who has the health problem are at least twice as likely to have the same health problem themselves (Thompson, 2014). For such chronic conditions, the magnitude of genetic health transmission is found to be modest, accounting for only around 20-30% of baseline intergenerational associations. Mental health has also shown to be correlated across generations: in the UK, the intergenerational correlation in mental health is about 0.2, and the probability of feeling depressed is 63% higher for children whose mothers reported the same symptom 20 years earlier (Johnston et al., 2013).

Figure 5.4 shows that the impact of a parent's self-assessed health and mortality on the probability of chronic conditions, obesity or activities of daily living limitations (ADL) in European countries is small compared with other demographic and behavioural variables.[5] Own physical inactivity and higher age affect health significantly. However, the probability of having more than two chronic conditions if one of the parents has poor health also increases by 4% for males and 5% for females. At the same time, a parent's self-assessed health has no significant effect on males' risk of obesity and having more than one ADL and a 2% and 1% increased probability for females.

Box 5.2. Empirical specification of intergenerational transmission of health inequalities

Health is a multidimensional parameter that is difficult to represent with a unique indicator, and it is even more difficult to have an indicator for both old and young adults. Self-assessed health is used as a proxy for the general health of both parents and children (other indicators are used for a reduced set of countries).

The dependent variable is collapsed into a dichotomous indicator of poor health, a dummy of poor health if the individual reports "fair" or "poor health" in the survey (sensitivity analysis was performed using only "poor health"). A linear probability model is used and estimated pooling all four waves of SHARE:

$$H_{ijt}^{children} = \alpha + \beta_1 X^{parent} + \beta_2 H_{ijt}^{parents} + \beta_3 Age + \beta_4 Z_{ijt}^{children} + u_i + \varepsilon_{ijt}$$

Where H represents poor health and X includes parental control variables such as whether parents are already dead and their education level for individual *I, country* j and time *t*. Z represents additional individual controls. The regression coefficient corresponds to the coefficient β_2. For comparison, the correlation between parental and offspring health is also calculated as:

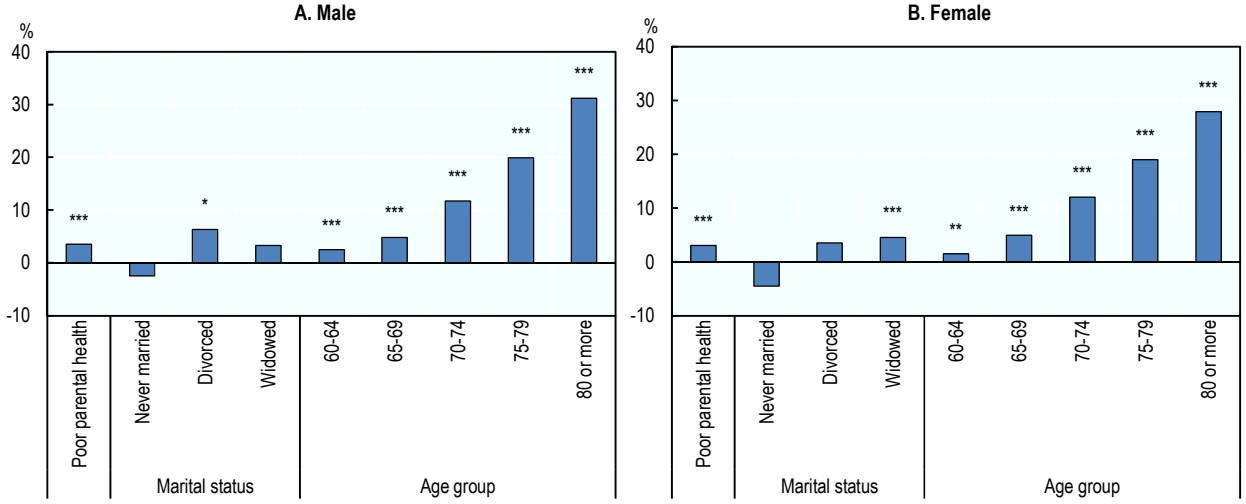
$$Corr_{Health^{parents},Health^{child}} = \beta\left(\frac{SDHealth^{parents}}{SDYHealth^{child}}\right)$$

The main caveat of using self-assessed health is that the interpretation of the item at an individual level varies, depending on the referent being used by the respondent. Self-assessed health is likely to suffer from reporting bias, especially in a cross-country study because of discrepancies due to cultural norms, individual social status and health history, as well as differences in the appraisals of a given clinical health condition. This may result in people with an identical health status, as measured by objective criteria, providing very different self-assessments. In particular, the literature has found that women and poorer individuals are more likely to report poor health than men and those with higher income (Hernandez-Quevedo et al., 2004) and that people in the US tend to report higher self-assessed health (Banks and Smith, 2012), but the size of the reporting bias in measures of health disparities is not large (Bago d'Uva et al., 2011). The estimation therefore includes controls for gender, whether foreign-born or not, marital status, own level of schooling, employment status, wealth quintile and age group dummies (five-year intervals except for those younger than 60 or older than 80), together with the level of parental schooling. Health status naturally worsens over the life cycle, and it is important to include age dummies. All β represent the marginal effect associated with each variable.

In addition, the impact of parental health on children's health is likely to suffer from selection bias, as the variable on parental health is available only for those who are alive. Only 9% of fathers and 23% of mothers are still alive, with 15% of fathers alive reported to be in bad health and 16.5% of mothers. A dummy to control for parents being alive is included to correct for this.

At the same time, self-assessed health is a subjective measure that is influenced by time-invariant individual fixed-effects such as genetics. Panel data estimation is therefore performed with a fixed-effects model that controls for time-invariant individual unobservable characteristics (u*i*). This would, in principle, produce more accurate estimates than a simple regression, which does not control for individual heterogeneity. Yet there may still be a concern that unobserved time-variant, individual-specific factors are correlated with both the maternal mental health and child health outcomes, thus biasing the estimates.

Figure 5.3. Probability of poor health, controlling for individual fixed effects



Note: Estimates based on a limited probability model for poor assessed health and for a panel model using individual fixed effects, both separately for men and women for 11 European countries (Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Sweden and Switzerland). For further details, see Annex Table 5.A1.2. ***, **, *: statistically significant at 1%, 5% and 10% levels, respectively.

Source: OECD estimates based on SHARE waves 1 to 5.

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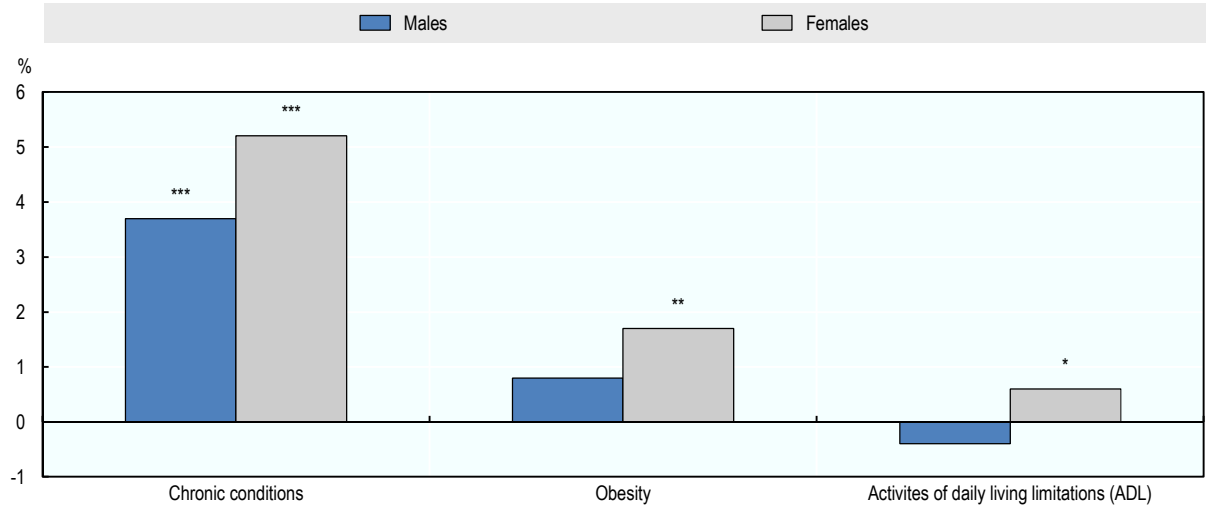
Figure 5.4. Impact of parental health on other health status measures



Note: Estimates are coefficients based in a limited probability model for pooled years and for 11 countries (Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Sweden and Switzerland). For further details, see Annex Table 5.A1.3. ***, **, *: statistically significant at 1%, 5% and 10% levels, respectively.

Source: OECD estimates based on SHARE waves 1 to 5.

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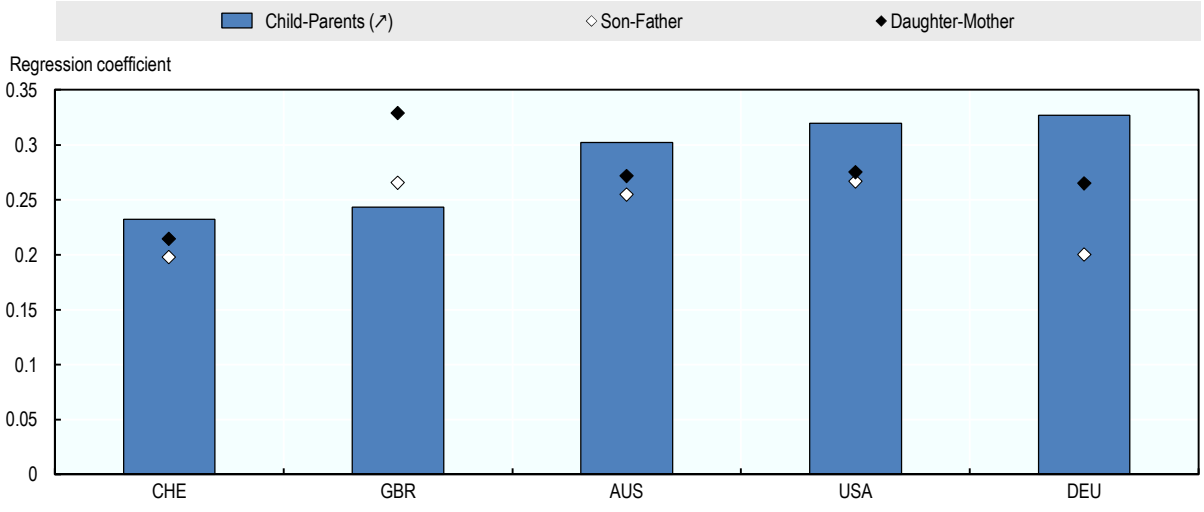
5.1.3. Health-related behaviour across generations

It has been argued that obesity is the lifestyle-related condition that is most influenced by genetic heritage (Cutler et al., 2003). Several studies have documented the importance of the genetic component, comparing natural and adopted children with two, one or no obese parents, including the studies of Sacerdote (2004) and Stunkard et al. (1981). These showed that natural children are substantially more likely than adopted ones to resemble their parents in terms of body weight. Studies on twins (see, e.g., Maes et al. (1997)) have arrived at similar conclusions by comparing the correlations of monozygotic twins to dizygotic twins (and other siblings). The analysis below uses the body mass index (BMI) to understand how the growing obesity epidemic is related across generations. Figure 5.5 suggests that the persistence of BMI between parents and children is higher than estimates of persistence found for self-assessed health above, with an association between parental and children's BMI ranging from 0.23 to 0.33.[6] In all countries the association between mother and daughter tends to be stronger than for father and son.

Figure 5.5. Association between parental and children's Body-Mass Index



Note: Estimates refer to the regression coefficient of the body-mass index for children as a function of parental body-mass index without additional controls.

Source: OECD estimates using the CNEF based on HILDA for Australia, GSOEP for Germany, SHP for Switzerland, BHPS for the United Kingdom and PSID for the United States.

StatLink http://dx.doi.org/10.1787/888933754557

Beyond the genetic influence of parents, the lifestyle choices leading to overweight and obesity, typically those concerning nutrition and physical activity, tend to be shared among members of the same families. Previous OECD work showed that up to 50% of the overall variation in health-related behaviours, such as the consumption of fruit and vegetables and physical activity, is determined by differences among households, and this was about one-third for fat consumption. These results support the view that both genetic and behavioural factors contribute to explaining the prevalence of overweight and obesity within households. Obesogenic environments appear to have encouraged individuals, especially when culturally and socially vulnerable, to make less healthy lifestyle choices,

and those genetically predisposed have tended to become overweight or obese as a result (Sassi et al., 2009).

Particular lifestyle behaviours of children are strongly influenced by the behaviour of their parents, and these influences carry through into their adult lives, after they have left the parental home (Liefbroer and Elzinga, 2012). In particular, there is literature establishing that parental and offspring smoking behaviours are correlated (Wickrama et al., 1999; Vandewater et al., 2014). Using social class and occupational indicators for teenagers' grandparents as instruments, a UK study has found that regarding smoking behavior, girls seem to imitate their mothers, while boys seem to imitate their fathers (Loureiro et al., 2006). Parental smoking, whether past or current, is a more important predictor of offspring smoking than is dropping out of school (Bantle and Haisken-DeNew, 2002). The observed influence of parental smoking behaviour on young people's smoking decisions may be explained by parents as role models for their children, easier access to tobacco in the household or the diminished credibility of warnings about the dangers of tobacco consumption when these come from parents who smoke. However, it may also be due to other unobserved family factors common to parents and their children, such as shared attitudes towards risk, rates of time preference and, ultimately, genetic traits. Some recent work suggests that this is related to the role of time preferences, since sons and daughters of mothers who smoke have a shorter planning horizon (Brown and van der Pol, 2014).

Similarly, the medical and psychological literature has shown evidence that children's consumption of alcohol is frequently found to be positively correlated with the level of parental drinking or with parental attitudes towards drinking, e.g. Ennett and Bauman (1991), and Yu (2003). As in the case of tobacco, some authors found that alcohol use transmission seems to be more efficient between same gender children and parents (Yu and Perrine, 1997; Van Gundy, 2002). The effect of daily parental drinking – compared to parental non-drinking behaviour – on children's later drinking habits increases sharply throughout the quantiles of the distribution of alcohol consumption (Schmidt and Taubman, 2010).

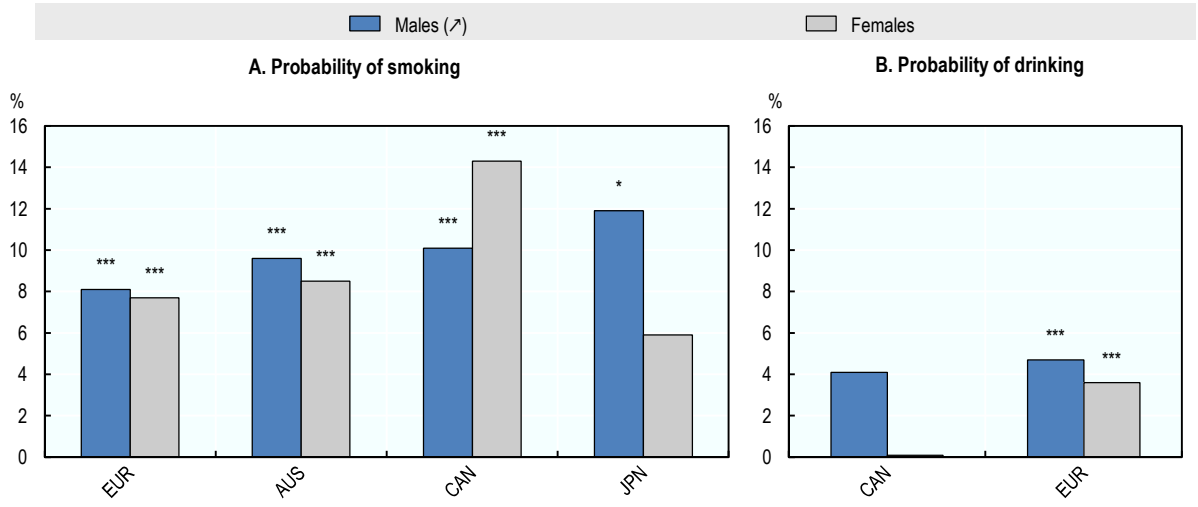
Similar results are found for a number of OECD countries. Figure 5.6 shows the probability of drinking or smoking[7] based on demographic factors and whether parents smoked or drank when the person was 14. The likelihood of smoking for adults in European countries is 8% higher for both men and women if either of their parents smoked when they were young. For men, this is the most important predictor and increases the likelihood of smoking more substantially than belonging to the lowest wealth quintile. For women, parental smoking has a similar impact on increased smoking probability as does having a higher education. In Australia and Canada, parental smoking is also associated with a higher probability of own smoking (although the sample includes youth who might be more influenced by parents), and the likelihood is higher for females in Canada while it is higher for males in Australia. In Japan, parental smoking is associated with a higher probability of own smoking for men but not for women, although other previous studies in Japan have found an impact for both men and women (Yamada, 2010; Osaki, 2005). For all countries, not having completed secondary schooling increases the risk of smoking for women (for men in Europe and Canada).

In the case of drinking, parental influence is smaller than for smoking or, in the case of Canada, insignificant. For European countries, parental drinking during the childhood years is associated with an almost 5% higher chance of own drinking for men and just under 4% for women. Being unemployed is another important driver for men – but not

for women – in Europe and is associated with a 5.5% higher chance of drinking. As in the case of smoking, higher education in Europe tends to increase the probability of drinking for women but to a lesser degree than having a parent drinking.

Figure 5.6. Intergenerational health behaviour correlations

Probability of smoking or drinking whether parents smoked or drunk when the person was 14



Note: Europe refers to 11 countries: Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Sweden and Switzerland. For further details, see Annex table 5.A1.4. ***, *: statistically significant at 1% and 10% levels, respectively.

Source: OECD estimates based on SHARE waves 1 to 5 for the European countries. For Canada estimates based on NLSCY cycles 5 to 8 and children aged 0 to 15 years old. For Australia, estimates based on HILDA wave 9 and 13. For Japan, estimates based on JHPS waves 2009, 2011 and 2012.

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5.2. How much intergenerational mobility in education is there in OECD countries?

This section documents the extent to which better-educated parents have children who are themselves better educated and how this varies across countries. The educational gap between the most and least disadvantaged student in terms of parental and socio-economic background measured by test scores can be the equivalent of more than three years of additional schooling. However, many factors other than parental background also affect performance, and these factors vary greatly across countries, showing the importance of education policies in reducing educational inequalities.

5.2.1. Absolute educational mobility is sizeable but decreasing over time

The degree of intergenerational mobility in education is high in terms of absolute mobility, that is, when measuring the percentage of adults who have a different level of educational attainment than their parents. Absolute mobility ignores changes in rankings and simply considers whether adults tend to have higher or lower education than their parents did. Across countries, about half of non-student adults (25-64 year-olds) have a different level of education than their parents, with upward mobility being considerably more common (39%) than downward mobility (11%) (Figure 5.7). Intergenerational

absolute upward educational mobility is highest in Finland and Korea, where more than 55% of non-students have attained a higher level of education than their parents. In some countries, such as Austria, the Czech Republic, Germany, Italy, Poland, the Slovak Republic, Spain and the United States, absolute mobility is lower, with more than 50% of non-student adults having the same educational attainment as their parents. In Austria, the Czech Republic, Germany, Poland, the Slovak Republic and Slovenia, limited upward mobility can be explained by the fact that upper secondary and post-secondary non-tertiary education continues to play a relatively important role, providing well-recognised labour market qualifications. Downward mobility is more common in the Nordic countries, Germany, Estonia, Austria and the United States, with more that 15% of adults having lower educational attainment than their parents.

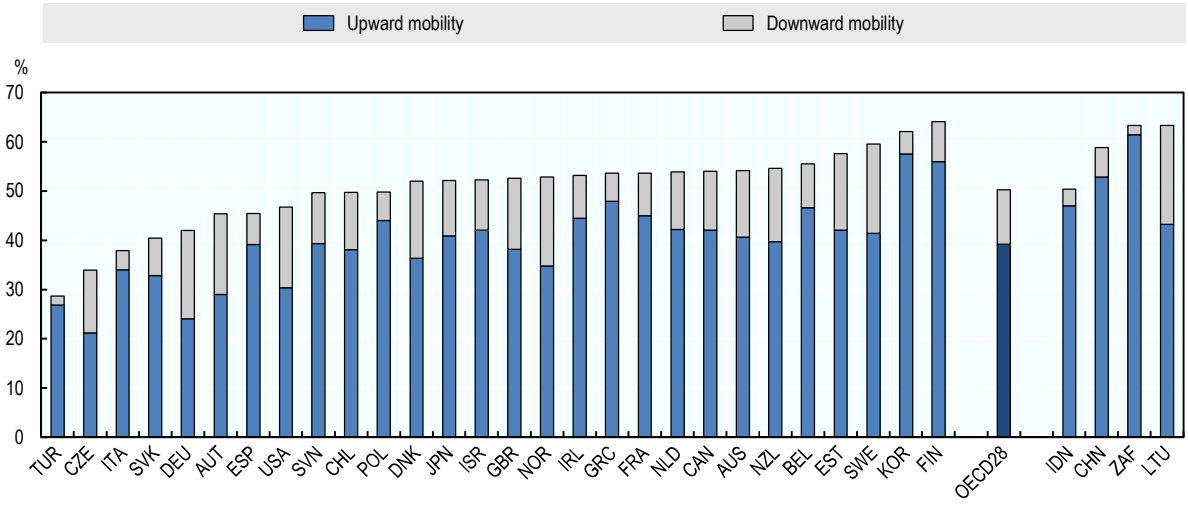
Similar work in emerging economies shows higher levels of absolute mobility than the OECD average, when considering the same three levels of educational attainment as for OECD countries, with the exception of Indonesia. Absolute mobility for emerging economies is calculated using the same definitions as for OECD countries, using the IFLS for Indonesia, the NIDS for South Africa and the LIS for China and India. In China, 55% of children have a different educational attainment than their parents, with almost 50% experiencing upward mobility. Including movements from no education to primary or lower secondary education reveals large levels of absolute intergenerational mobility for South Africa.[8] 61% of children are upwardly mobile, while less than 5% are downwardly mobile (Girdwood and Leibbrandt, 2009). Intergenerational educational mobility is lower in Indonesia, with 49% of children having the same level of education as their parents and 42% experiencing upward mobility.

Absolute upward mobility is similar by gender but varies across countries (OECD, 2014). On average across the OECD, the degree of absolute upward mobility in education is fairly similar for men and women (40% for men and 38% for women). In a few countries, upward mobility is higher for women (Estonia, Finland, Ireland, Poland and Sweden), but the reverse is found in others (Austria, Germany, Japan, the Netherlands). Overall, upward mobility is about the same when only one of the two parents holds the higher qualification, irrespective of who holds it: either the mother or the father. On average, 35% of adults with an upper-secondary-educated mother and a below upper-secondary-educated father have tertiary education, while upward mobility is slightly lower (33%) among adults with an upper-secondary-educated father and a below-upper-secondary-educated mother across OECD countries, but the differences are not statistically significant (OECD, 2016).

Absolute upward educational mobility has decreased on average in the OECD over the past 30 years, suggesting that the expansion in education has not yet resulted in a more inclusive system. Overall mobility, at 48%, is slightly lower for the most recent cohort, those aged 25-34, compared with older cohorts – 52% for 45-54 year-olds. Upward mobility at 33% has substantially declined for the 25-34 year-olds from 41% among 55-64 year-olds. Downward educational mobility increased from 9% among 55-64 year-olds to 15% among 25-34 year-olds. Over the past 30 years, almost all OECD countries have seen significant increases in the educational attainment of their populations, and educational expansion likely explains the declining trend in upward mobility. As the share of adults whose parents have a tertiary education increases, fewer younger adults show upward educational mobility. This is why, on average, the proportion of younger adults with a higher level of education than their parents is shrinking if one compares three broad educational groups, but it is possible that absolute educational mobility is still increasing when looking at detailed tertiary attainment.

Figure 5.7. Absolute educational mobility, latest available year

Percentage of 25-64 year-old non-students whose educational attainment is higher than (upward mobility) or lower than (downward mobility) that of their parents



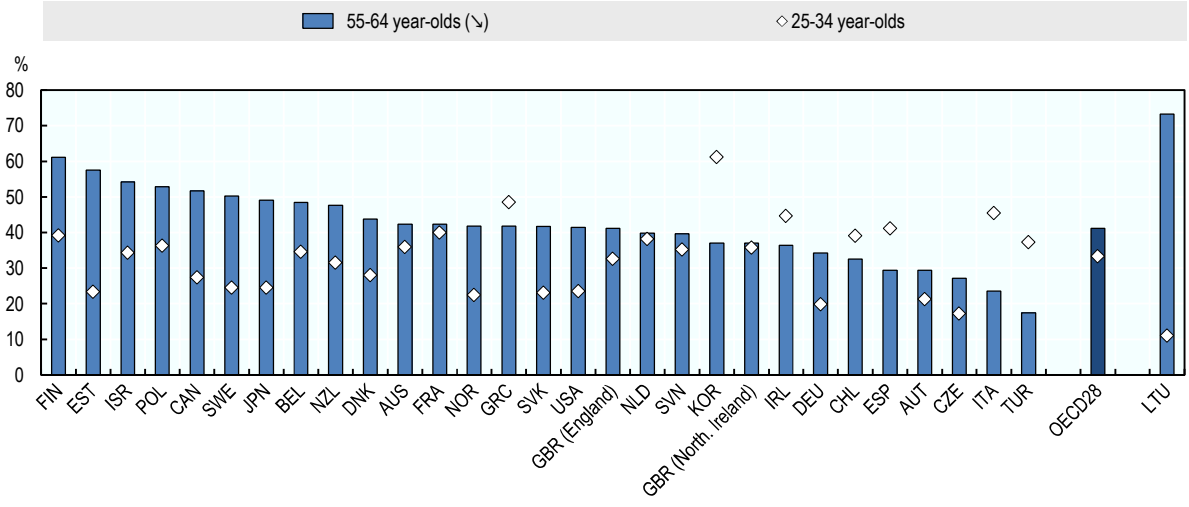
Note: Latest year refers to 2015 for Chile, Greece, Israel, New Zealand, Slovenia and Turkey and 2012 for remaining countries. Data refer to Flanders for Belgium and to England and Northern Ireland for the United Kingdom.

Source: Education at a Glance (2014) and PIAAC 2015 for Chile, Greece, Israel, New Zealand, Slovenia and Turkey. OECD calculations based on LIS for China, IFLS for Indonesia and NIDS for South Africa.

StatLink http://dx.doi.org/10.1787/888933754595

Figure 5.8. Upward educational mobility for the 55-64 and the 25-34 years-old

Percentage of children who have a higher educational status than their parents



Note: Latest year refers to 2015 for Chile, Greece, Israel, New Zealand, Slovenia and Turkey and 2012 for remaining countries. Data refer to Flanders for Belgium.

Source: OECD calculations based on PIAAC.

StatLink http://dx.doi.org/10.1787/888933754614

5.2.2. Relative mobility in education remains a concern

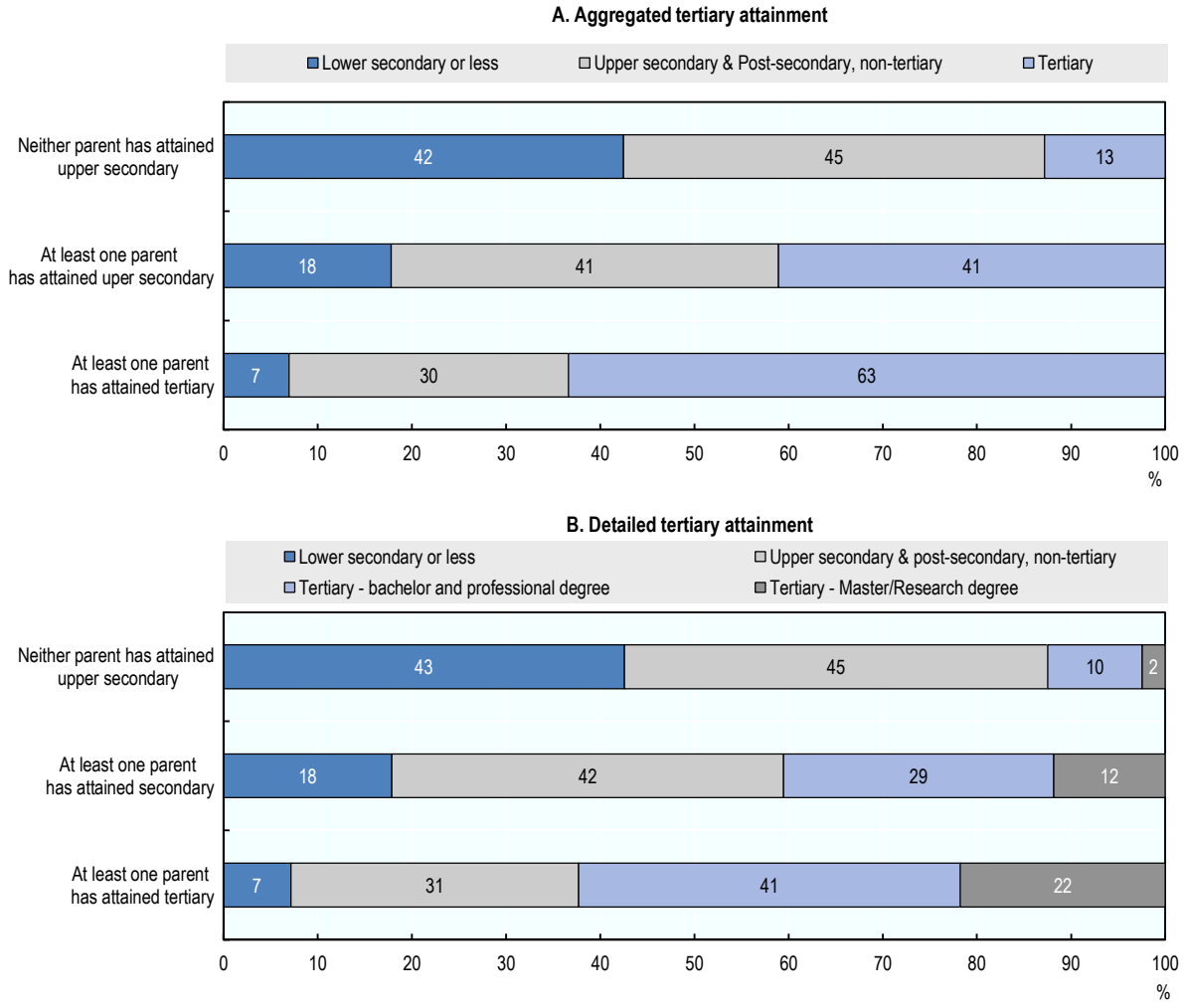
The approach in the previous section assumes that the impact of education on the next generation is linear and monotonic, and it offers an overall average measure of the degree of mobility without, however, saying anything about the direction of change with respect to the initial parental education. Relative mobility looks at whether adults who rank high or low in terms of education also had parents who ranked high or low. Intergenerational transmission of education is most visible when comparing the likelihoods of educational attainment by parental education (Figure 5.9). The likelihood of having tertiary education is over 60% for those with at least one parent having tertiary education, while the likelihood of having the same level of education as your parents corresponds to 41% and 42% for those with upper secondary and below upper secondary, respectively. Examining tertiary educational attainment in more detail 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 2%, and this likelihood is almost four times more likely if parents have upper secondary education, and seven times more likely if parents have already achieved tertiary education (Figure 5.9, panel B).

This points on the one hand to a higher chance of upward mobility for those with lower educated parents but with limited chances of achieving tertiary education (a sticky floor), and on the other hand, a low chance of downward mobility for those with higher educated parents (a sticky ceiling). While children whose parents did not attain upper secondary education have only a 13% chance to attain tertiary education, they would have been four times more likely to go to university if at least one parent had attained tertiary education. Children from more educated families seem protected from quitting school at lower secondary level or before. Indeed, they are six times less likely to drop out at this stage compared to students whose parents have a lower educational background.

These "sticky floors and ceilings" can be observed in most countries where data are available. At the same time, there are wide differences in the educational attainment of children with the same parental background across countries (Figure 5.10). For example, in Italy and Turkey an individual whose parents did not attain upper secondary will be ten times more likely to have the same outcome than to reach tertiary education, while in Canada the same individual will be more likely to attain tertiary education than stay at the same level as their parents. Overall, reaching only lower secondary education or less if neither parent is highly educated is more likely in Turkey, southern Europe, the United Kingdom and the Netherlands. Persistence in tertiary education is also less likely in some Nordic countries and Austria, where returns to tertiary education are lower than in other countries.

For emerging economies, a similar persistence at both ends of the education distribution is observed. This is particularly salient for children of lower educated parents in Indonesia and South Africa, where just over 70% of such children do not attain a higher level of education. Mobility exists for those with upper secondary education in Indonesia where 38% have the same level of education as their parents, with almost equal chances of having greater or lower educational achievement. In China, the persistence at the upper end of education is lower than in Indonesia, with just over 51% of those whose parents have tertiary education also reaching the same level, while persistence in lower upper secondary or primary exists for 44%.

Figure 5.9. Likelihood of educational attainment by parental education background, OECD average



Note: OECD average based on 27 countries in Panel A (Austria, Flanders [Belgium], Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Israel, Japan, Korea, the Netherlands, Norway, New Zealand, Poland, the Slovak Republic, Slovenia, Spain, Sweden, Turkey, England and Northern Ireland [United Kingdom] and the United States) and on 26 countries in Panel B (Austria, Flanders [Belgium], Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Israel, Japan, Korea, the Netherlands, Norway, New Zealand, Poland, the Slovak Republic, Slovenia, Spain, Sweden, Turkey and the United States).

Source: OECD calculations using PIAAC 2012 and 2015.

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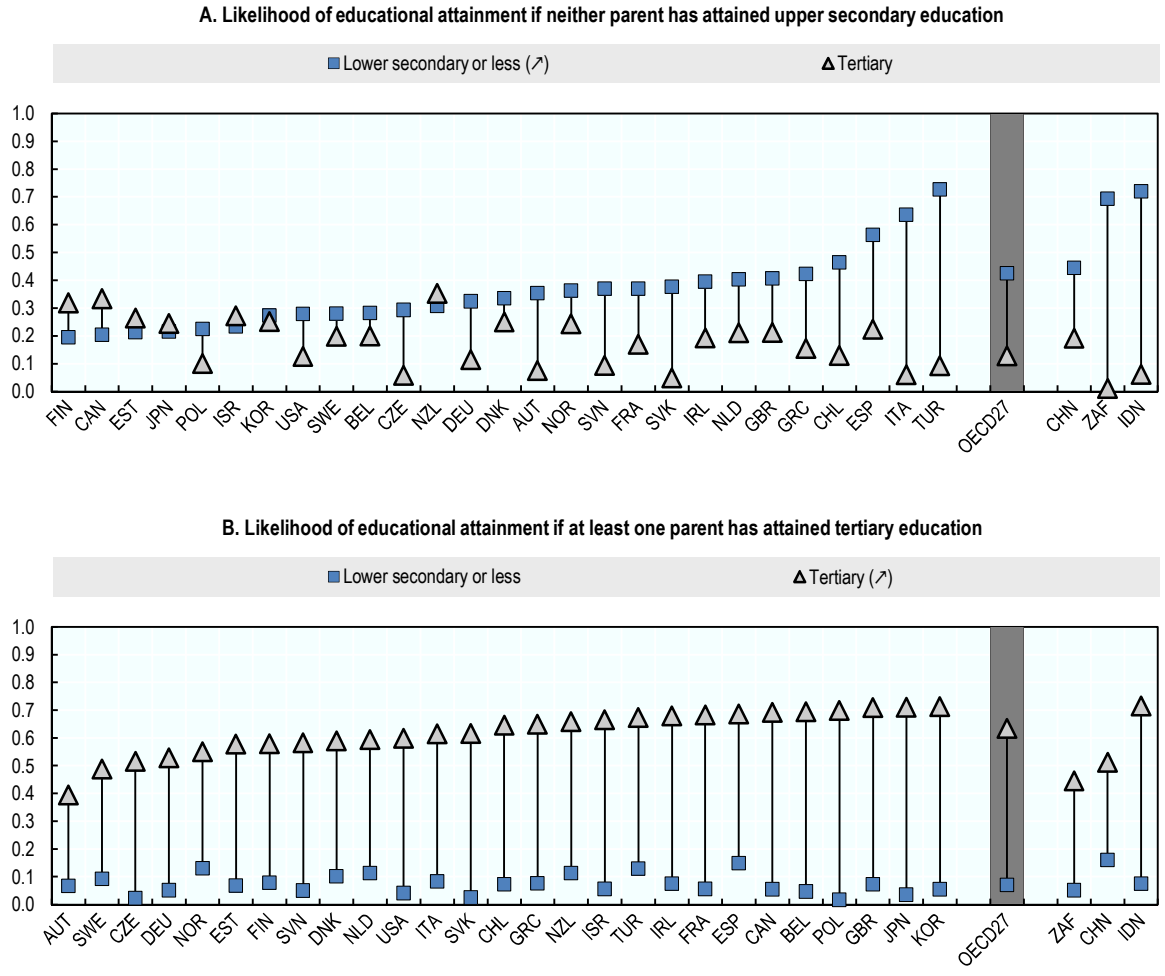
Figure 5.10. Sticky floor at the bottom and sticky ceiling at the top



Source: OECD calculations using PIAAC 2012 and 2015, based on LIS for China, IFLS for Indonesia and NIDS for South Africa.

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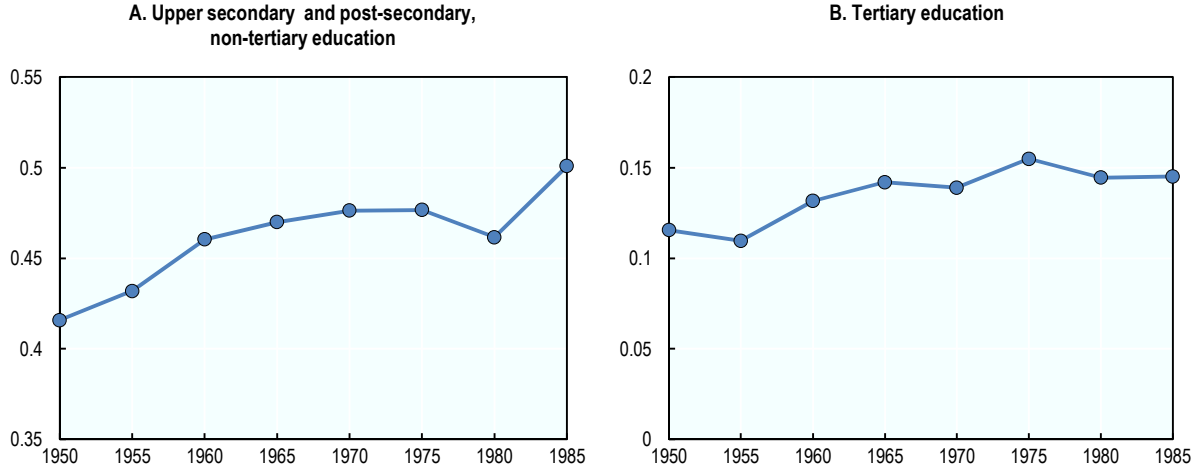
During the second half of the 20th century, the overall likelihood of upward mobility increased significantly for individuals with parents with a lower educational background (Figure 5.11). This increase goes hand-in-hand with a lower probability of remaining in less than upper secondary for the offspring. However, breaking down the different attainment levels qualifies this statement. For upper secondary attainment, the increase in mobility was significant for individuals born between 1950 and 1970 and then again in the 1980s. The upward trend of tertiary attainment is much less pronounced and concentrated for individuals born between 1955 and 1975, with stagnation after 1975. Stagnation of upward mobility to tertiary is also observed for those whose parents had upper secondary, meaning that this phenomenon is not due to having over time a lower number of individuals with parents with less than upper secondary education. This could be related to the difficulties of educational systems to bring more than a certain

percentage of the population up to the tertiary level as students get discouraged in secondary education, drop-out or do not pursue further education.

Trends in the probability of upward mobility from lower secondary vary substantially across OECD countries. There are three country groups with respect to trends. The first group, which includes Belgium, Canada, Denmark and Spain, shows a large decline for younger cohorts in the likelihood of tertiary attainment if parents were low educated. In this group of countries, persistence into less than upper secondary declined until 1970 then showed a rebound, which coincided with the decline in upward mobility to tertiary. In contrast, in another group including France, Greece, Korea and Turkey the likelihood of tertiary attainment for those with low educated parents continues to increase. In such countries, persistence in lower secondary education was high in the 1950s and was more than halved in the decades up to the 1980s, while the probability of upward mobility to tertiary education increased by twofold. The probability is rather stable across cohorts in the third country group, including Norway and Sweden (see Annex Figure 5.A1.1). Stability in some of the countries is driven by already high rates of upward mobility to tertiary in the 1950s (20% or more) compared with other countries.

Figure 5.11. Likelihood of educational attainment if neither parent has attained upper secondary education by year of birth, OECD average



Source: OECD calculations using PIAAC 2012 and 2015.

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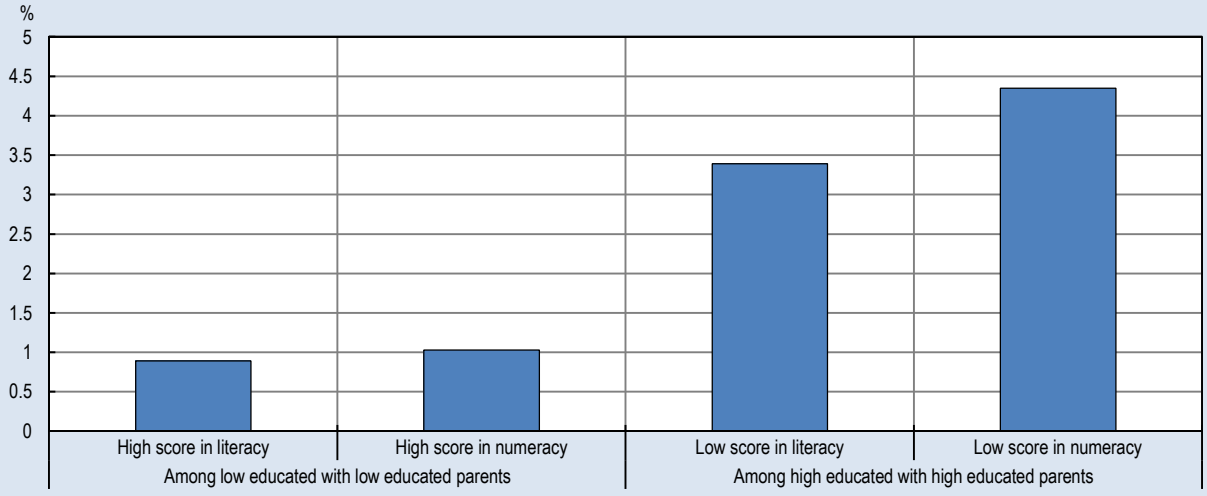
Box 5.3. Better-off parents are able to protect their children even if they have poor skills

More educated and wealthier parents are better able to help their children to succeed, irrespective of their children's skills and abilities. A US study focused on understanding why those born to affluent families appear to be, to some extent, protected from downward mobility even when, based on their cognitive ability, one would predict that they would occupy a lower socio-economic position, providing evidence of "opportunity hoarding" or a "glass floor" (Reeves and Howard, 2014). The US research shows that income gaps in cognitive test scores emerge early and persist but also that those with high income parents have much higher chances of moving up even if they have low cognitive skills, especially because their parents make sure that they continue studying to tertiary level. Similar research from the UK shows that by the age of 42, people from poorer families who had scored well in IQ tests at a young age were less successful at converting this early high potential into career success (higher earnings and top job status). By contrast, children from wealthier families who had scored poorly at 5 did better in their careers than might have been expected (McKnight, 2015). Parents' strong social ties are an important determinant for where young workers find their first job (Kramarz and Skans, 2014). More advantaged families are able to protect children with low attainment in cognitive tests at an early age from downward mobility. The children appear to benefit from their parents' higher levels of education and are able to improve their cognitive skills (particularly mathematics skills) by age ten, and they benefit from higher social and emotional skills, from being able to secure places in Grammar or Private secondary schools and from being more likely to attain a degree qualification.

Information on literacy and numeracy proficiency skills from the PIAAC are used to test the extent of such "opportunity hoarding" across the OECD. Results show that on average, individuals with high educated parents have better PIAAC scores than those whose parents had low educational achievement. While 25% of individuals whose parents had below upper secondary are at the bottom in terms of literacy scores, this represents only 5% of those whose parents had achieved tertiary education, while the reverse is found for the highest test scores. The impact of parental education on test scores is more marked for numeracy: 30% of those at the bottom numeracy scores have a parent with low education. At the same time, those from advantaged family backgrounds are found to be more likely to be highly educated than the cognitive skill assessments would predict. About 4.5% of individuals with low numeracy test scores and 3.5% with low literacy test scores do attain tertiary education like their parents. This confirms what was noted previously, i.e. that children in affluent households receive multiple advantages that may secure them high educational attainment and income later on. For instance, well-off parents have several means to protect their offspring's diploma if the children are struggling in school, such as paying for a private education and tutoring, even when their own skills are modest. This may well explain why downward mobility from the top remains modest. On the other hand, it is much more unlikely that individuals with high test scores but with low educated parents do not pursue their full potential and remain at low levels of educational achievement (only 1%).

Figure 5.12. Percent of individuals attaining tertiary education, by PIAAC scores and parental education

OECD Average



Source: OECD calculations based on PIAAC.

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5.2.3. By how much does one additional year of parental education increase children's education?

The previous analysis does not capture well the proportionality of the impact of parental educational status on children's education outcomes or by how much investing in additional parental schooling translates into children's higher educational attainment. One approach is to measure the intergenerational association in terms of years of education (Box 5.4). Figure 5.13 presents the intergenerational education association of years of education for 28 OECD countries and selected emerging economies, for the most recent year available. If there were perfect mobility, the correlation between parents' education and children's education would be zero, while 1 would indicate total absence of mobility. Parental education has a significant impact on offspring education in all countries: an additional year of parental education is associated with higher offspring education by just slightly below 0.5 years.

Across the sample of countries, intergenerational mobility is lowest in emerging economies, except China, but it is also very low in certain southern European countries, the United Kingdom, Germany and the Czech Republic. While previous studies had found that persistence is highest in Latin American countries (Hertz et al., 2007; Daude and Robano, 2015), the analysis presented here shows that the association is much higher in Indonesia, India and South Africa than in Chile and Mexico. At the same time, Chile also has a high degree of educational persistence when using correlations. Focusing on European countries, this echoes the findings from Scheenbaum (2014), who show that across the EU, Nordic countries show lower rates of persistence while southern and eastern European countries have higher persistence (lower mobility). In addition to the

Nordic countries, educational mobility is high in Korea, Australia, China, the US and Canada.

Intergenerational persistence in educational attainment in terms of years of schooling has declined for younger cohorts (see Figure 5.13, Panel B). Comparing the regression coefficients and correlations for the age group (30-55) with the initial estimates, which include individuals up to age 90, indicates that both are lower for the former age group in a majority of countries. A large drop in the association for the younger age group is particularly apparent in southern European countries, South Africa and Chile, countries where there has been a great expansion in educational opportunities for cohorts born between the 1930s and the early 1980s. Young cohorts in southern European countries reach associations much closer to the average across the OECD, while persistence for the older generations was similar to that now seen in emerging economies. The drop in persistence is also found in English-speaking, Nordic and Asian countries, except for Iceland where there is no change and India which shows an increase. In eastern and central European countries, the trend when looking at the younger cohorts shows even a higher association in the Czech Republic, Germany and Switzerland.

Box 5.4. Assessing the inheritance of education

To examine the extent to which parents and children's education is related, education is measured in terms of years of schooling, which is an unambiguous concept. There is extensive research on the intergenerational transmission of education, as there are fewer measurement problems than with other outcomes such as earnings. Black and Devereux (2010) specify that, contrary to earnings or occupation, non-employment is not an issue; there are less problems of accuracy in terms of precise educational attainment and there is also no need to look at life-time or mid-career outcomes since people tend to complete education by their mid-twenties. Several comparative studies suggest that the lowest persistence is found in the Nordic countries and the highest in South America (Chevalier et al., 2009; Hertz et al., 2007).

Educational persistence can be measured using the intergenerational coefficient and correlation based on the following equation:

$$YearsEd_{ij}^{children} = \alpha + \beta YearsEd_{ij}^{parents} + \varepsilon_{ij} \quad (1)$$

$$Corr_{YearsEd^{parents},YearsEd^{child}} = \beta\left(\frac{SDYearsEd^{parents}}{SDYearsEd^{child}}\right)$$

Where *YearsEd* refer to the years of schooling, *Corr* refers to the correlation of years of schooling between parents and children, SD is the standard deviation for an individual *i* in country *j* and ε is the error term.

Intergenerational educational mobility following this approach can be regarded as 1- β .

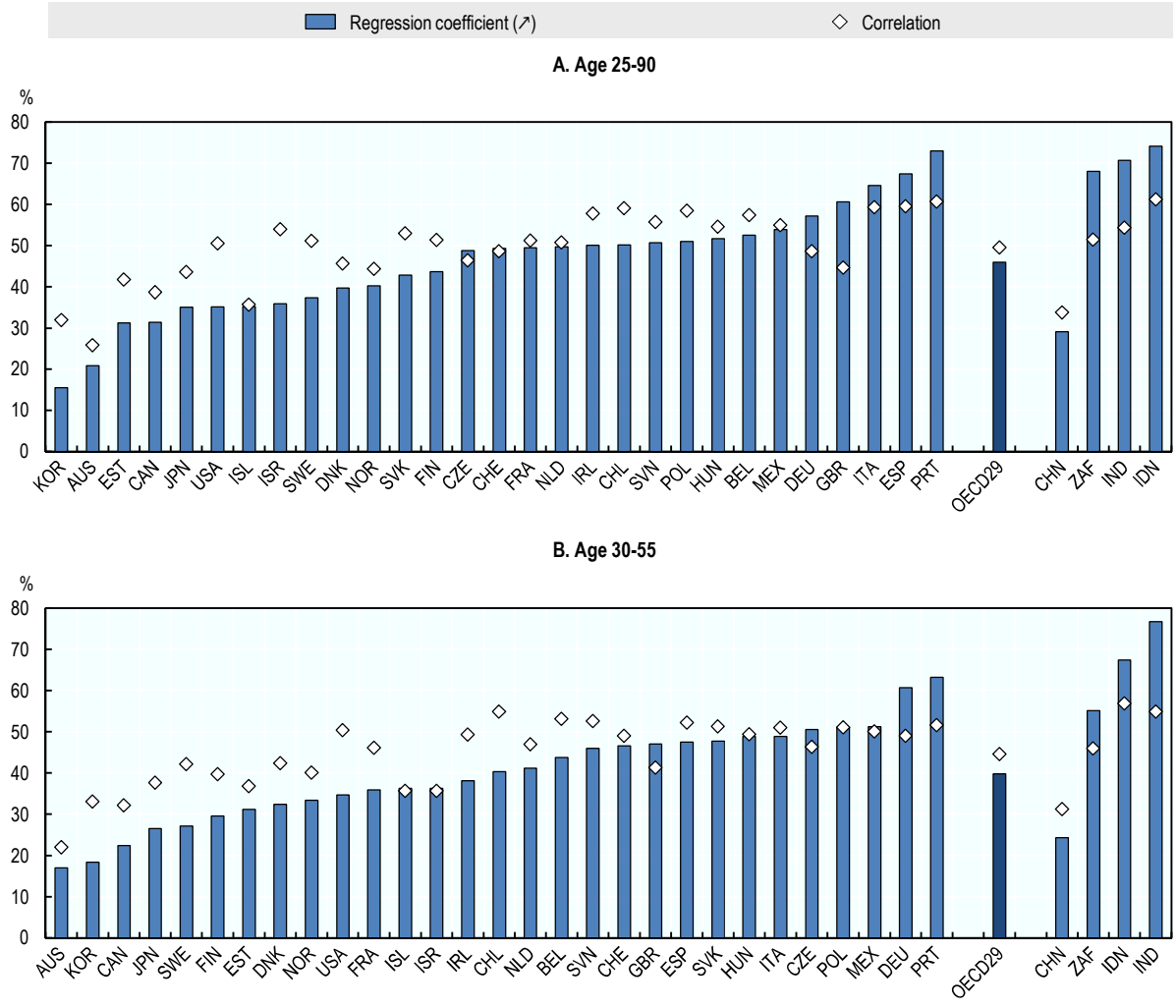
Intergenerational educational persistence measured in terms of correlation tends to be smaller than when using the regression coefficient when the variance of parental education is smaller than the variance of children's education, and vice versa.

Caveats exist, since education levels can be coded in terms of years of education, but there might be surveys where this is not measured with a great degree of precision, especially for parents. Issues about parental information may also affect the quality and reliability of the education measure, which can be measured only crudely. In some countries, parents may have no formal schooling and are all assigned as zero values. In addition, Hertz et al. (2007) point out a problem of non-response for parental education, with higher rates of missing data for older cohorts, but no appropriate methodology has been discussed in the literature to address this recall bias. Parental education is measured as the average of mothers' and fathers' years of education or the education of one of the parents if the other was missing.

Estimating equation (1) with OLS raises the problem of potential upward bias if there is significant transmission of ability and other characteristics from parents to their offspring. Because there can be other omitted variable problems such as geographic location, race or immigrant status, regressions with additional factors will be estimated to serve as robustness checks. But some unobservable characteristics such as motivation cannot be controlled for unless panel data is available.

ESS is used for European countries, CNEF for Australia, Germany, Korea and the United States, CASEN for Chile, LIS for China and India, IFLS for Indonesia, JPHS for Japan, ENIGH for Mexico and NIDS for South Africa. Information is limited to adults over 25 years old and below 90 years old.

Figure 5.13. Intergenerational educational persistence



Note: Persistence is defined as the regression coefficient and correlation between parental and children's years of schooling, respectively (see Box 2.1).

Source: OECD Calculations based on ESS for European countries, CNEF for Australia, Germany, Korea and the United States, CASEN for Chile, LIS for China and India, IFLS for Indonesia, JPHS for Japan, ENIGH for Mexico and NIDS for South Africa.

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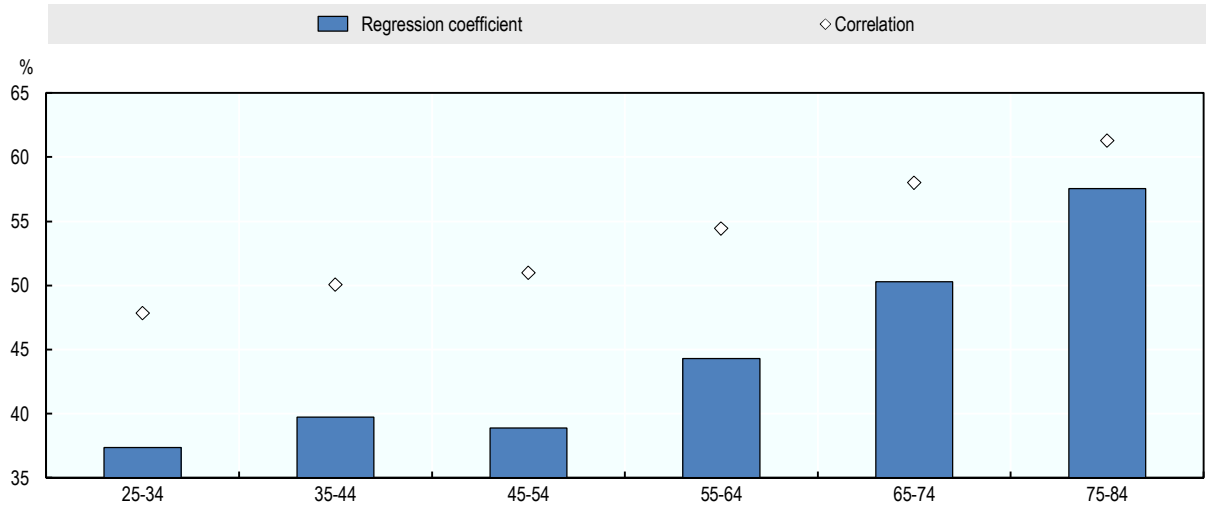
Trends in the average association of years of education between parents and children in European countries show that persistence has declined for the younger generations. Both the regression coefficients and correlations (Figure 5.14) show that for those aged 65 and over, an additional year of parental schooling was associated with at least half a year of additional schooling for their offspring, while for those below 44, the association is 0.37 for the 25-34 year-olds and 0.40 for the 35-44 year-olds.

Figure 5.14. Intergenerational educational persistence by age group

Average of European countries



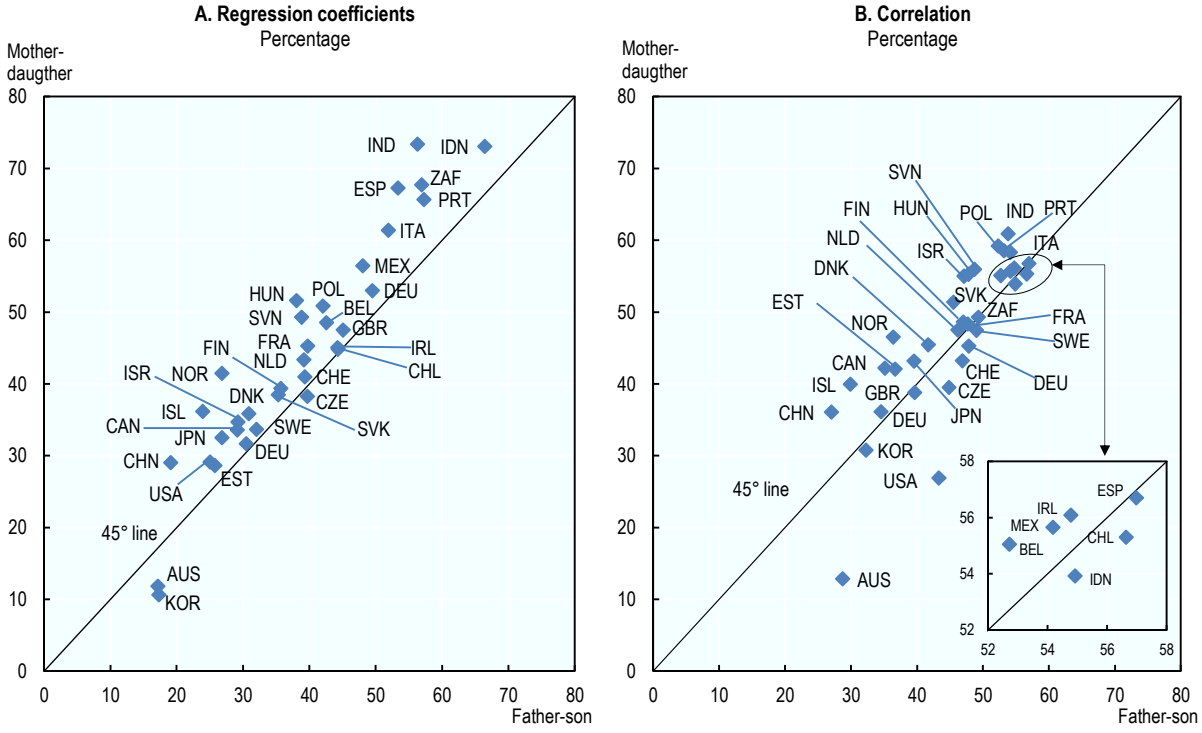
Note: Persistence is defined as the regression coefficient and correlation between parental and children's years of schooling, respectively (see Box 2.1).

Source: OECD Calculations based on ESS.

StatLink http://dx.doi.org/10.1787/888933754728

The persistence of education across mothers and daughters tends to be higher than the persistence across fathers and sons (Figure 5.15). This is especially present in southern Europe, Hungary, Iceland, Norway, Slovenia and emerging economies. Exceptions where the correlation between fathers' and sons' education is much stronger than the one for mothers and daughters include Australia and Korea. In addition, it is generally the father's education that matters more for sons' educational attainment while the mother's educational attainment matters most for their daughters. In all countries except in Latin America, some Nordic and English-speaking countries (Denmark, Ireland, Norway, the United Kingdom) and Israel, the correlation between mothers' and sons' education is lower than the one between fathers and sons (results not shown). There are more exceptions in the case of comparing the influence of fathers and mothers on daughters' education: in several countries including Germany, Asian countries, Israel and the United Kingdom, the influence of fathers' education on their daughters is similar to that of mothers, and in some emerging economies and Continental Europe, the correlation for fathers and daughters is slightly higher than for mothers and daughters.

Figure 5.15. Intergenerational educational persistence by gender



Note: Elasticities and correlations across parents and children are measured in terms of years of schooling (see Box 2.1).

Source: OECD Calculations based on ESS for European countries, CNEF for Australia, Germany, Korea and the United States, CASEN for Chile, LIS for China and India, IFLS for Indonesia, JPHS for Japan, ENIGH for Mexico and NIDS for South Africa.

StatLink http://dx.doi.org/10.1787/888933754747

Box 5.5. Does additional parental schooling have a causal impact on children's schooling?

To the extent that parental education itself (and not other drivers such as income or cognitive and non-cognitive skills) is responsible for children's performance, interventions that improve the educational attainment of less educated parents should be part of a policy to improve social mobility. Intergenerational education estimates might not adequately reflect the impact of parental education because of unobserved inherited characteristics that directly influence the achievement of offspring. To assess whether the impact of additional parental education on children's education is causal, three types of methods have been used: comparing twins (Behrman and Rosenzweig, 2002), comparing with adoptees (Sacerdote, 2002; Bjorklund et al., 2007) and using instrumental variable methods, especially schooling reforms. Twin studies compared the role of parental education on children's education for different sibling types, including identical (monozygotic) and fraternal (dizygotic) twins, full siblings, half siblings and adopted siblings, both raised together and raised apart, in order to distinguish nature from nurture. A similar approach was taken for adoptees. While original studies using adoptees show that the elasticity of maternal education was lower for adoptees than for biological children (Sacerdote, 2007), findings comparing information on both adoptive and biological parents suggest that both environmental and genetic factors matter for education (Björklund and Savanes, 2011). Findings that use variation in the years of schooling driven by changes in minimum compulsory schooling laws show that increasing parental schooling leads to higher children's educational attainment (Chevalier et al., 2009; Oreopoulous et al., 2006; Carneiro et al.,2007; Maurin et al., 2008), with the exception of Black et al. (2005) and Holmlund et al. (2011).

The approach here extends a comparative study for several European countries that looked at changes in minimum schooling laws as an instrument for parental education (Stella, 2013), and includes three additional OECD countries compared with Stella's study (Greece, Spain and Switzerland). The analysis is done using the SHARE dataset for the first wave, 2004, which includes years of education for both parents and children. The sample is restricted to married and cohabitating individuals, to the cohorts of parents born from 1920 and 1956, who are family respondents, and to first-born children. The framework is as follows:

$$YearsEd_{ij}^{children} = \alpha + \beta YearsEd_{ij}^{parents} + \gamma X_{ij} + \tau^{parents} + \tau^{chilren} + \eta_j + \varepsilon_{ij}^{parents}$$

Where X refers to the children's gender and household size, observed for child *i* within country *j*, η_j stands for country fixed effects and τ for birth cohort fixed effects for parents and children to control for cohort trends in education. The estimation uses an instrumental variable strategy, where parental years of education are instrumented with the number of years of compulsory schooling determined by the law using a two-stage least squares regression where the first stage regression is given by:

$$YearsEd_{ij}^{chparents} = \alpha + \delta \,\mathrm{Re}\, form_{ij}^{parents} + \pi X_{ij} + \varphi^{parents} + \varphi^{chilren} + \sigma_j + \upsilon_{ij}$$

The results show that there is a causal relationship between parents' and children's education. An additional year of parental education induced by the reform generates 0.3 years of additional schooling for their children.

Table 5.4. Impact of parental education on children's education

	OLS		2SLS	
Parental education	0.296***	0.297***	0.304***	0.305***
Female		-0.239***		-0.200***
Household size		-0.199***		-0.191***
Sample size	7 970	7 970	7 970	7 970
R-squared	0.275	0.290	0.301	0.308

Note: Estimates are based on a pooled regression of children's years of education on parental years of education for 11 European countries (Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Sweden and Switzerland). Results refer to both ordinary least squares (OLS) and two-stage least squares estimates (2SLS) where parental years of education are instrumented by the number of years of compulsory schooling determined by law when a reform was passed. ***: statistically significant at the 1% level.

Source: OECD estimates based on the first wave of SHARE.

5.3. Drivers of intergenerational educational mobility

This section focuses on inequalities in learning opportunities at school for individuals coming from different socio-economic backgrounds as one of the major drivers of intergenerational social mobility. Inequalities in learning opportunities are already present at birth. For instance, only 1.7% of 15 year-old students from the bottom quarter of the socio-economic profile in Turkey, but 27.9% in Chile and 28.4% in Poland, reported receiving more than one year of early childhood education in 2012 (OECD, 2016). Disparities in families' capacity to support their children (including by getting them into good schools) continue to translate into differences in children's achievements. An early learning gap is already apparent when looking at four- and five-year-old children. In the United States, children with poorly educated parents (upper secondary educational attainment or less) lag significantly behind in reading and mathematics in comparison to their peers with highly educated parents (tertiary education or higher). A similar pattern, though to a much lesser degree, exists in Australia, Canada and the UK.

A key question for educational mobility is whether educational policies and schools have a role in either amplifying or tampering the transmission of disadvantage across generations. Educational attainment may be driven not only by parental background but also by parental behaviour and time investment, the student's own behaviour as well as school and/or peer effects and a range of school and teacher characteristics and public policies. If parent and student characteristics are the main drivers of educational performance, there is less scope for policy interventions to improve educational mobility. If schools make a difference, changing school inputs, management and teaching practices to enhance the educational performance of the most disadvantaged is an important policy avenue. On the other hand, if peers or the socio-economic characteristics of schools are more important, segregation might be the crucial issue to address in terms of policy. Certain policies and practices can amplify the role of parental background while others can minimise it. Some countries have been more successful in mitigating the impact of income inequality on intergenerational mobility than others through factors other than parents' socio-economic status, proving that there is substantial scope for policy intervention to help disadvantaged students.

5.3.1. Which matters more for students' performance: school effects or parental background?

Figure 5.11 shows the percentage of variance[9] in test scores from the Programme for International Student Assessment[10] (PISA) within a country that is explained by each of these factors:

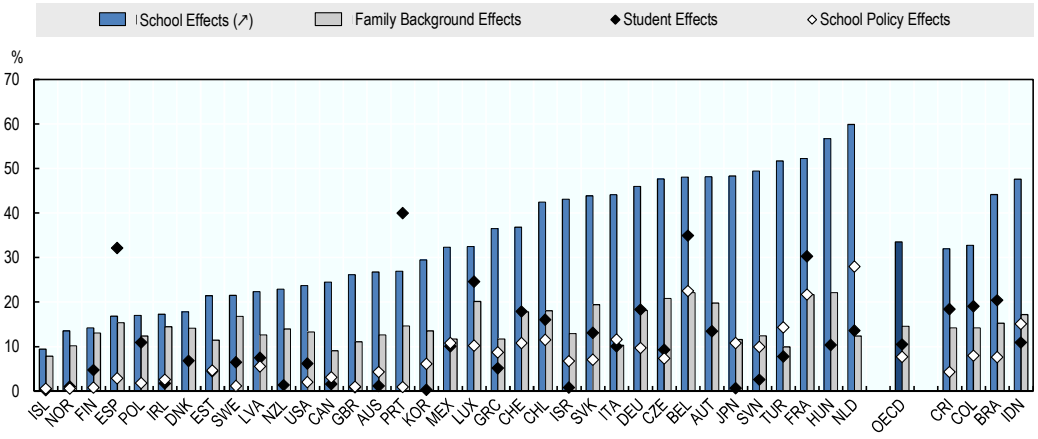
- individual student effects
- family background
- school effects (which reflect the impact of going to different schools); and
- school policy effects (which reflect the specific policies in terms of resources and quality).

On average across OECD countries, students' family background[11] explains 14% of the variation in student performance in mathematics. Similar results are observed for other domains of assessment where, on average across OECD countries, family background accounts for 11.9% of the variation in reading performance and 13.0% of the

variation in science performance (OECD, 2016). In some countries such as France, Hungary and Belgium, the family background accounts for at least 20% of this variability. In contrast, in other OECD countries such as Canada and Iceland, students' family background explains less than 10% of the variation in their performance in mathematics. In comparison, students' own characteristics (gender, age and grade)[12] explain a smaller part of the variation in test scores (11%) except in Belgium, Spain, France and Portugal where they explain 20% or more of the variance.

At the same time, such individual or family characteristics tend to matter less than school effects in explaining variation in test scores. A substantial portion of the variation in test scores within countries – 33% – is associated with the school that students attend, and school effects are the most important explanatory factor in 21 of 35 OECD countries and four emerging economies.[13] There are some exceptions such as Spain and Portugal where student and family effects are more important predictors of variations in test scores. School effects also tend to be high in countries that have early tracking such as Germany, the Netherlands, but they are also high in other countries that do not have such early tracking.

Figure 5.16. Variance decomposition of test scores



Note: This represents the share of PISA mathematics test score variation explained following a regression of test scores as a function of family background, student-level and school-level controls. Student effects refer to gender, age and grade. Family background refers to the PISA ESCS, immigration status, language spoken at home, whether living with two parents. School effects represent specific dummy for each school. School policy refers to the quality of Educational Resources, creative Extracurricular Activities, Student/Teacher Ratio and Index of ability grouping between mathematics classes.

Source: OECD calculations based on PISA 2015.

StatLink http://dx.doi.org/10.1787/888933754766

There are two pathways by which test score outcomes will vary with the school that students attend. The first pathway is through the sorting of students of similar ability into the same schools due to national policies on tracking, school admissions policies or parent/student or teacher behaviour. The second pathway is through school-level educational policies/practices that affect student achievement, with "good schools" raising the test scores of students more than "poor schools". In this sense, school factors can mediate the impact of family background, accentuate it or, on the contrary, reduce the differences. Given that only a small percentage of the variation in test scores is explained by school policies such as class size, resources and other policies (8% on average),

sorting ("student effect" in Figure 5.16) appears a much more important driver of school effects than the specific school policies.

There are different mechanisms driving the sorting of students of similar ability or background into the same school: tracking, admissions policies, parental choice and place of residence. One important sorting mechanism is early academic tracking and ability grouping, which can perpetuate educational inequalities between schools. These practices are often very costly and ineffective in raising educational outcomes. In particular, disadvantaged students are far more likely than more advantaged students to be sorted into non-academic tracks, such as Vocational Education and Training programmes. Several studies indicate that early tracking increases inequality in educational outcomes and reinforces the impact of family background on educational achievement (Hanushek and Wössmann, 2006; Causa and Chapuis, 2009). Previous OECD work (Causa and Chapuis, 2009) on this topic showed that early tracking increases socio-economic segregation between schools. Selective admissions policies are another important source of variation in test scores between schools. More selective schools have higher-performing students and less variation among students in terms of performance (Freeman and Viarengo, 2014), but competition may induce skimming and segregation (Burgess et al., 2007). Finally, school effects can also be related to the self-sorting of students or families related to residential segregation and to the link between school quality in a residential area and family income/wealth and housing. Findings from studies that follow individuals over time show that at least part of the reason why poorer children fall behind their richer peers seems to be because they go to different secondary schools (Crawford et al., 2017). In all countries, there is a clear advantage in attending a school where students are, on average, from more advantaged socio-economic backgrounds (Causa and Chapuis, 2009).

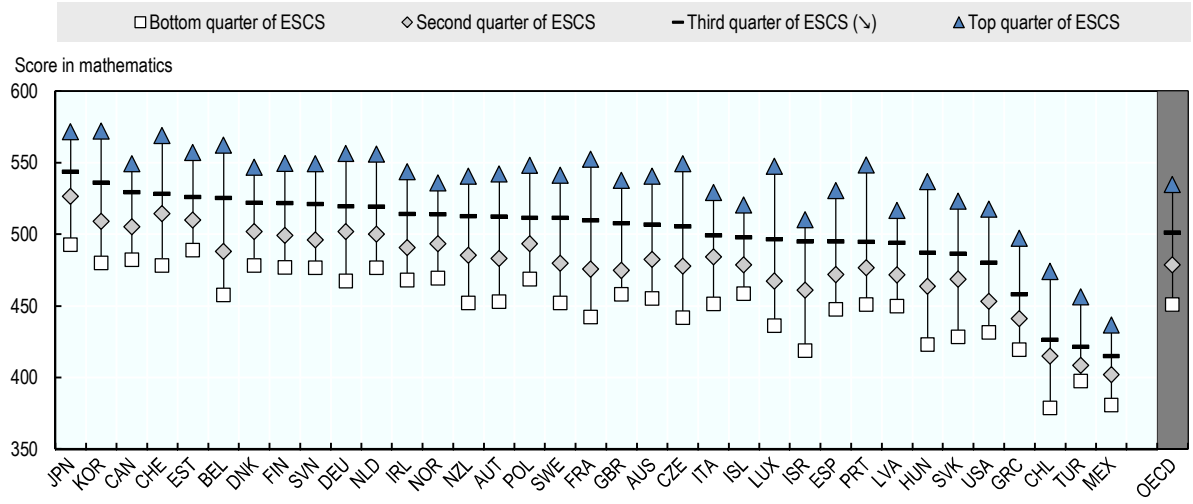
Other educational policies such as the accessibility of early childcare and preschool and vocational education also do have an impact on the possibilities for educational mobility. Enrolment in vocational education is also associated with a higher impact of a school's socio-economic background on student performance and a lower impact of individual background (Causa and Chapuis, 2009). Higher enrolment in childcare is associated with higher equity in education, that is, a lower correlation of parental socio-economic background on educational achievement. Chevalier et al. (2009) have found that intergenerational educational persistence is higher in countries with higher returns to education and lower in countries that spend more public funds on education, suggesting that egalitarian educational systems are associated with greater intergenerational mobility. However, this somewhat contradicts previous findings for the United States and Italy from Checchi et al. (1996), who brought forward the hypothesis that egalitarian educational systems such as in Italy – which are publicly financed, centralised and provide the same education to all students — lower the returns to education while decentralised and non-standardised education systems such as in the US increase the attractiveness and returns of human capital investment.

5.3.2. How much of the variation in scores by parental background can be explained by school policies?

Considering all countries, children of age 15 with parents of a lower socio-economic status scored 451 on average in PISA mathematics tests while those with highly educated parents scored 535, which represents more than three years of equivalent additional schooling. At the same time, countries with similar average scores can actually have very different gaps in performance between low-status and high-status families, highlighting

how educational policies could contribute to exacerbating or reducing educational differences. As examples, France – when compared to Sweden and the United Kingdom – or Germany – when compared to Slovenia and the Netherlands – have similar average scores as their country group but much higher disparities between the scores of students with lower and higher socio-economic backgrounds (Figure 5.17).

Figure 5.17. Score in mathematics by socio-economic status of parents, 2015



Note: ESCS refers to the PISA index of economic, social and cultural status.

Source: PISA 2015.

StatLink http://dx.doi.org/10.1787/888933754785

A decomposition of what factors drive such gaps in performance across parental socio-economic status shows that school quality matters more than individual characteristics and parental involvement. Figure 5.18, Panel A, shows that on average one-third of the gap in test scores between advantaged and disadvantaged students is driven by the different characteristics of the individual (13%), family (3%) and school (17%). Panel B shows that within the explained component, educational resources, the size and autonomy appear to be the most influential in explaining achievement gaps. The impact of school resources on equity, i.e. lower gaps in educational outcomes by parental background, is mixed and controversial, with some studies suggesting insignificant results for increasing educational spending for the disadvantaged (Wobmann et al., 2007), while others suggest that this does not help to improve equity in educational outcomes (Leuven et al., 2007).

Here, spending on resources and quality is proxied by the index of science resources, and this explains on average 26% of the difference driven by school policies. Both school size and the student-teacher ratio have an impact on the achievement gap. In terms of teachers, with some notable exceptions OECD countries try to allocate at least an equal, if not a larger, number of teachers per student in disadvantaged schools as they do in advantaged schools. This said, disadvantaged schools still report great difficulties in attracting qualified teachers. In other words, in disadvantaged schools, more resources do not necessarily translate into better-quality resources. Monetary incentives to teachers can

have an important impact on student's performance, and if they can be targeted at disadvantaged schools or students, they can also help promote equity (Lavy and Schlosser, 2004). School autonomy in content, hiring and salaries is also associated with higher student learning outcomes on average (Hanushek et al., 2013), but its impact on equity is controversial, with studies finding that it increases the impact of parental background (Amermuller, 2005), while others suggest that school autonomy is not detrimental to equity in student achievement (Wobmann et al., 2007). The decomposition results show that 11% of the explained part of the achievement gap is driven by differences in the responsibility for curriculum and resources.

Box 5.6. Decomposing variation in PISA test scores

Observed test scores are modelled as follows:

$$Test_{ij} = \beta_0 + \beta_1 A_{ij} + \beta_2 F_{ij} + \beta_3 S_{ij} + \beta_4 I_{ij} + \varepsilon_{ij}$$

Where Test is the observed test score for PISA mathematics of student I in country j, A is a vector of individual characteristics, F is a vector of parent inputs, S is a vector of school-related inputs and I is a vector of the school's institutional (such as early tracking) characteristics.

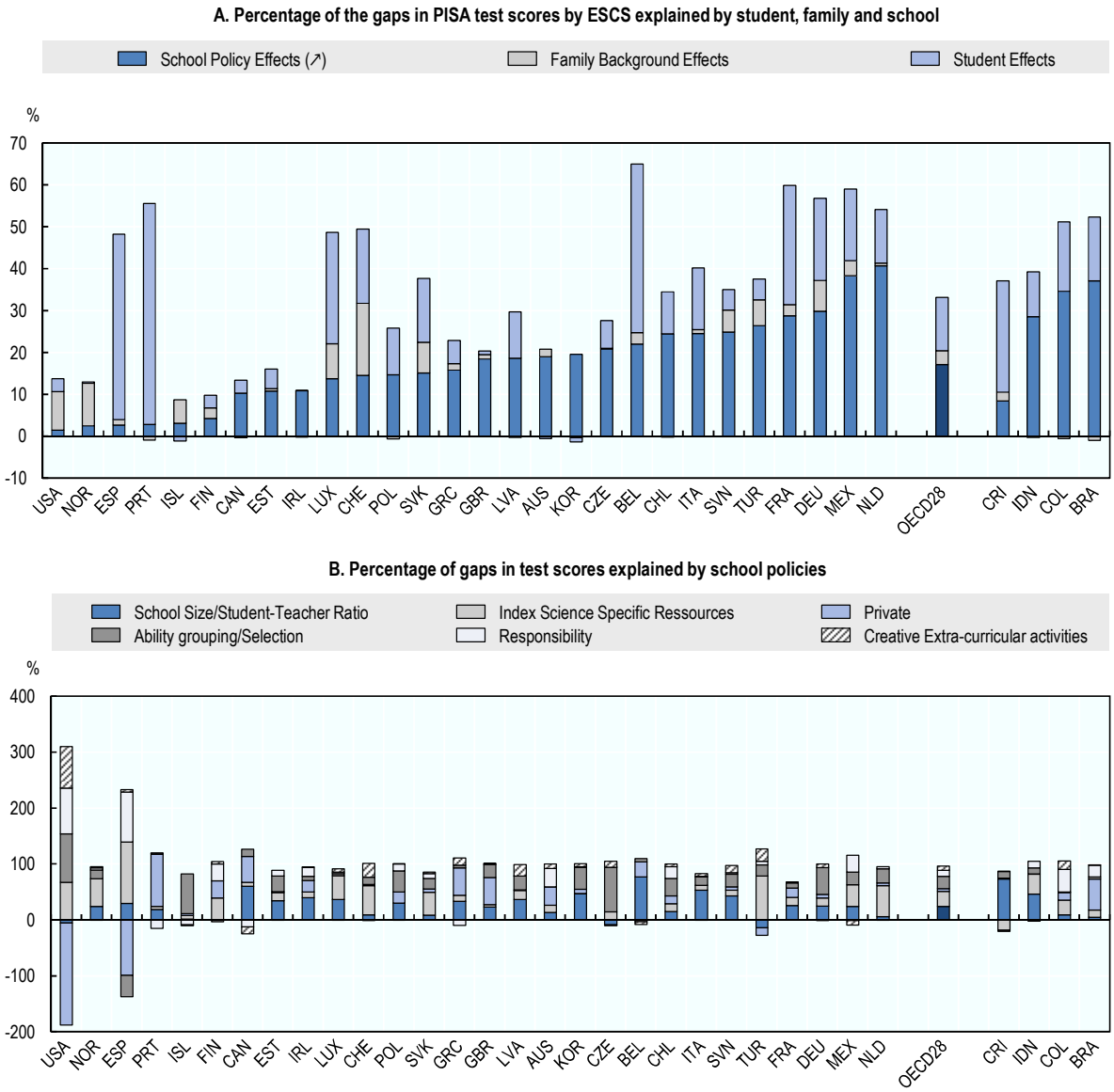
The determinants of the test score differences between the top and the bottom quartile student groups according to their PISA ESCS is decomposed using the Oaxaca-Blinder methodology so that the difference in the educational performance of each can be expressed as:

$$\overline{Test}_t - \overline{Test}_b = (\overline{Z}_t - \overline{Z}_b)\beta + \overline{Z}_t(\beta_t - \beta_b) + (\overline{\varepsilon}_t - \overline{\varepsilon}_b)$$

Where t and b correspond to the top and bottom quartile students in terms of ESCS respectively. The first term on the right hand-side corresponds to the part of the differential in educational performance attributable to observed individual, school and teacher characteristics, that is, how much students in the bottom quartile would score differently if they had the same individual and school characteristics as students in the top quartile ESCS. The second term, the return effect, shows how much low ESCS students would hypothetically be better if they experience the same production process of schooling given their own characteristics.

The decomposition analysis highlights other school and system characteristics that are particularly important in some countries. For instance, the provision of extra-curricular activities in schools is also a driver of socio-economic gaps in achievement. Having creative extra-curricular activities in school appears to be an important factor in Switzerland, Turkey and the United States, for instance. The fact that socio-economically advantaged students attend a private school contributes to more than 40% of the explained differences in countries such as Greece, Canada and Brazil. Ability grouping and selection criteria for schools contribute to 22% of the explained differences in students by socio-economic background.

Figure 5.18. Which school policies explain the gap in student achievement by background?



Note: For Panel A, the percentages do not add up to 100% because there is a residual or unexplained part. Selection depends on the frequency with which student admission to school is based on student's record of academic performance, including placement tests (never, sometimes and always). The ability grouping variable reflects whether students are grouped for instructional purposes based on standardized and teacher-developed tests. The Responsibility variable uses information reported by the school principals on whether the teachers, the principal, the school's governing board, the regional or local education authorities, the national education authority, or a combination of them, have considerable responsibility for allocating resources to schools (appointing and dismissing teachers; determining teachers' starting salaries and salary raises; and formulating school budgets and allocating them within the school) and for the school curriculum (choosing textbooks; deciding which courses are offered; and determining the content of those courses). The index of science-specific resources describes the number of the following questions that the school principal reported to be true for his or her school's science department: "Compared to other departments, our science department is well equipped"; "If we ever have some extra funding, a big share goes into improvement of our science teaching"; "Science teachers are among the best-educated staff members"; "Compared to similar schools, we have a well-equipped laboratory"; "The material for hands-on activities in science is in good shape"; "We have enough laboratory material that all courses can regularly use it"; "We have extra laboratory staff that helps support science teaching"; and "Our school spends extra money on up-to-date school science equipment". The index of creative extracurricular activities at school is the sum of principals' responses to questions about whether their school offers: a band, orchestra or choir; a school play or school musical; and an art club or art activities (the index ranges from 0 to 3, with each response weighed equally). Countries in Panel B are ordered by ascending order of the school policy effects in Panel A.
Source: OECD analysis based on PISA 2015.

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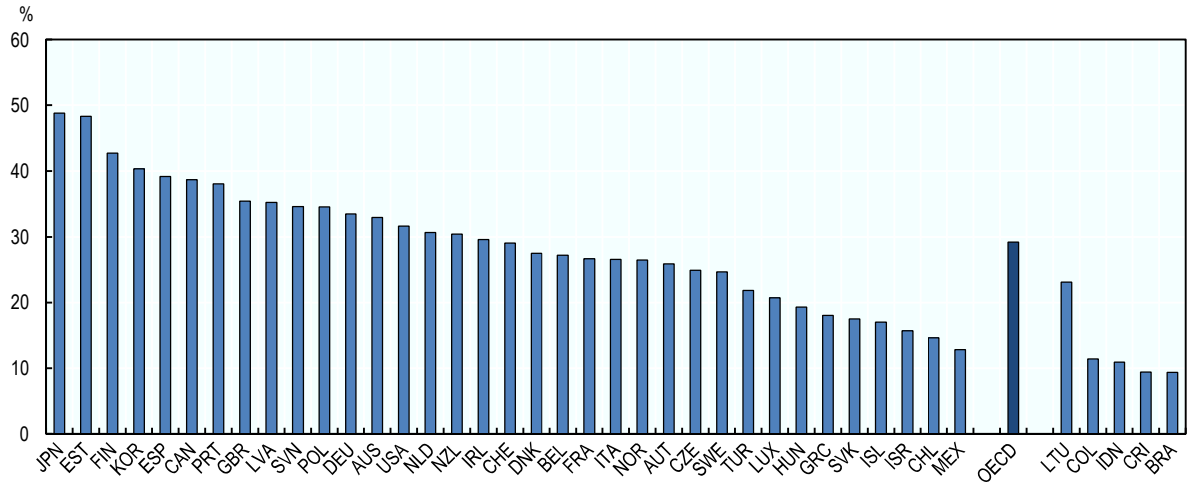
5.3.3. In what circumstances do disadvantaged pupils tend to perform better?

While parental background matters for educational outcomes and performance, there are a number of students from disadvantaged backgrounds who beat the odds and perform at high levels (students whom PISA calls "resilient"). On average across OECD countries, 29.2% of disadvantaged students beat the socio-economic odds and, after accounting for socio-economic status, score among the top quarter of students in all participating countries. These students make up over 40% of disadvantaged students in Estonia, Finland, Japan and Korea. These results are testimony to how widely the performance of students of similar socio-economic status can vary across school systems.

Figure 5.19. Percentage of top-performing students with a low socio-economic background



Note: A student is classified as resilient if he or she is in the bottom quarter of the PISA index of economic, social and cultural status (ESCS) in the country/economy of assessment and performs in the top quarter of students among all countries/economies, after accounting for socio-economic status.

Source: OECD PISA 2015.

StatLink http://dx.doi.org/10.1787/888933754823

In terms of what matters for educational mobility, findings from PISA suggest that one important characteristic explaining why children become resilient to social disadvantages is through promoting positive attitudes towards learning. Resilient students are more likely to be engaged, motivated, and hold strong beliefs in themselves and their abilities, thus offering policy makers tangible policy levers to raise resilience. Students' confidence in their academic abilities is one of the strongest predictors of resilience. Resilient students have lower rates of absenteeism and lack of punctuality than disadvantaged and advantaged low-achievers. They also have much higher intrinsic and instrumental motivation to learn mathematics and self-efficacy and lower levels of test anxiety than students who perform at lower levels than would be expected of them given their socio-economic condition (Table 5.5).

Table 5.5. Individual and school factors explaining resilience

	All countries		OECD countries		Non-OECD countries	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Female	-0.179***	(0.042)	-0.149***	(0.046)	-0.494***	(0.091)
Age	0.049	(0.079)	0.119	(0.087)	-0.189	(0.172)
Grade compared to modal grade in country	0.244***	(0.049)	0.213***	(0.062)	0.370***	(0.086)
Duration in early childhood education and care	-0.005	(0.014)	0.014	(0.016)	-0.107***	(0.039)
Grade repetition	-0.543***	(0.090)	-0.585***	(0.108)	-0.350**	(0.144)
Science self-efficacy	0.085***	(0.016)	0.097***	(0.018)	0.021	(0.036)
Student's motivation	0.143***	(0.031)	0.139***	(0.033)	0.231***	(0.068)
Learning time in mathematics	0.013	(0.013)	0.013	(0.014)	0.015	(0.029)
Personality: Test anxiety	-0.175***	(0.022)	-0.163***	(0.023)	-0.141**	(0.067)
Index of economic, social and cultural status	-0.114***	(0.041)	-0.130***	(0.044)	-0.779***	(0.111)
Immigrant mother	0.159	(0.107)	0.148	(0.110)	-0.046	(0.298)
Immigrant father	-0.139	(0.094)	-0.147	(0.095)	-0.426	(0.364)
International language at home	0.002	(0.104)	-0.020	(0.104)	-0.783	(0.481)
Disciplinary climate in science classes	0.113***	(0.024)	0.128***	(0.025)	-0.042	(0.057)
Teacher support in a science classes of students choice	-0.095***	(0.027)	-0.095***	(0.028)	-0.075	(0.048)
Teachers' professional development programmes	-0.001	(0.001)	-0.001	(0.001)	0.000	(0.002)
Shortage of educational material	0.002	(0.026)	0.013	(0.027)	-0.169**	(0.066)
Index proportion of all teachers fully certified	0.183**	(0.092)	0.113	(0.108)	0.008	(0.206)
Creative extra-curricular activities	-0.042	(0.028)	-0.046	-0.030	-0.055	(0.074)
Index science specific resources	0.035**	(0.015)	0.032**	(0.016)	0.017	(0.038)
Student-teacher ratio	-0.011***	(0.003)	-0.014***	(0.005)	0.007	(0.005)
School size	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)
Private school	0.111	(0.085)	0.104	(0.090)	-0.257	(0.314)
Groups based on standardized tests	-0.063	(0.057)	-0.063	(0.064)	0.031	(0.156)
Groups based on teacher-developed tests	-0.022	(0.052)	0.011	(0.057)	-0.338**	(0.145)
Responsibility for curriculum	0.006	(0.029)	0.017	(0.032)	-0.059	(0.075)
Responsibility for resources	-0.085**	(0.034)	-0.099***	(0.034)	0.004	(0.141)
Admission/record of academic performance: Sometimes	-0.057	(0.067)	-0.066	(0.073)	-0.134	(0.228)
Admission/record of academic performance: Always	0.043	(0.051)	0.035	(0.056)	-0.016	(0.150)
School includes parents in school decisions.	-0.059	(0.091)	-0.040	(0.097)	-0.184	(0.279)
School leadership	-0.019**	(0.008)	-0.019**	(0.009)	0.025	(0.017)
Constant	-0.908	(1.248)	-1.980	(1.361)	1.144	(2.838)
Sample size	19 086		17 058		2 028	

Note: Marginal effects of probit estimates. The dependent variable is a dummy for being a resilient student. A student is classified as resilient if he or she is in the bottom quarter of the PISA index of economic, social and cultural status (ESCS) in the country/economy of assessment and performs in the top quarter of students among all countries/economies, after accounting for socio-economic status. OECD countries include Australia, Belgium, Canada, Chile, the Czech Republic, Estonia, Finland, Germany, Great Britain, Greece, Ireland, Iceland, Italy, Korea, Latvia, Luxembourg, Mexico, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Switzerland, Turkey and the Unites States. Non OECD countries include Brazil, Colombia and Costa-Rica. ***, **: statistically significant at 1% and 5% levels, respectively.

Source: OECD estimates based on PISA 2015.

In addition to students' attitudes, certain aspects of school resources, policies, funding and governance correlate with resilience as well. Financial resources seem to matter to a certain extent: if there is a higher investment in education and if schools are ranked higher on the quality and quantity of educational services, they also have a higher probability of having resilient students. Lower student-teacher ratios are also associated with higher shares of resilient students. Teacher quality also matters: schools with a higher proportion of fully certified teachers report higher levels of resilient students. The learning environment matters equally: the school disciplinary climate stands out as a consistent predictor of being resilient, indicating that in schools where students are less likely to report disciplinary problems in class, there are more resilient students.

5.4. Conclusion

This chapter has first presented and discussed new comparative evidence of the degree of parental influence on offspring health. It has shown that parental socio-economic background and health behaviour have a strong impact on children's health at a young age and that health during childhood is an important factor influencing health during adulthood. In addition, parental health and health behaviour have an impact on their offsprings' adult health when looking at self-assessed health, body mass index, and the probability of smoking and drinking.

To provide a comprehensive picture, the second part of this chapter measured intergenerational educational mobility in several ways. It has been shown that absolute educational mobility is important across countries but that it has declined for individuals born after the mid-1970s. Relative mobility is more modest, as there is strong persistence both at the bottom and especially at the top of the educational distribution. Relative upward mobility from less than upper secondary to tertiary education has declined on average across OECD countries. As for the marginal impact of parental education on offspring education, one additional year of parental schooling is associated with as little as 0.16 years of offspring schooling in Korea to as much as 0.72 years of schooling in Portugal and the UK (0.74 in Indonesia), with an average of just under 0.5 years. In contrast to trends in relative levels of educational attainment measured by degree or level attained, the impact on children's schooling of adding one additional year of parental schooling has declined over time in European countries.

The analysis has also shown that both individual and school factors influence educational mobility. Policies that influence student motivation and self-efficacy can help students from disadvantaged background to perform better. The quantity of educational resources and the quality of teachers is also associated with higher chances of upward mobility. In part, disadvantaged students tend to perform worse than their more socio-economically advantaged peers, not only because they have less educated parents but also because they go to different schools. Attendance in different schools is partially driven by urban segregation and by other policies of selective admission or ability tracking.

Notes

1. Self-assessed health is a subjective measure but has the advantage of measuring health with a single indicator instead of a multi-item question or checklist of a series of symptoms/conditions. In addition, a substantial body of international research has reported the item to be significantly and independently associated with specific health problems, use of health services, changes in functional status, recovery from episodes of ill health and mortality (Idler and Kasl, 1995; Schnittker and Bacak, 2014).

2. In terms of quantifying the impact of health on intergenerational mobility, a study based on the UK suggests that early childhood health status helps to explain a modest proportion of the transmission of social class from parents to their sons – around 9% (Palloni, 2006). Another study from Denmark measured the intergenerational elasticity of earnings and found that, conditioning on the offspring's health status, the estimate of the intergenerational elasticity of earnings falls by a substantial amount – 28% for sons and 25% for daughters – partly because of the intergenerational correlation of health status (Eriksson et al., 2005).

3. Parental socio-economic status is captured by homeownership at birth, by \the number of rooms per person in the dwelling (to proxy financial status) and by the father's occupation when the child is 10.

4. Health measures include self-reported health status, whether the person had a chronic condition before the age of 10, whether they missed school a month or more, or whether they have been in the hospital for one month or more. Chronic conditions include diabetes or high blood sugar, heart trouble, severe headaches or migraines, epilepsy, fits or seizures, emotional, nervous or psychiatric problems, neoplastic diseases and other serious health conditions.

5. The data for the cross-country analysis does not allow for a cross-country analysis of the intergenerational transmission of specific health conditions, as the only available variable for parents' health status in the SHARE dataset is self-assessed health.

6. To disentangle the direct impact of parental BMI from other health behavioural factors, it is important to control for other confounding factors such as the work status of mothers, education, income and eating habits, which unfortunately are not available in the data.

7. Smoking is defined as whether the person ever smoked daily. Drinking is defined as whether the person had more than 2 glasses of alcohol almost every day.

8. If one were to look only at movements between three groups including below upper secondary, upper secondary and tertiary for Indonesia and South Africa, about 70% of children would have the same education levels as their parents. This hides a great deal of absolute mobility at the lower end of education, particularly for children with illiterate parents.

9. Following Freeman and Viarengo (2014), the analysis of variance is performed for each of the factors separately.

10. PISA data is based on a selection of students who are already 15-years-old students at Grade 7 or above and, in some countries, they will already represent a selected sample of those who did not drop-out but who are also studying in particular tracks or schools, generating cross-country variations in outcomes which are driven by the sample.

11. Family background here refers to the PISA index of economic, social and cultural status (ESCS), immigration status, language spoken at home, and whether living with two parents. The ESCS was created on the basis of the following variables: the International Socio-Economic Index of Occupational Status (ISEI); the highest level of education of the student's parents, converted into years of schooling; the PISA index of family wealth; the PISA index of home educational resources; and the PISA index of possessions related to "classical" culture in the family home.

12. Grade is used as a control for the level of knowledge the student is and is part of student characteristics but could also be the outcome of grade repetition, skipping grades or starting school early or late which might be influence by factors other than the students and could reflect some of the system characteristics.

13. For France, some of the variation driven by school effects could be due to the fact that some students are in different education levels, i.e. in college or in *lycée*.

References

Aizer, A. and J. Currie (2014), "The intergenerational transmission of inequality: Maternal disadvantage and health at birth", *Science*, Vol. 344/6186, pp. 856-861, DOI: 10.1126/science.1251872.

Almond, D. and Mazumder, B. (2011), "Health capital and the prenatal environment: The effect of Ramadan observance during pregnancy". *American Economic Journal: Applied Economics*, Vol. 3/4, pp. 56-85.

Ammermuller, A. (2005), "Educational Opportunities and the Role of Institutions", *ZEW Discussion Paper 05-44*. Mannheim: Centre for European Economic Research.

Angelini, V. and J.O. Mierau (2012), "Social and economic aspects of childhood health", *Research Report 12002-EEF*, University of Groningen.

Bago d'Uva, T.M., et al. (2011), "Education-related inequity in health care with heterogeneous reporting of health", *Journal of the Royal Statistical Society. Series A. Statistics in Society, 174* (3), pp. 639-664.

Banks, J. and J.P. Smith (2012), "International comparisons in health economics: Evidence from aging studies", *Annual Review of Economics*, Vol. 4, pp. 57–81, http://doi.org/10.1146/annurev-economics-080511-110944.

Bantle, C. and J. Haisken-DeNew (2002), "Smoke signals: The intergenerational transmission of smoking behavior", *Discussion Papers of DIW Berlin*, No 277, DIW Berlin, German Institute for Economic Research.

Barker, D.J. (1995), "Fetal origins of coronary heart disease", *BMJ: British Medical Journal*, Vol. 311/6998, pp. 171–174.

Behrman, J. and M. Rosenzweig (2002), "Does increasing women's schooling raise the schooling of the next generation?", *American Economic Review*, Vol. 92/1, pp. 323-334.

Björklund, A., M. Jäntti and G. Solon (2007), "Nature and nurture in the intergenerational transmission of socioeconomic status: Evidence from Swedish children and their biological and rearing parents", *The B.E. Journal of Economic Analysis & Policy*, De Gruyter, Vol. 7(2), pp. 1-23, November.

Björklund, A. and K.G. Salvanes (2011), "Education and family background: Mechanisms and policies", Handbook of the Economics of Education, Elsevier.

Black, S.E. and P.J. Devereux (2010), Recent developments in intergenerational mobility (No. w15889). National Bureau of Economic Research.

Black, S.E., P.J. Devereux and K.G. Salvanes (2005), "Why the apple doesn't fall far: Understanding intergenerational transmission of human capital", *American Economic Review*, Vol. 95, pp. 437-449.

Brown, H. and M. van der Pol (2014), "The role of time preferences in the intergenerational transfer of smoking health economics", *Health Econ*. Vol. 23, pp. 1493–1501.

Burgess, S., B. McConnell, C. Propper and D. Wilson (2007), "The impact of school choice on sorting by ability and socio-economic factors in English secondary

education", in L. Wößmann and P.E. Peterson (eds.), *Schools and the Equal Opportunity Problem*, Cambridge: MIT Press, pp. 273–291.

Carneiro, P., C. Meghir and M. Parey (2007), "Maternal education, home environments and the development of children and adolescents", *CEPR Discussion Paper* DP6505.

Case, A. and C. Paxson (2008), "Stature and status: Height, ability, and labor market outcomes", *The Journal of Political Economy*, Vol. 116/3, pp. 499–532, http://doi.org/10.1086/589524.

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, OECD Publishing, Paris, http://dx.doi.org/10.1787/223056645650.

Checchi, D., A. Ichino and A. Rustichini (1996), "More equal but less mobile? Education financing and intergenerational mobility in Italy and in the United States", CEPR Discussion Papers, 1496, C.E.P.R. Discussion Papers.

Chevalier A., K. Denny and D. McMahon (2009), "Intergenerational mobility and education equality", in P. Dolton, R. Asplund and E. Barth (eds.), *Education and Inequality across Europe*, London: Edward Elgar.

Chevalier, A. and V. O'Sullivan (2007), "Mother's education and birth weight", *IZA Discussion Paper* No. 2640, February, https://ssrn.com/abstract=970232

Conley, D. and N. G. Bennett (2000), "Is biology destiny? Birth weight and life chances", *American Sociological Review,* Vol. 65/3 (June), pp. 458-467.

Crawford, C., L. Macmillan and A. Vignoles (2017), "When and why do initially high-achieving poor children fall behind?", *Oxford Review of Education,* Vol. 43/1.

Currie, J. (2011), "Inequality at birth: Some Causes and Consequences", *American Economic Review*, American Economic Association, Vol. 101/3, pp. 1-22, http://ideas.repec.org/a/aea/aecrev/v101y2011i3p1-22.html

Currie, J. (2009), "Healthy, wealthy, and wise: Socioeconomic status, poor health in childhood, and human capital development", *Journal of Economic Literature*, Vol. 47, pp. 87–122.

Currie, J. and E. Moretti (2007), "Biology as destiny? Short- and long-run determinants of intergenerational transmission of birth weight", *Journal of Labor Economics*, Vol. 25/2.

Currie, J. and E. Moretti (2003), "Mother's education and the intergenerational transmission of human capital: Evidence from college openings", *Quarterly Journal of Economics*, Vol. 118, pp. 1495–1532.

Currie, J., and R. Walker (2011). Traffic congestion and infant health: Evidence from E-ZPass. *American Economic Journal: Applied Economics*, Vol. 3/1, pp. 65-90.

Cutler, D.M., E.L. Glaeser and J.M. Shapiro (2003), "Why have Americans become more obese?", *Journal of Economic Perspectives*, Vol. 17/3, pp. 93-118.

Cutler, D. and A. Lleras-Muney (2010), "Understanding differences in health behaviors by education", *Journal of Health Economics*, Vol. 29, pp. 1–28.

Daude, C. and V. Robano (2015), *Lat Am Econ Rev*, John Wiley & Sons, Ltd. Vol. 24/9.

Emanuel, I., H. Filakti, E. Alberman and S.J. Evans (1992), "Intergenerational studies of human birthweight from the 1958 birth cohort. 1. Evidence for a multigenerational effect", Br J Obstet Gynaecol., Vol. 99/1, pp. 67-74, https://www.ncbi.nlm.nih.gov/pubmed/1547177.

Ennett, S.T. and K.E. Bauman (1991), "Mediators in the relationship between parental and peer characteristics and beer drinking by early adolescents", *Journal of Applied Social Psychology*, Vol. –21/20.

Eriksson, T. et al. (2005). "Earnings persistence across generations: Transmission through health?" Unpublished paper presented at the EALE/SOLE meeting.

Eskenazi, B., R. Amy, R.C. Marks, T. Bruckner and P. G. Toniolo (2007), "Low birthweight in New York City and Upstate New York following the events of September 11th", *Human Reproduction*, Vol. 22/11, pp. 3013-3020.

Freeman, R.B. and M. Viarengo (2014), "School and family effects on educational outcomes across countries", *Economic Policy*, Vol. 29/ 79, 1 July, pp. 395–446.

Girdwood, S. and M. Leibbrandt (2009), "Intergenerational mobility: Analysis of the NIDS Wave 1 dataset", *Discussion Paper,* No. 15, National Income Dynamics Study.

Glyn, L.M. et al. (2001), "When stress happens matters: Effects of earthquake timing on stress responsivity in pregnancy", *American Journal of Obstetrics and Gynecology*, Vol. 184/ 4, pp. 637-642.

Hanushek, E.A., S. Link and L. Woessmann (2013), "Does school autonomy make sense everywhere? Panel estimates from PISA", (with) *Journal of Development Economics*, Vol. 104, pp. 212-232.

Hanushek, E.A. and L. Wössmann (2006), "Does educational tracking affect performance and inequality? Differences-in-differences evidence across countries", *Economic Journal, Royal Economic Society*, Vol. 116/510, pp. C63-C76, 03, http://ideas.repec.org/a/ecj/econjl/v116y2006i510pc63-c76.html.

Heckman, J.J. (2007), "The economics, technology and neuroscience of human capability formation. Proceedings of the National Academy of Sciences", *USA*, 104, pp. 13250–13255.

Hernández-Quevedo, C., A. Jones and N. Rice (2004), "Reporting Bias and Heterogeneity in Self-Assessed Health. Evidence from the British Household Panel Survey", *Discussion Papers,* Department of Economics, University of York.

Hertz, T., T. Jayasundera, P. Piraino, S. Selcuk, N. Smith and A. Verashchagina (2007), "The inheritance of educational inequality: International comparisons and fifty-year trends", *The B.E. Journal of Economic Analysis & Policy*, Vol. 7/10.

Holmlund, H., M. Lindahl and E. Plug (2011), "The causal effect of parents' schooling on children's schooling: A comparison of estimation methods", *Journal of Economic Literature*, Vol. 49/3, pp. 615–651.

Hu, Y. et al. (2013), "Familial correlation and aggregation of body mass index and blood pressure in Chinese Han population", *BMC Public Health*, Vol. *13*, pp 686, http://doi.org/10.1186/1471-2458-13-686.

Huong Thu Le and Ha Trong Nguyen (2015), "The impact of maternal mental health shocks on child health: Estimates from fixed effects instrumental variables models for

two cohorts of Australian children", *American Journal of Health Economics,* Vol.0, pp.1-62.

Idler, E.L., and Kasl, S.V. (1995), "Self-ratings of health: do they also predict change in functional ability?" The *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, Vol. 50/6, pp.S344-S353.

Johnston, D.W et al. (2013), "Exploring the intergenerational persistence of mental health: Evidence from three generations". *Journal of health economics*, Vol. 32/6, pp. 1077-1089.

Kelly, E. (2011), "The scourge of asian flu in utero exposure to pandemic influenza and the development of a cohort of british children". *Journal of Human Resources*, Vol. 46/4, pp. 669-694.

Kim, Y. et al. (2015). "Intergenerational correlations of health among older adults: Empirical evidence from Indonesia". *The Journal of the Economics of Ageing*, Vol. 6, pp. 44-56.

Kramarz, F. and O.N. Skans (2014), "When strong ties are strong: Networks and youth labour market entry. Review of Economic Studies", Vol. 81/3, pp. 1164-1200.

Lavy, V. and A. Schlosser (2004), Bureau for Research in Economic Analysis of Development. Policy paper.

Leuven, E., M. Lindahl, H. Oosterbeek and D. Webbink (2007), "The effect of extra funding for disadvantaged pupils on achievement", *The Review of Economics and Statistics*, MIT Press, Vol. 89/4, pp. 721-736.

Liefbroer, A.C. and C. Elzinga (2012), "Intergenerational transmission of behavioural patterns: How similar are parents' and children's demographic trajectories?" *Advances in Life Course Research*, Vol. 17/1, pp. 1-10.

Loureiro, M.L., A. Sanz-de-Galdeano and D. Vuri (2006), "Smoking habits: Like father, like son, like mother, like daughter", *IZA Discussion Papers*, No. 2279.

Lumey, L.H. (1998), Reproductive outcomes in women prenatally exposed to undernutrition: a review of findings from the Dutch famine birth cohort. Proceedings of the Nutrition Society, Vol. 57/1, pp. 129-135.

Maes, H.H., M.C. Neale and L.J. Eaves (1997), "Genetic and environmental factors in relative body weight and human adiposity", *Behav Genet.,* Vol. 27/4, pp. 325-51, https://www.ncbi.nlm.nih.gov/pubmed/9519560.

Mansour, H. and D.I. Rees (2012), "Armed conflict and birth weight: Evidence from the al-Aqsa intifada", *Journal of Development Economics*, Vol. 99/1, pp. 190-199.

Maurin, E. and S. McNally (2008), "Vive La Révolution! Long-term educational returns of 1968 to the angry students", *Journal of Labor Economics*, 26(1), pp. 1–33.

McKnight, A. (2015) *Downward mobility, opportunity hoarding and the 'glass floor'*, Research report, CASE, London.

Noble, Kimberly G. et al. (2015), "Family income, parental education and brain structure in children and adolescents", *Nature Neuroscience* 18, pp. 773–778.

OECD (2017), *Education at a Glance 2017: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2017-en.

OECD (2016), *Education at a Glance 2016: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2016-en

OECD (2016), *PISA 2015 Results (Volume I): Excellence and Equity in Education*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264266490-en

OECD (2014), *Education at a Glance 2014: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2014-en.

Oreopoulos, P., M.E. Page and A.H. Stevens (2006), "The intergenerational effects of compulsory schooling", *Journal of Labor Economics*, Vol. 24, pp. 729-760.

Osaki, Y. (2005), "Adolescent smoking behavior, associated environmental factors, and countermeasures", *Journal of the National Institute of Public Health*, Vol. 54.

Palloni, A. (2006), "Reproducing inequalities: Luck, wallets, and the enduring effects of childhood health". *Demography*, Vol. 43/4, pp. 587-615.

Persson, P. and M. Rossin-Slater (2014), "Family ruptures and intergenerational transmission of stress", *EconPapers*, No. 1022. A.

Reeves, R.V. and K. Howard (2014), *The Glass Floor: Education, Downward Mobility, and Opportunity Hoarding*, Brookings Institution, Washington.

Sacerdote, B. (2007), "How large are the effects from changes in family environment? A study of Korean American adoptees", *Quarterly Journal of Economics,* Vol. 122, pp. 119-157.

Sacerdote, B. (2004), "What happens when we randomly assign children to families", *NBER Working Paper* 10894.

Sacerdote, B. (2002), "The nature and nurture of economic outcomes", *American Economic Review*, American Economic Association, Vol. 92/2, pp. 344-348, May, https://ideas.repec.org/a/aea/aecrev/v92y2002i2p344-348.html.

Sassi, F. (ed.) (2015), *Tackling Harmful Alcohol Use: Economics and Public Health Policy***,** OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264181069-en.

Sassi, F., et al. (2009), "The Obesity Epidemic: Analysis of Past and Projected Future Trends in Selected OECD Countries", *OECD Health Working Papers*, No. 45, OECD Publishing, Paris, http://dx.doi.org/10.1787/225215402672.

Schmidt, C.M. and H. Tauchmann (2011), "Heterogeneity in the intergenerational transmission of alcohol consumption: A quantile regression approach". *Journal of health economics*, Vol. 30/1, pp, 33-42.

Schnittker J. and V. Bacak (2014), *The Increasing Predictive Validity of Self-Rated Health*, PLoS ONE9(1).

Scholte, R., G.J. van den Berg and M. Lindeboom (2012), "Long-run effects of gestation during the Dutch hunger winter famine on labor market and hospitalization outcomes", *IZA Discussion Papers* 6307, Institute for the Study of Labor (IZA), https://ideas.repec.org/p/iza/izadps/dp6307.html

Schwandt, H. (2014), "The lasting legacy of seasonal influenza: In-utero exposure and human capital development", *Working paper*, Princeton University Center for Health and Wellbeing.

Smeeding, T. (2015), "Multiple barriers to economic opportunity in the United States", Presented to the Federal Reserve Bank of Boston Conference, "Inequality of Economic Opportunity in the United States", 17-18 October 2014 (Revised).

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 University Press, Cambridge.

Stella, L. (2013), "Intergenerational transmission of human capital in Europe: evidence from SHARE", *IZA Journal of European Labor Studies*, Vol. 2/13.

Strauss, J. and D. Thomas (1998), "Health, nutrition and economic development", *Journal of Economic Literature,* Vol. 36/2, pp. 766-817.

Stunkard, A.J. and J.M. Albaum (1981), "The accuracy of self-reported weights", *Am J Clin Nutr*, Vol. 34, pp. 1593-99.

Thompson, O. (2014), "Genetic mechanisms in the intergenerational transmission of health", *J*ournal of Health Economics. http://www.sciencedirect.com/science/journal/01676296

Torche, F. (2011), "The effect of maternal stress on birth outcomes: Exploiting a natural experiment", *Demography*, Vol. 48/4, pp. 1473-1491.

Van Gundy, K. (2002), "Gender and intergenerational transmission of alcohol use patterns: An analysis of adult children in Moscow", Subst Use Misuse, Jan. 37(1), pp. 65-87, https://www.ncbi.nlm.nih.gov/pubmed/11848160.

Vandewater, E.A. et al. (2014), "Intergenerational transfer of smoking across three generations and forty-five years", *Nicotine & Tobacco Research*, Vol. 16/, pp. 11–17.

Wickrama, K.A.S. et al. (1999), "The intergenerational transfer of health-risk behaviors: Adolescent lifestyles and gender moderating effects", *Journal of Health and Social Behavior*, Vol. 40, pp. 258–272.

Wöbmann, L. et al. (2007), "School accountability, autonomy, choice, and the level of student achievement: International evidence from PISA 2003", *OECD Education Working Papers*, No. 13, OECD Publishing, Paris. http://dx.doi.org/10.1787/246402531617

Yamada, M. (2010), "Intergenerational linkage of smoking spreading in the home", Health policy medical science summer seminar.

Yu, J. (2003), "The association between parental alcohol-related behaviors and children's drinking", *Drug and Alcohol Dependence*, Vol. 69, pp. 253–262.

Yu, J. and M.W.B. Perrine (1997), "The transmission of parent/adult–child drinking patterns: Testing a gender-specific structural model", *The American Journal of Drug and Alcohol Abuse*, Vol. 23/1, pp. 143-165.

Annex 5.A1.

Table 5.A1.1. The impact of early childhood health and other conditions on poor adult self-assessed health status

		Average	Austria	Belgium	Denmark	France	Germany
Chronic childhood illness		0.056***	0.087***	0.048***	0.056***	0.035**	0.040**
Female		0.029***	-0.028	0.042***	-0.002	0.003	-0.032**
Wealth quintile	First quintile	0.073***	0.141***	0.070***	0.139***	0.062***	0.129***
	Second quintile	0.021***	0.045*	0.022	0.075***	0.041**	0.063***
	Fourth quintile	-0.028***	-0.007	-0.032**	0.002	-0.029	-0.050**
	Fifth quintile	-0.045***	-0.032	-0.051***	0.000	-0.056***	-0.090***
Marital status	Never married	0.014*	-0.045	0.000	0.058***	-0.037*	0.064*
	Divorced	0.002	-0.035	-0.007	-0.010	0.022	-0.067**
	Widowed	0.011**	-0.058**	0.012	-0.001	0.036**	-0.002
Education (ISCED-97)	ISCED 0/1	0.095***	0.173***	0.088***	0.071***	0.070***	0.257**
	ISCED 2	0.018***	0.014	0.061***	0.035	-0.034	0.042*
	ISCED 4/5/6	-0.044***	-0.087***	-0.018	-0.040***	-0.067***	-0.078***
Labour force status	Employed	-0.082***	-0.100***	-0.067***	-0.098***	-0.092***	-0.096***
	Unemployed	0.029**	0.045	0.073***	0.060	-0.007	0.079**
	Permanently sick/disabled	0.415***	0.368***	0.468***	0.394***	0.536***	0.386***
Age group	60-64 years old	0.017***	-0.029	0.024	-0.013	0.040*	0.041**
	65-69 years old	0.040***	-0.035	0.068***	-0.034	0.065***	0.038
	70-74 years old	0.093***	0.02	0.098***	0.018	0.164***	0.086***
	75-79 years old	0.142***	0.011	0.153***	0.053**	0.197***	0.150***
	Above 80 years old	0.220***	0.127***	0.203***	0.121***	0.326***	0.253***
Constant		0.187***	0.328***	0.086***	0.178***	0.234***	0.377***
Sample size		61 116	2 719	8 580	5 820	6 091	5 012
R-squared		0.150	0.098	0.119	0.146	0.150	0.116

Table 5.A1.1. The impact of early childhood health and other conditions on poor adult self-assessed health status *(Cont.)*

		Greece	Italy	Netherlands	Spain	Sweden	Switzerland
Chronic childhood illness		0.118***	0.051**	0.056***	0.096***	0.024	0.080***
Female		0.058***	0.098***	0.001	0.087***	0.051***	-0.006
Wealth quintile	First quintile	0.071***	0.050***	0.077***	0.036*	0.047***	0.041**
	Second quintile	0.014	0.000	0.007	-0.011	0.018	-0.015
	Fourth quintile	-0.007	-0.038**	-0.032*	-0.034*	-0.022	-0.040**
	Fifth quintile	-0.026	-0.064***	-0.027	-0.050***	-0.017	-0.052***
Marital status	Never married	-0.026	0.077***	0.056*	-0.015	0.015	0.008
	Divorced	-0.016	0.006	0.033	0.078	0.043**	-0.044**
	Widowed	0.020	-0.009	0.012	0.022	0.019	0.032
Education (ISCED-97)	ISCED 0/1	0.117***	0.119***	0.085***	0.130***	0.004	0.055***
	ISCED 2	0.011	0.029	0.046***	0.052*	-0.017	-0.019
	ISCED 4/5/6	-0.038**	-0.064***	-0.011	-0.049	-0.066***	-0.050***
Labour force status	Employed	-0.067***	-0.080***	-0.067***	-0.170***	-0.189***	-0.080***
	Unemployed	-0.011	0.034	0.056	-0.120***	-0.166***	0.085
	Permanently sick/disabled	0.474***	0.341***	0.444***	0.255***	0.235***	0.443***
Age group	60-64 years old	0.004	0.021	-0.002	0.021	0.016	0.006
	65-69 years old	0.071***	0.101***	0.043**	0.025	-0.103***	-0.013
	70-74 years old	0.143***	0.161***	0.084***	0.076***	-0.078***	0.021
	75-79 years old	0.158***	0.217***	0.100***	0.170***	-0.015	0.107***
	Above 80 years old	0.291***	0.309***	0.164***	0.232***	0.079***	0.117***
Constant		0.057*	0.125***	0.184***	0.193***	0.240***	0.183***
Sample size		4 406	7 376	6 137	5 922	5 450	3 603
R-squared		0.16	0.13	0.113	0.137	0.091	0.109

Note: The results show the probability of having poor or fair self-assessed health at current adult age on whether individuals reported a chronic condition at age 10. Any childhood health refers to chronic conditions which include diabetes or high blood sugar, heart trouble, severe headaches or migraines, epilepsy, fits or seizures, emotional, nervous or psychiatric problems, neoplastic diseases and other serious health conditions. Estimates are from a limited probability model. ***, **, *: statistically significant at 1%, 5% and 10% levels, respectively.

Source: Estimations based on SHARELIFE (2008/9).

Table 5.A1.2. Probability of poor health, controlling for individual fixed effects

		OLS		Fixed Effects	
		Male	Female	Male	Female
Poor parental health		0.063***	0.071***	0.035***	0.030***
Life Events	Mother dead	0.069***	0.068***	0.067***	0.049***
	Father dead	0.036***	0.050***	0.006	0.041***
Marital status	Never married	0.022*	-0.007	-0.025	-0.045
	Divorced	-0.005	0.017*	0.063*	0.035
	Widowed	0.012	0.012*	0.033	0.045***
Wealth quintile	First quintile	0.089***	0.094***	0.002	0.007
	Second quintile	0.033***	0.034***	-0.013*	0.006
	Fourth quintile	-0.033***	-0.036***	-0.009	0.002
	Fifth quintile	-0.051***	-0.079***	0.006	0.011
Labour force status	Employed	-0.107***	-0.094***	-0.032***	-0.007
	Unemployed	0.020	0.023	-0.004	0.029*
	Permanently sick/disabled	0.433***	0.423***	0.128***	0.099***
Age group	60-64 years old	0.001	0.000	0.025***	0.015**
	65-69 years old	-0.005	0.032***	0.048***	0.049***
	70-74 years old	0.045***	0.100***	0.117***	0.120***
	75-79 years old	0.117***	0.149***	0.199***	0.190***
	Above 80 years old	0.205***	0.227***	0.312***	0.279***
Constant		0.190***	0.142***	0.150***	0.162***
Sample size		46 119	57 322	46 119	57 322
Number of newid				19,406	23,704
R-squared		0.134	0.156	0.021	0.015

Note: Estimates based on a limited probability model for poor assessed health and for a panel model using individual fixed effects, both separately for men and women for 11 European countries (Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Sweden and Switzerland). ***, **, *: statistically significant at 1%, 5% and 10% levels, respectively.

Source: OECD estimates based on SHARE waves 1 to 5.

Table 5.A1.3. Impact of parental health on other health status measures

		Male			Female		
		Chronic	Obesity	ADL	Chronic	Obesity	ADL
Poor parental health		0.037***	0.008	-0.004	0.052***	0.017**	0.006*
Life Events	Mother dead	0.046***	0.007	0.008**	0.049***	0.034***	0.006*
	Father dead	0.034***	0.027***	0.004	0.059***	0.013*	0.001
Physical inactivity		0.135***	0.055***	0.294***	0.106***	0.111***	0.299***
Marital status	Never married	-0.004	-0.003	0.002	-0.003	-0.027***	-0.001
	Divorced	0.012	-0.024**	0.009	0.027***	-0.009	0.009*
	Widowed	0.010	0.013	0.022***	0.026***	0.019***	0.024***
Wealth quintile	First quintile	0.046***	0.029***	0.019***	0.050***	0.057***	0.035***
	Second quintile	0.026***	0.014**	0.007*	0.026***	0.030***	0.012***
	Fourth quintile	-0.020***	-0.022***	-0.006*	-0.023***	-0.025***	-0.006*
	Fifth quintile	-0.023***	-0.035***	-0.010***	-0.051***	-0.059***	-0.012***
Labour force status	Employed	-0.109***	-0.029***	-0.015***	-0.039***	-0.039***	-0.017***
	Unemployed	-0.065***	0.015	-0.004	-0.104***	0.009	-0.006
	Permanently sick/disabled	0.223***	0.045***	0.141***	-0.011	0.070***	0.197***
Age group	60-64 years old	0.049***	0.007	0.006	0.068***	-0.002	0.006*
	65-69 years old	0.082***	-0.008	0.010*	0.136***	-0.004	0.014***
	70-74 years old	0.117***	-0.032***	0.027***	0.211***	-0.020**	0.040***
	75-79 years old	0.183***	-0.054***	0.047***	0.237***	-0.034***	0.062***
	Above 80 years old	0.180***	-0.120***	0.123***	0.257***	-0.107***	0.160***
Constant		0.280***	0.212***	0.031***	0.213***	0.188***	0.017**
Sample size		46 119	46 119	46 119	57 322	57 322	57 322
R-squared		0.089	0.019	0.148	0.135	0.035	0.206

Note: Estimates are coefficients based in a limited probability model for pooled years and for 11 European countries (Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Sweden and Switzerland). Chronic: Having more than two chronic conditions. ADL: Activities of daily living limitations. ***, **, *: statistically significant at 1%, 5% and 10% levels, respectively.

Source: OECD estimates based on SHARE waves 1 to 5.

Table 5.A1.4. Intergenerational health behaviour correlations

A. Probability of smoking

	Europe			Australia		Canada		Japan	
	Male	Female		Male	Female	Male	Female	Male	Female
Parent smoking	0.081***	0.077***	Parent smoking	0.096***	0.085***	0.101***	0.143***	0.119*	0.059
First quintile	0.035***	0.043***	Log income	-0.032	-0.064**	0.019	0.019		
Second quintile	0.010	0.009							
Fourth quintile	-0.007	-0.002							
Fifth quintile	-0.009	0.017							
ISCED 2	0.045***	0.075***	Low education	0.001		0.223***	0.177***	0.028	0.013**
ISCED 3	0.019	0.097***							
ISCED 4 to 6	-0.013	0.080***							
Employed	-0.022*	0.003	Employed	0.091**	0.040	0.051	-0.068		
Unemployed	0.022	0.009							
Permanently sick/disabled	0.058***	0.029							
Mother dead	-0.020	-0.009	Mother dead					-0.009	0.014
Father dead	0.015	0.048***	Father dead					0.018	-0.005
Mother's low education	-0.018	-0.021	Mother's low education	-0.004	-0.045	0.071	0.025	0.122	0.026
Mother's high education	0.022	-0.023	Mother's high education	0.017	0.024	0.049	0.043*	0.069	0.010
Father's low education	-0.020	-0.016	Father's low education	-0.009	0.122	-0.003	-0.019	-0.003	0.015
Father's high education	0.018	0.039**	Father's high education	0.014	0.003	0.007	0.009	-0.025	-0.014
Migrant	0.010	0.026	Migrant	0.044	-0.034	-0.039	-0.074		
Never married	-0.011	0.057***	Never married	-0.037	-0.113***	-0.030	-0.036	-0.036	0.013
Divorced	0.018	0.107***							
Widowed	0.006	0.007							
60-64 years old	0.045***	0.014	Age	0.002	0.000	0.017***	0.013***	-0.006**	-0.003**
65-69 years old	0.039***	-0.041***							
70-74 years old	0.032*	-0.043***							
75-79 years old	0.037**	-0.070***							
Above 80 years old	0.041**	-0.047***							
Constant	0.520***	0.338***	Constant	0.364	0.879***	-0.460***	-0.320	0.459*	0.122
Observations	19,082	24,149	Observations	741	728	2,340	2,551	1,983	2,048
R-squared	0.029	0.066	R-squared	0.058	0.065	0.112	0.096	0.050	0.024

Table 5.A1.4. Intergenerational health behaviour correlations *(Cont.)*

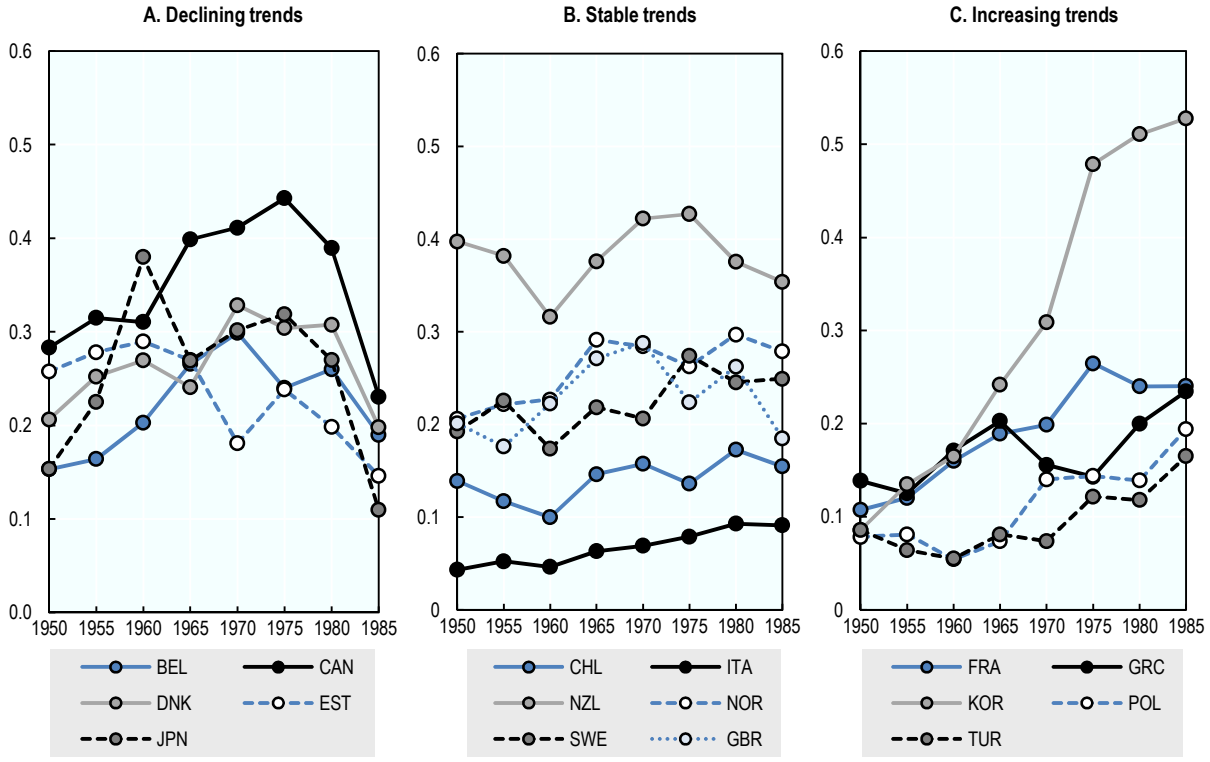
B. Probability of drinking

	Europe			Canada	
	Male	Female		Male	Female
Parent drinking at age 14	0.047***	0.036***	Parent drinking	0.041	0.001
1st quintile wealth	0.016	0.001	log income	0.019	-0.003
2nd quintile wealth	0.003	-0.002			
4th quintile wealth	0.008	0.009			
5th quintile wealth	0.007	0.007			
ISCED 2	-0.002	0.031***	Low education	0.019	0.004
ISCED 3	0.016	0.018***			
ISCED 4 to 6	0.007	0.025***			
Employed	0.003	0.013	Employed	0.035**	0.017
Unemployed	0.054**	0.003			
Permanently sick/disabled	-0.027	-0.005			
Mother dead	-0.002	-0.001			
Father dead	0.013	0.001			
Mother's low education	0.016	-0.021**	Mother's low education	-0.026	-0.015*
Mother's high education	0.032	0.010	Mother's medium education	-0.020	-0.010
Father's low education	-0.012	-0.020**	Father's low education	0.034	0.001
Father's high education	0.026	0.010	Father's medium education	-0.006	0.003
Migrant	0.006	0.004	migrant	-0.056*	-0.017**
Never married	-0.009	0.004	Never married	-0.020	0.046
Divorced	0.031	0.007			
Widowed	0.009	0.002			
Age 60-64	0.007	0.001	Age	0.006	0.007***
Age 65-69	-0.017	-0.022***			
Age 70-74	-0.053***	-0.040***			
Age 75-79	-0.112***	-0.054***			
Age 80+	-0.176***	-0.064***			
Constant	0.174***	0.059***	Constant	-0.288*	-0.139**
Observations	19,082	24,149	Observations	2,340	2,551
R-squared	0.04	0.046	R-squared	0.023	0.03

Note: Europe refers to 11 countries: Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Sweden and Switzerland.

Source: OECD estimates based on SHARE waves 1 to 5 for the European countries. For Canada estimates based on NLSCY cycles 5 to 8 and children aged 0 to 15 years old. For Australia, estimates based on HILDA wave 9 and 13. For Japan, estimates based on JHPS waves 2009, 2011 and 2012.

Figure 5.A1.1. Likelihood of educational attainment if neither parent has attained upper secondary by year of birth



Source: OECD calculations using PIAAC 2012 and 2015.

Table 5.A1.5. Upward educational mobility for the 55-64 and the 25-34 years-old

	25-34 year-olds		55-64 year-olds	
	Percentage	Standard error	Percentage	Standard error
Australia	35.9	1.9	42.4	1.8
Austria	21.2	1.4	29.4	1.5
Canada	27.4	1.4	51.7	1.3
Chile	39.1	2.1	32.6	4.0
Czech Republic	17.2	1.2	27.1	2.3
Denmark	28.0	1.5	43.8	1.3
England (United Kingdom)	32.6	1.9	41.2	1.9
Estonia	23.3	1.3	57.6	1.3
Finland	39.2	1.9	61.1	1.5
Flanders (Belgium)	34.5	1.6	48.4	1.5
France	39.9	1.4	42.3	1.4
Germany	19.8	1.8	34.3	2.0
Greece	48.5	2.1	41.8	1.9
Ireland	44.6	1.5	36.4	1.4
Israel	34.3	1.8	54.3	1.8
Italy	45.4	1.9	23.5	2.2
Japan	24.5	1.6	49.1	1.5
Korea	61.2	1.5	37.1	1.4
Netherlands	38.2	2.2	39.9	1.4
New Zealand	31.5	2.0	47.7	1.8
Northern Ireland (United Kingdom)	35.8	1.9	37.0	2.1
Norway	22.4	1.3	41.8	1.9
Poland	36.3	1.7	52.9	1.7
Slovak Republic	23.0	1.6	41.8	1.6
Slovenia	35.2	1.7	39.7	1.4
Spain	41.1	1.6	29.4	1.8
Sweden	24.5	1.8	50.2	1.7
Turkey	37.3	1.6	17.4	1.2
United States	23.5	1.7	41.4	2.1
OECD29	33.3		41.1	
Lithuania	11.0	1.2	73.2	2.2
Singapore	60.7	1.4	48.7	1.7

Note: Latest year refers to 2015 for Chile, Greece, Israel, New Zealand, Slovenia and Turkey and 2012 for remaining countries.

Source: OECD calculations based on PIAAC.

Table 5.A1.6. Upward mobility from upper secondary or post-secondary non-tertiary to tertiary education, by parents' immigrant status (2012 or 2015)

Survey of Adult Skills, tertiary-educated 25-44 year-old non-students whose parents' highest level of education is upper secondary or post-secondary non-tertiary

	Both parents are native-born		Both parents are foreign-born		Parents: all origins	
	Percentage	Standard error	Percentage	Standard error	Percentage	Standard error
Jakarta (Indonesia)	77.9	3.7	..	..	78.7	3.6
Singapore	67.4	2.2	72.0	2.5	69.0	1.4
Russian Federation	70.2	2.6	..	..	68.9	2.6
Korea	60.2	1.4	..	..	59.7	1.4
Canada	46.1	1.9	62.7	3.1	51.6	1.7
Turkey	52.0	3.6	..	..	51.3	3.4
New Zealand	41.7	3.1	67.4	5.6	49.9	2.7
Israel	45.9	3.5	57.0	4.3	49.9	2.5
Finland	47.9	1.6	..	..	47.2	1.5
Spain	56.2	3.3	14.9	4.2	46.8	2.8
Ireland	45.6	2.3	41.6	4.1	45.0	1.9
England (United Kingdom)	42.0	2.1	50.6	4.4	44.5	1.9
Japan	44.3	1.4	..	..	44.0	1.4
Greece	46.2	2.3	11.7	4.6	41.6	2.4
Flanders (Belgium)	41.3	2.1	43.9	7.9	41.4	1.9
Netherlands	43.0	2.7	26.3	8.1	40.5	2.4
France	42.3	1.5	26.8	4.3	40.5	1.3
Estonia	41.3	1.9	39.4	3.6	40.0	1.4
Northern Ireland (United Kingdom)	39.1	2.1	53.4	8.6	39.9	1.9
Average	39.1	0.4	36.0	1.1	39.1	0.4
Norway	37.5	2.0	45.2	4.8	38.4	1.7
Chile	37.1	3.7	..	..	37.4	3.4
Australia	33.2	2.9	40.7	3.9	37.2	2.1
Denmark	36.1	1.7	37.8	4.2	36.7	1.5
United States	33.3	1.6	42.4	6.5	34.6	1.7
Poland	34.6	1.4	..	..	34.6	1.4
Slovenia	38.4	1.5	14.3	3.3	33.8	1.2
Sweden	31.3	2.4	39.1	5.9	33.0	2.1
Italy	34.5	2.1	7.0	3.8	31.9	2.0
Germany	26.8	1.3	18.2	3.9	26.3	1.3
Slovak Republic	21.8	1.4	..	..	21.3	1.4
Lithuania	19.4	2.6	..	..	18.8	2.5
Austria	16.3	1.0	20.8	3.0	17.3	0.9
Czech Republic	16.7	1.1	30.8	9.2	16.7	1.0

Note: Chile, Greece, Israel, Jakarta (Indonesia), Lithuania, New Zealand, Singapore, Slovenia and Turkey: Year of reference 2015. All other countries: Year of reference 2012. For national entities as well as for subnational entities, "foreign-born parents" refers to parents born outside of the country. In the case of England (UK) and Northern Ireland (UK), "foreign-born parents" refers to those born outside of the United Kingdom. Countries and subnational entities are ranked in descending order of the percentage of upward mobility from upper secondary or post-secondary non-tertiary to tertiary education among 25-44 year-old non-students regardless of parents' origin.

Source: OECD (2016), *Education at a Glance 2016: OECD Indicators,* OECD Publishing, Paris, http://dx.doi.org/10.1787/eag-2016-en.

Chapter 6. Towards social mobility-friendly policies

The chapter builds on the insights gained in the previous chapters to make policy recommendations on how to improve social mobility across and within generations. It relies on the two premises that societies should grant equal opportunities to all of their citizens and that they should attempt to protect individuals' and households' income trajectories against adverse personal and labour market shocks. The chapter identifies five broad policy areas on which countries should focus to improve citizen's mobility prospects: health and family policies, education, labour market policies, tax-and-transfer policies and local and urban policies. For each of these areas, it presents a selection of best-practice programmes and policy initiatives that were recently implemented in OECD countries and emerging economies and that are suited to improve mobility outcomes.

Introduction

The previous chapters have provided an in-depth assessment of the lack of social mobility within and between generations, and explored the consequences, the levels and the drivers. Within working lives, higher income inequality is not offset by higher levels of mobility, and from one generation to the next, the inequality of parents' incomes implies inequality of educational outcomes and of the overall life chances of their children. This chapter discusses particular policies to foster more socially mobile societies, with a focus on two policy strands:

- One main policy challenge for growing economies is to ensure opportunities for moving up the ladder even at the low end, while preventing the top end from pre-empting advancement.
- Another key role for policies is to guarantee protection against the effects of unforeseen personal events or temporary shocks, to foster resilience.

There are sticky floors at the bottom and sticky ceilings at the top of the income distribution (see Chapters 2 and 3). Insufficient education levels, persistent unfavourable labour-market circumstances, or challenging family circumstances can lock in income mobility over working lives. Policies can contribute to support sustainable income trajectories by acting on these different drivers. For example, policies ensuring adequate education or training to those in need, smoothed and secured labour-market transitions or income support during trigger life-events can be instrumental in securing and supporting income trajectories throughout the whole life cycle.

There is also compelling evidence of the strong impact of parental background on children's outcomes in terms of health, education and socio-economic status (see Chapters 4 and 5). Yet, international differences highlight that policies have the potential to play an important role in determining how advantages or disadvantages are transmitted from one generation to the next. To improve intergenerational social mobility, policy needs to address how to overcome barriers to create more opportunity for those left behind, targeting public investment into children's development to compensate for the lack of parenting skills and resources among disadvantaged groups.

This chapter discusses five key policy areas to promote social mobility: health and family policies, education, labour market, tax and transfer policies, as well as local and urban planning and housing policies. It focusses, on the one hand, on the role of public subsidies and institutions in helping to improve the mobility prospects of the most disadvantaged and to secure income trajectories of others. At the same time, it also considers how to compensate for the effect of parental disadvantages and which possible support measures can improve the outcomes of the poorer children in order to address social mobility. The chapter provides a large range of selected country policy examples.

Key issues and main findings

- Health issues can act as an obstacle to occupational careers and result in downward mobility, adding to the challenges faced by individuals and their families. Public investment in health has the potential to support social mobility over the life course and across generations, for example, by cushioning income losses or necessary labour-market changes during health issues. In particular, access to sickness and disability insurance for all households is a prerequisite.

- Family policies, in particular policies for work and family balance, early education and care policies, together with services and income support schemes can help to level the playing field for all children by compensating disadvantages at home and avoiding the transmission of disadvantage to children. They can also support parents in their participation in the labour market and mitigate the detrimental impacts of financial hardship on children's future outcomes.
- Early interventions in childcare and education are the most effective policy tools to create level playing fields and to reduce gaps among children. But measures to support social mobility need to be taken also later on. Prevention of dropping out of school, in particular, is a key intervention to avoid unequal opportunities in the long run.
- Social transfers can contribute to more sustainable mobility patterns. Income-support schemes of an adequate level can help to cushion the negative impact of life events (such as unemployment, childbirth, divorce, sickness) for individuals from disadvantaged backgrounds but also for their offspring, with spill-overs in non-income areas. Measures to ensure the adequacy of resources after divorce, but also family benefits and labour-market policies, can prevent such life events from becoming a driver of persistent downward mobility. Well-designed in-work benefits can contribute to better pathways to employment and initiate future opportunities.
- Labour-market policies can make a substantial difference for earnings and occupational mobility throughout the career. Strengthening the transition from school to work, addressing the occupational barriers for disadvantaged groups, ensuring that recruitment processes are fair, minimising the impact of unemployment spells and building effective lifelong learning systems are the building blocks toward stronger social mobility.
- Social mobility also requires policies to reduce regional divides and inequalities between neighbourhoods in cities. Addressing spatial segregation is particularly important. The concentration of poor households in disadvantaged neighbourhoods can replicate disadvantages across generations and prevent improvements over the life course. This requires a range of well-coordinated local development and urban planning policies, including measures for housing and transport.

6.1. Which health and family policies can best foster social mobility?

By taking action on health inequalities for adults and their children, governments may promote upward social mobility. Health problems can have a long-lasting detrimental impact on incomes and labour-market participation (Chapter 3). Moreover, health and health behaviour depend significantly on parents' health and socio-economic status (Chapter 5).

Family policies are another track to boost social mobility and ease stickiness at the bottom. Children growing up in low-income families are less likely to achieve higher education, upper occupation status or high-earning jobs (Chapters 4 and 5). Family-related events, such as childbirth or divorce, can also result in long-lasting income losses or changes in work arrangements within families that are especially detrimental to

women (Chapter 3). Key areas for intervention include support for parents at work, adequate support during life trigger-events and resources for families in need.

Available evidence suggests that intergenerational educational mobility tends to be higher in countries where public spending on health and family policies is higher. The educational attainment of children depends less on their parents' education in countries with higher public expenditure on health. For instance, Aizer and Currie (2014) found that increases in spending on health are most strongly associated with reductions in the importance of family background. Crettaz and Jacot (2014) found that expenditures on family policies have reduced the gap between individuals whose parents are well educated and those who have a more modest background in terms of the likelihood of going to university.

6.1.1. Promoting universal access to health care and public health policies that benefit the poor

Health is a key factor in explaining social mobility. There is a well-known socio-economic gradient in health status and health behaviour: education and socio-economic background affect lifestyle, obesity and smoking (Marmot et al., 2008). Several studies have found that an important share of the intergenerational transmission of work status goes via children's health (Case et al., 2002; Eriksson et al., 2005; Hertz, 2006). In turn, chronic conditions and poor health impact labour-market outcomes and earnings, reducing the chances of upward mobility. Public investments in health have the potential to offset the negative impact of health shocks on intra-generational mobility and the transmission of health disadvantages from parents to offspring.

Health conditions have significant consequences on household incomes and childrens' future outcomes, either because they can lead to labour-market withdrawal and/or because they imply increased expenditures if out-of-pocket payments are high (Chapter 3). This is especially valid in emerging economies, where health insurance systems are not always mature. Measures to broaden the access to sickness and disability insurance are a prerequisite to avoid the long-term negative impact of adverse health shocks on income trajectories. China, for instance, has developed a New Cooperative Medical Scheme (NCMS), which increased the health insurance coverage of rural households from less than 15% before 2000 to over 90% by 2009.[1]

The poorest segments of the population are most at risk of bad health outcomes, but also more vulnerable to the adverse impact of health shocks, and they are less well-covered by health insurance (Liu, 2016; Lundborg et al., 2015; Grunow and Nuscheler, 2013). Heavy out-of-pocket expenditure and long delays in reimbursement procedures can also weigh on people's incomes. Health insurance systems therefore need to pay attention to the coverage of the poorest segments of the population, especially when these are split between public and private providers, or fully privately provided, so as to prevent downward intra-generational mobility. In addition, in order to keep the link with the labour market, disability benefits should be designed to favour activity rather than inactivity in the long run.

Australia introduced in 2017 a range of reforms[2] to encourage younger Australians to take up private health insurance by allowing insurers to discount hospital insurance premiums for 18 to 29-year-olds (Australian Government, 2017a). In France, all legal residents are covered by social health insurance (99.9% of the population), following the 2000 Universal Health Coverage Act (*Couverture Maladie Universelle*, CMU), which changed the public insurance entitlement criterion from professional activity to residence.

This allowed a small but growing share of the population who were previously not covered to benefit from the same rights as the rest of the population. In the Netherlands, the Inclusive Redesign of Work Processes (IHW) guides employers in redesigning the work processes to create employment opportunities for young people with a disability, especially if they are low-qualified or low-educated. This implies, for example, reallocating simple tasks from qualified workers to create a position that can be filled by a worker with lower qualifications (Scharle and Csillag, 2015).

The most disadvantaged receive less high-quality health services, relative to their needs, than the richest and middle-income groups, partly because the poorest groups in society are least likely to take a proactive approach to seeking health services. Several features of health systems were associated with large inequalities in health access: absence of universal health coverage, a large share of private financing and out-of-pocket payments, and the non-existence of public screening programmes (Devaux and Looper, 2012).

Inequalities can originate at very early stages in life. By providing a positive start and reducing disadvantages even before birth (i.e. during pregnancy), children, especially those from lower socio-economic backgrounds, will benefit from improved development outcomes in terms of health. Programmes that provide pre-natal and post-natal care to low-income families and that deliver services at home to address barriers to take-up for mothers are associated with positive child well-being and other outcomes (Greenberg and Shroder, 2004). Home visiting programmes consist of visits from social workers, parent educators or registered nurses to low-income families with pregnant mothers and babies in the home. The visitors provide health check-ups and referrals, parenting advice and guidance on navigating other government programmes.

Examples of such programmes are the Children in New Zealand Early Start Programme, which improved health care and health outcomes as shown by greater use of general practitioners, higher rates of well-child checks, fewer hospital attendances for accidents, injuries and poisonings, and greater use of preschool dental services (Williams et al., 2008). Evidence from the Family Nurse Partnership (FNP) in the United States shows that it led to an increased use of prenatal care, better nutrition during pregnancy, decreased smoking, and increased birthweight, and the postnatal effects included decreased injuries, visits to emergency room, decreased maltreatment and increased weight (Williams et al., 2008). However, the expansion of a similar programme in England found that adding the FNP programme to existing health care services created no additional short-term benefits to the measured main outcomes such as smoking during pregnancy, average birthweight, the proportion of children attending or being admitted to hospital, or preventing a subsequent pregnancy (Robling et al., 2015). This raises questions about the appropriate targeting needed for home visiting programmes to be effective and about their replication on a larger scale.

Food and nutrition programmes can help with malnutrition and poor nutrition, especially for children who suffer food insecurity. Poorer families are more likely to alter food purchases during difficult times. OECD (2014a) showed that on average across the OECD 13% of people reported that they did not have enough money to buy the food that they or their families needed, and this share increased during the economic downturn in Europe and the United States. Food insecurity can lead to serious mental development and growth problems and influence children's school performance. National school meal programmes are used in several countries as a practical means of reaching food-insecure school-age children directly so as to offset hunger and insufficient nutrition. In the United

States, it was found that almost one-half (47%) of the day's energy intake was provided by the two school meals and that these contributed 40% of vegetables and 77% of milk (Cullen and Chen, 2017). Evaluation of the Healthy Start programme in England suggests that food vouchers can provide an important nutritional safety net and potentially improve nutrition for pregnant women and young children living on low incomes (McFadden et al., 2014).

Addressing harmful behaviours, including poor diet and lack of physical activity, obesity and smoking, which are more prevalent among the lower socio-economic groups, is important to reduce health inequalities that block social mobility. Many governments are intensifying their efforts to promote a culture of healthy eating and active living (OECD, 2017a). A large majority of them have adopted initiatives aimed at school-age children, including changes in the school environment, notably regarding food and drink, as well as improvements in facilities for physical activity. The second-most common group of interventions involves the public health function of health systems. These interventions are primarily based on the development and dissemination of nutrition guidelines and health promotion messages to a wide variety of population groups through numerous channels, as well as promotion of active transport and active leisure.

Which policies are more likely to have a greater impact on lower socio-economic groups and reduce social disparities in health behaviour? OECD (2010a) shows that physician/dietician counselling has the largest effect, followed by food-advertising and food-labelling regulations and fiscal measures, while mass media campaigns and worksite interventions reduce health inequality the least. Education campaigns alone are less effective in lower than in higher socio-economic groups and are thus likely to increase inequalities. Where information strategies are used, easy-to-understand interpretative labelling, such as pictograms/pictures or traffic-light labelling – compared with detailed numerical nutritional information on food labels – is more likely to reach the most disadvantaged groups (OECD, 2017a). Restrictions on the advertising of potentially unhealthy products to children have also found support in many countries. This is the case for instance in Chile, Iceland, Ireland and Mexico, among others, for the ban on the advertising of foods and beverages on TV during the time children are the main audience, or in public transport in Australia and other public places in Norway. Primary care counselling of patients at risk due to their unhealthy lifestyles can be one of the most effective ways of changing behaviours and curbing obesity, but capacity is constrained in some countries as it is costly and time-intensive (OECD, 2010a).

Early intervention and prevention programmes for early childhood behavioural problems can help break the cycle of the intergenerational transmission of mental health problems. Effective interventions include support for maternal health during the perinatal period, parenting support programmes and specialist parent support programmes for high-risk groups (Shuey and Kankaras, forthcoming). Home visits, support and psychotherapy during the perinatal period are effective for decreasing the risk of perinatal depression. Several countries such as Australia, Israel, New Zealand, England and Japan include routine screening for depression for women during the perinatal period. Parenting programmes help reduce the risk of children's poor emotional development. In addition, school-based interventions to promote pupils' social and emotional development included focus on mental health within the school curriculum: Australia, for instance, has the KidsMatter programme that teaches children skills for good social and emotional development.

Early intervention can also have an impact on mental health and self-control (Tremblay, 2000). Early family/parent training is an effective intervention for reducing behavioural problems among young children and reducing delinquency and crime in later adolescence and adulthood (Piquero et al., 2009). In Chicago, the programme *Becoming a Man* is aimed at helping youth to slow down and reflect on their automatic thoughts and behaviours. The programme was found to reduce local arrests, reduce violent-crime arrest and improve school engagement (Heller et al., 2017).

6.1.2. Work and family balance

Policies for work and family balance can reduce household income shocks, enabling rewarding careers for parents (and mothers in particular), and promote intergenerational mobility. Women often miss out on crucial labour-market opportunities during the early stages of their careers, as this period coincides with the arrival of children in the household (OECD, forthcoming). Policies can limit the loss of labour-market opportunities by taking measures that facilitate employment and make work financially attractive, even when combined with care commitments. Given that women carry out a disproportionate share of unpaid work across OECD countries, which limits women's labour-force options, public policies supporting the participation of both men and women in the labour market on an equal footing are critical (OECD, forthcoming, 2017b, 2012, 2014a).

The difficulty of combining work and family responsibilities often results in women working part-time or dropping out of the labour force altogether. Withdrawing from the labour market at childbirth can have long-lasting effects on women's careers (Kleven et al., 2018), especially in case of long parental leaves. A range of policies is necessary to remove this obstacle. In many countries, governments and businesses have implemented family-friendly policies – parental leave, childcare, out-of-school-hours care, flexible working arrangements, etc. – to help parents with children. France and the Nordic countries, for example, provide a continuum of publicly provided reconciliation support for parents during the early years of their child's life, and they have been able to combine high female employment with high fertility rates, carrying a demographic dividend with them into the future. Norway and the United Kingdom have expanded or introduced free childcare hours. Norway for instance phased in 20 weekly hours of free childcare for 3-5 year-olds from low-income families.

Lower levels of employment and income because of the inability to combine work and care can be detrimental for upward mobility, and policies to encourage a good balance of work and family life are particularly important to help improve outcomes for poor children. This starts in infancy. While the evidence on the relationship between paid leave and child outcomes is mixed, much research has found that paid leave is associated with lower infant mortality and a lower likelihood of low-weight birth (Adema et al., 2015). There is also some evidence that additional leave in the early weeks and months following birth is linked to improved child development, particularly for less advantaged children (Ruhm and Waldfogel, 2012).

Evidence from several OECD countries suggests that the provision of father-specific leave may have considerable effects on fathers' behaviours, which can be beneficial both to balance the impact of childbirth on women's and men's earnings careers but also to improve children's cognitive and social outcomes. In addition to rebalancing the roles within households, extended time at home during early infancy is associated with fathers' greater involvement with their children, which has positive downstream effects for

children's cognitive and emotional development (Cabrera et al., 2007; Lamb, 2010; OECD, 2012; Sandstrom and Huerta, 2013) as well as physical health benefits for the child (World Health Organization, 2007).

Low-income families might have more difficulties in combining work and family life because of irregular or non-standard work, thereby harming mobility prospects. A challenge for closing gaps concerns the eligibility for intermittent, irregular and self-employed workers. Most leave policies require a record of regular employment and earnings for the employee to qualify, which may risk disadvantaging low-income families (Waldfogel and Stewart, 2017). A priority for policies in this area is to ensure that the lowest-income families are eligible for and receive adequate paid leave. In addition, less-skilled workers are less likely to have employer provision of additional job-protected leave such as for caring for sick children or relatives (Cancian et al., 2010). They are also less likely to have workplace flexibility with their scheduled hours or location than do more highly-skilled workers. This has been found to be one of the reasons why low-skilled mothers in the United Kingdom tend to drop out of the labour market after a second child, while participation is not reduced for high- and intermediate-skilled women (Hupkau and Leturcq, 2017).

It is also important to ensure that working mothers do not fall off the ladder to management-level positions and to break the glass ceiling that women still face. To increase women's representation in decision-making positions, several countries have introduced mandatory quotas, target-setting, disclosure initiatives and monitoring processes. Since 2013, nine countries – Austria, Belgium, France, Germany, Greece, Iceland, Italy, Israel and Norway – have introduced compulsory gender quotas for publicly listed companies and state-owned enterprises' board membership. Since 2011, the United Kingdom's voluntary business-led initiative has encouraged big firms to increase gender diversity, with successful results: the share of women on boards increased from 13% in 2010 to 27% in 2016 (OECD, 2017b).

6.1.3. Early education and childcare policies

Sticky floors and sticky ceilings emerge from an early age. Disadvantaged families under-invest in early childhood because of liquidity constraints and information failures, while better-off families are able to invest more in the human capital development of their young children. The empirical literature suggests that early investment in human capital matters most for opportunities and outcomes in later life (Currie, 2009; Shuey and Kankarras, forthcoming). Moreover, the literature evidences the positive returns of investing early in access to early childhood education and care (ECEC) services with regards to the formation of skills and capabilities, as well as health outcomes (Heckman 1999, 2007; Heckman and Masterov, 2007; Cunha and Heckman, 2007; Duncan and Magnuson, 2003, 2004; Shuey and Kankaras, forthcoming). Investments in human capital have dynamic complementarities, implying that learning begets learning (Carneiro and Heckman, 2003). Many studies have found positive effects of childcare programmes on children's performance and outcomes in young adulthood, particularly for relatively disadvantaged children (Shuey and Kankarras, forthcoming; Berlinski et al., 2008; Havnes and Mogstad, 2011; Ruhm and Waldfogel, 2012; Van Huizen and Plantenga, 2015).

Good-quality affordable childcare is instrumental in reducing the early gaps in speech and other cognitive skills, thereby fostering the upward mobility of children starting with disadvantages. For these children, the impact of childcare policies depends on the quality

of these services (Esping-Andersen et al., 2012; Kamerman, 2000; Vandenbroucke and Vleminckx, 2011; Melhuish, 2016). Low staff-to-child ratios and small group sizes are an example of standards that ensure good-quality childcare. In the United States, the childcare programme Infant Health and Development Program (IHDP) was found to boost the cognitive ability of low-income children much more than of higher-income children, suggesting that either a universal or an income-based targeted programme could essentially eliminate income-based gaps in IQ at age three (Duncan and Sojourner, 2013). Similarly, the expansion of subsidised child care in Norway in 1975 resulted in a positive impact on educational attainment that was driven largely by children of low-income parents (Havnes and Mogstad, 2015). In France, attending pre-school (*école maternelle*) from the age of two improves cognitive and noncognitive skills at age six, and both literacy and numeracy from the third to the ninth grades (Filatriau et al., 2013). It is also associated with a small but positive effect on the chances of not repeating the second grade of primary school (*CE2* – at age eight), especially among children from disadvantaged backgrounds (Caille, 2001; Goux and Maurin, 2010).

Children with a disadvantaged background are less likely to be enrolled in formal childcare and early schooling (OECD, 2016a; OECD, 2017c). Barriers to access to early childhood education and care include affordability, care hours and the proximity of services (OECD, 2017c). Petitclerc et al. (2017) have shown that higher participation rates in early education and care are encouraged by universal ECEC subsidies, and that countries with universal subsidies and income-adjusted out-of-pocket fees achieve a better enrolment of low-income children.

Evaluation studies suggest that in France the expansion of preschool was associated with reduced socio-economic inequalities (Dumas and Lefranc, 2010). In addition to the cognitive impact and education scores, other longer-term impacts have been found for programmes in the United States such as Early Head Start, Perry Preschool Project and Abecedarian Project, namely lower drug use and welfare dependency, delayed childbearing, improved educational attainment and improved employment. These findings are supplemented from quasi-experimental studies, which also confirm the long-term educational benefits of programmes such as Head Start, covering children from low socio-economic areas from the age of three (Currie, 2011).

Improving access to high-quality preschool programs is essential for low-income children, since education is a major contributor to intergenerational income mobility. Attendance in preschool can make a difference in later educational and learning outcomes. PISA results show that those school systems that perform the best and provide equitable learning opportunities to all students are also those that provide more inclusive access to pre-primary education (OECD, 2017c). For example, Estonia, Iceland, Hong Kong-China, Japan and Korea have below-average gaps in performance by socio-economic background.

Beyond early childcare and preschool, what happens at home can make a difference for children's cognitive and non-cognitive skills. This underlines the importance of early childhood home education programmes that aim to improve the parenting skills and children's socio-emotional skills among disadvantaged groups. Economically advantaged parents display more optimal parenting behaviours across a range of domains, including more authoritative parenting, more sensitive and responsive mother-child interactions, greater language stimulation and better parent management (Kalil, 2014). Programmes such as the Thirty Million Words project in the United States increased conversations and resulted in increased language development (Leffel and Suskind, 2013). The Perry

Preschool Program also shows how personality traits can be changed in ways that produce beneficial lifetime outcomes. Participants were taught social skills, and home visits promoted parent-child interactions. The Turkish Early Enrichment Project (TEEP) showed that a home-based enrichment intervention had numerous sustained effects in terms of school attainment, higher primary school grades and vocabulary scores, more favourable attitudes towards school, and better family and social adjustment (Kagitcibasi et al., 2001). In the Scottish Pilot programme for two-year-olds, parents in the programme showed improved parenting capacity compared to parents in the control group (Woolfson and King, 2008).

Targeting parents has a major advantage: the benefits can be long-lasting. However, parenting skills are difficult to change, because parents do not follow the programme for a long time or do not adhere to programme prescriptions. Thus programmes targeting parenting skills should be carefully designed and tailored to parents from lower socio-economic backgrounds. According to Clarke and Younas (2017), the most successful parenting interventions include programmes with three types of focus: 1) equipping parents with a greater understanding of child development, such as Children in Focus in Sweden which includes home visits and focus groups and role-playing techniques; 2) developing parental skills to detect delays and increase school readiness of children such as Parents as Teachers in Australia and New Zealand; and 3) providing assistance to parents to improve co-operation and reduce tension within the family, such as Parenting Shops in Belgium. In addition, governments in several countries are starting to implement universal interventions and services that reduce the stigma associated with parental support, encourage more parental engagement and are likely to help identify problems early and target support. These have been implemented through community centres such as SPIL in the Netherlands, Parenting Shops in Belgium and Familienzentren in Germany.

6.1.4. Accompanying families in life transitions

Divorce and partnership dissolution have a significant impact on incomes - in particular for women - and divorce is often a "trigger event" leading to poverty, which can have an impact persisting several years (Chapter 3). Women with high education appear in this regards as a population at risk, raising concerns for the career mobility of divorced women and the loss of human potential for the economy as a whole. Family benefits and taxes play a critical role in cushioning the impact of divorce on ex-partners. However, the empirical evidence tends to suggest that the most direct channel remains participation in the labour market.

The payment of child support by the non-custodial parent is a legal obligation in most OECD countries. Back in 1994, only 43% of European single parents received child maintenance payments. By 2000, this figure had risen to 50%, and by 2004, to 64%. This rise in payment rates can be linked to the introduction of legal processes to enforce the payment of child maintenance (Beaumont and Mason, 2014).

Non-payment (or delayed payment) of alimony is still frequent. For France, it has been estimated that 30% to 40% of alimonies were not at all or only partially paid (Haut Conseil de la Famille, 2014). National responses to the non-payment of child maintenance by the non-custodial parent can range from enforced payment, salary deductions, seizure of assets and bank accounts and, in some countries, imprisonment. Child support can be guaranteed in some countries by the state (in Austria, Estonia, France, Germany, Hungary, Italy and Sweden); by local authorities (in the Czech

Republic, Denmark and Finland); by special funds (in Latvia, Lithuania, Luxembourg, Poland and Portugal); or by a special administrative agency (in the Netherlands, the United Kingdom and France). In 2017, France introduced the Aripa, a public agency in charge of recovering unpaid alimony from the first unpaid month. Australia has a Child Support Agency (CSA) since 2006 to ensure that child support is paid in full and on time. Evaluation of child support compliance just prior to, one year after and three years after the child support has nevertheless shown little impact on compliance behaviour.

6.1.5. Providing families with additional resources: Addressing the detrimental consequences of child poverty

Evidence from several studies using randomised controlled trials, quasi-experimental approaches or analysis of longitudinal data suggests that parental income *in itself* matters for children's outcomes and mobility prospects. Children from lower-income households have worse outcomes at later ages in a range of domains such as: scoring lower on tests of cognitive skill in early childhood, being more likely to drop out of school and less likely to attain tertiary education, having more behavioural problems and being more likely to be poor or have lower income themselves.

Poverty is associated with a cluster of disadvantages that may be detrimental to children, such as low levels of parental education and living with a single parent. It is possible that the inequalities between children from rich and poor families are due to unmeasured factors that simultaneously explain parents' income and their children's outcomes, such as the living environment or cultural stimulation. However, evidence shows that "money *in itself* matters for children's outcomes" (Cooper and Stewart, 2017). A majority of studies suggest that poorer children have worse outcomes because they live in poorer families (Duncan et al., 2012). Low income affects opportunities for children through two pathways. First, having low income limits investment in goods and services that promote healthy child development, such as good quality housing, healthy food and good-quality education. Second, low income and a lack of resources can be stressful for parents and impact parenting behaviour negatively. For example, mothers who are suffering from depression can lack the emotional resources needed for responsive and nurturing parenting behaviours (Cooper and Stewart, 2017).

Box 6.1. Social spending and intergenerational mobility

Literature on the links between (social) expenditures and intergenerational mobility remains scarce, but available evidence suggests a positive impact of higher spending on mobility. For the Unites States, greater intergenerational mobility in high-spending states compared to low-spending states has been found by Mayer and Lopoo (2008), and the difference in mobility between advantaged and disadvantaged children is smaller in high-spending compared to low-spending states. Becker et al. (2010) found that higher intergenerational mobility is associated with higher public expenditures on education per student. Ferreira et al. (2013) looked at the impact of public education expenditures per student in primary and secondary school in Latin America and found that they have helped to reduce the schooling gap between rich and poor children.

Additional expenditure on the child has a significant impact on the development and well-being of children from lower-income households (McEwen and Stewart, 2014). For cognitive outcomes, early childhood matters most, while for behavioural outcomes, income in later childhood appears to be more important. The duration of low income is important: while short-term experiences of low income and unstable income, which are frequent especially at the bottom of the income distribution (Chapter 2), are associated

with negative outcomes for children, longer durations of poverty matter more for outcomes in later life (Cooper and Stewart, 2013).

Both direct cash transfers such as child benefits/allowances and refundable tax credits are effective forms of income support. Kirkegaard (2015) argued nevertheless that tax breaks for social spending tend by nature to benefit more those with higher incomes. Chetty et al. (2015) found that both the level and the progressivity of local tax expenditures (as a percentage of average gross income) are correlated with higher levels of intergenerational mobility, even after controlling for local demographic characteristics. Tax components that are associated with higher mobility include mortgage interest deductions, state income taxes and state earned income tax credit.

Evidence on the relative effectiveness of income transfers and direct intervention programmes from random-assignment experiments suggest that a USD 1 000 increase in annual income increases young children's school achievement and cognitive outcomes by between 5% to 27% of a standard deviation and slightly more for social and behavioural outcomes, for a set of OECD countries (Cooper and Stewart, 2013, 2017). For example, the Minnesota Family Investment Programme, implemented in the mid-1990s in the US and allowing lone-mother families to keep more of their welfare payments as earnings increase, had significant beneficial effects on a series of behaviours (Gennetian and Miller, 2002). Hoynes et al. (2015) found that an increase in annual income via the Earned Income Tax Credit (of USD 1 000) results in a 2-3% reduction of the incidence of low birthweight, an effect similar to other interventions such as increasing educational expenditures. Providing additional money to parents can therefore contribute to reducing the differences in outcomes between low-income children and others, but might not be enough to close the gap.

6.2. Which education policies can best foster social mobility?

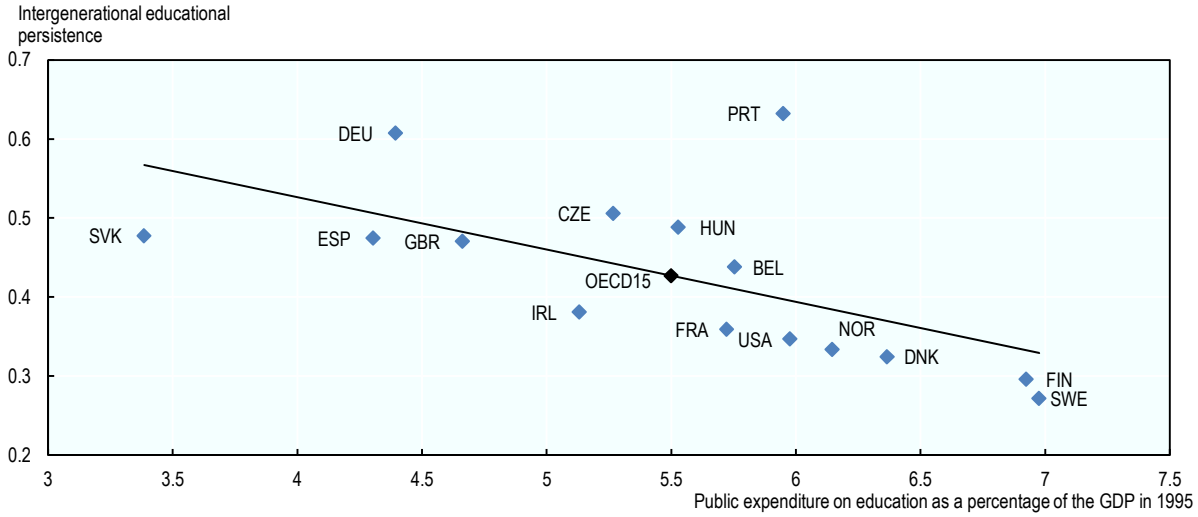
Chapter 5 highlighted sticky ceilings in educational attainment. Just 7% of people with higher-educated parents attain only lower-secondary education or less, compared with 42% of those with lower-educated parents. Moreover, sticky floors are not easing with time: over the past two decades, education mobility from the lower and middle levels to the upper level has been slowing down. This is a matter of concern, as low education and low earnings are often associated with greater labour market and income insecurity and contribute to remaining stuck at the bottom of the income distribution (Chapter 2).

To break the cycle of disadvantage and promote social mobility, early intervention is key. Overall, a strategy based on a greater investment in children that targets those from lower socio-economic backgrounds holds the promise of breaking the cycle of intergenerational disadvantage because of its effects in levelling the playfield in terms of child development. Such a strategy will also help guarantee smoother and more sustainable lifetime income mobility for people from lower socio-economic backgrounds.

Across OECD countries, countries which in the past spent more on education tend to have higher intergenerational educational mobility. As shown in Figure 6.1, the correlation between the number of years of education across parents and children (a proxy for education persistence) is significantly lower in countries where public spending on education was higher in 1995. It seems thus that public investment in education has a positive influence on educational mobility in the long term. Other cross-country findings support this association. Becker et al. (2010) found that lower intergenerational earnings

elasticity is associated with higher public expenditures on education per student. Finally, Ferreira et al. (2013) looked at the impact of public education expenditures per student in primary and secondary school in Latin America and found that they have indeed helped to reduce the schooling gap between rich and poor children.

Figure 6.1. Educational mobility is higher in countries where public spending on education was higher



Note: Persistence is defined as the regression coefficient between parental and children's years of schooling at age 30-55 (see Chapter 5).

Source: OECD National Accounts Data and OECD calculations based on the ESS for European countries and the CNEF for Germany and the United States.

StatLink http://dx.doi.org/10.1787/888933754842

6.2.1. Levelling the playing field for school-age children

At least part of the reason why poorer children fall behind their richer peers in terms of educational outcomes is because they go to different schools (see Chapter 5, Section 3). Evidence from the United Kingdom shows that there is less divergence in performance between pupils from different socio-economic backgrounds who attend the same schools and that schools (or the sorting of pupils into schools) play an important role in explaining why the test scores of richer and poorer children diverge over time (Crawford et al., 2016). Given that the separation of children into different schools based on income and conferring additional advantages is likely to persist, public authorities need to make a concerted effort to support low-performing schools or schools in marginalised communities to reduce this double disadvantage.

In general, schools with more socio-economically disadvantaged students tend to have less or lower-quality resources than schools with more advantaged students. Indeed, disadvantaged schools tend to have smaller classrooms, and they are also more likely to suffer from shortages of or inadequacies in educational materials and physical infrastructure (OECD, 2014b). In some countries such as Estonia, Finland, Germany, Korea and Slovenia, there is an effective policy towards disadvantaged schools, and principals in such schools tended to report that their schools had adequate educational

resources as much as, if not more than, principals in advantaged schools reported (OECD, 2015a).

The way money is allocated to schools does matter for equity (OECD, 2013a). Formula funding combining both horizontal equity – schools with similar characteristics are funded at the same level – and vertical equity – schools with higher needs receive higher resources – allows to account for students' educational needs relating to socio-economic disadvantage and learning difficulties. It can be used for example to provide further help for pupils such as additional teaching time, specialised learning materials and in some cases smaller classes. Formula funding was adopted in the Netherlands for all primary schools in 1985: schools with substantial numbers of disadvantaged students received more funds. In Australia, the National Plan for School Improvement "Better Schools" is a needs-based school funding model that has provided additional Commonwealth resources to schools since 2014. A school's funding is calculated according to the needs of every student enrolled[3] (OECD, 2016b). In Canada, immigrant students benefit from greater educational resources, such as supplementary classes (OECD, 2015a). In Chile, a Preferential School Subsidy (*Subvención Escolar Preferencial*) favours schools with larger proportions of vulnerable students (OECD, 2015i).

Developing a more supportive learning environment also comes through recruiting and training teachers and fostering effective learning strategies. Teacher quality is particularly important to support the long-term success of children in disadvantaged areas: students assigned to high value-added teachers (measured by how much they improved children's test scores on average) are more likely to attend higher-ranked colleges, earn higher salaries and live in higher socio-economic status neighbourhoods (Chetty et al., 2014). For a majority of countries, a larger proportion of more experienced teachers teach in less challenging schools than in more challenging schools. Some countries have put in place proactive approaches to reverse this trend. In Finland, teachers are entitled to a large degree of autonomy to adapt the pace of teaching to the pace of learning (English, 2014). In Japan and Korea, teachers and principals are often reassigned to different schools so that the most capable professionals are more equally distributed.

Flexible schooling and adapting teaching methods and programme contents to the needs of disadvantaged students can help improve achievement. In the United States, "charter schools" are public schools that enjoy greater leeway to manage staff, adapt curricula and organise teaching time. Charter schools often target students from disadvantaged backgrounds. They usually provide better resources (smaller class sizes and/or more hours of teaching), complementary services and better trained teachers for at-risk youth. A substantial body of research finds that charter schools can exert a significant, lasting impact on educational attainment and the later employment of disadvantaged youth (OECD, 2016c).

Getting the best teachers to teach in disadvantaged schools requires higher pay or bonuses, as suggested by some experiments in the United States (Talent for Transfer initiative) where this helped to fill vacancies with the highest-performing teachers and retain them. Results from France show, however, that bonuses may need to be sizeable because the incentive driven by the bonus (at 1.5% of the mean wage) was not sufficient to attract teachers (Prost, 2013).

Improving teacher quality requires improving the support teachers receive in disadvantaged schools, where the quality often lags behind that of their peers who teach in relatively lower-needs schools. According to the OECD TALIS 2013 data,

improvement in teacher support implies (1) support for continued professional development; (2) autonomy – the decision-making power teachers have over aspects of their teaching; and (3) peer networks – the role teachers play in regulating their own standards, including measures of peer socialisation, guidance and feedback. Investments in teacher professional knowledge and peer networks may be able to reduce the high teacher attrition rates common in high-needs schools (Imazeki and Goe, 2009). Education systems can further support teachers – including by requiring formal teacher education programmes that expose teachers to pedagogy and provide opportunities to practice teaching in order to enter the profession, as well as supporting induction and mentoring programmes. Other policy interventions include supporting teachers in conducting classroom-based individual or collaborative research and encouraging their participation in networks of other teachers for information exchange (OECD, 2016d). These measures may be particularly beneficial in schools with high proportions of students who suffer from socio-economic disadvantage and in secondary schools. Chile, for example, introduced a New System of Teacher Professional Development in 2016, entailing increased non-teaching time for class preparation, and salary increases for teachers and bonuses for teachers working in socio-economically disadvantaged schools (OECD, 2018a).

Inequalities in extra-curricular programme attendance reinforce differences in non-cognitive skills. How students spend their time outside of the school matters for outcomes and social mobility. Children's participation in extra-curricular activities, which typically require parental investment of time and money, changed over the last decades in ways that favoured more advantaged youth (Snellman et al., 2015). Students from higher income families spend more hours receiving tutoring and being involved in extra-curricular activities. Governments may need to provide additional resources for free-of-charge tutoring in disadvantaged schools and programmes to develop social and emotional skills. Empirical evidence confirms the positive effects of participating in extra-curricular activities on schooling outcomes and career prospects, especially for youth from disadvantaged backgrounds (Heckman, 2008). The provision of extra-curricular activities in Latvia is a policy example in this direction. The institutionalised system of interest-education, jointly funded by the state and the municipalities, offers attractive opportunities for young people to engage in sports, take music classes or do handicraft and other practical activities that can contribute to building social and professional skills (OECD, 2015h).

6.2.2. Eliminating obstacles for mobility in secondary education

Several policy measures can contribute to equity in secondary education and alleviate inequalities among students based on social backgrounds. These include eliminating grade repetition, avoiding early tracking and deferring student selection to upper secondary; managing school choice to avoid segregation and increased inequities; making funding strategies responsive to students' and schools' needs; and designing equivalent upper secondary education pathways to ensure completion (OECD, 2013a).

Students with low socio-economic backgrounds, poorly educated parents or immigrant backgrounds are significantly more likely to repeat classes than others, and grade repetition implies further widening the achievement gap between those who are left behind and their peers. Strategies to reduce grade repetition include: preventing repetition by addressing learning gaps during the school year; automatic promotion or limiting repetition to the subject or modules failed with targeted support; and raising awareness to change the cultural support for repetition. In Finland's upper secondary schools, modular

curriculum units are used instead of grades so that students can build their own learning schedules from a menu of courses offered in their school and a student may repeat only those courses that were not passed satisfactorily. Similarly, in Canada, New Zealand and the United States, retention is usually restricted to the specific classes that the student failed (OECD, 2012). To support these strategies, complementary policies need to reinforce the capacities of schools and teachers to respond appropriately to students' learning needs, and to provide early, regular and timely support.

Designing a school system that is fair and inclusive includes limiting early tracking, because the early streaming of students based on their ability seems to considerably reduce mobility. Many countries sort students into different pathways according to their performance, but the timing and extent of streaming varies across OECD countries. Countries like Sweden or Spain do not track students during compulsory education, while others have tracking at age 10/11 (OECD, 2012). Students from disadvantaged backgrounds are more likely to be taken out of mainstream education and follow a vocational or less academic track. They are disproportionally placed in the least academically oriented tracks or groups early on, which widens initial inequities (Spinath and Spinath, 2005). For example, students with an immigrant background, when tracked at an early stage, may be locked into a lower educational environment before they have had a chance to develop the linguistic, social and cultural skills to attain their maximum potential (OECD, 2010b). In Austria, Germany and the Netherlands, higher proportions of immigrant students are observed in the lower tracks of compulsory education and in vocational and training education (OECD, 2010b). There is evidence that the abolition of early tracking and the introduction of comprehensive school systems helped to promote intergenerational mobility in Nordic countries and the United Kingdom, primarily by benefiting low-income families (Nolan et al., 2010; Blanden et al., 2005). For instance, the abolition of the old two-track school system with a uniform nine-year comprehensive school in Finland was found to increase intergenerational income mobility by 23% (Pekkarinen et al., 2009). In contexts where there is reluctance to delay early tracking, suppressing lower-level tracks or groups can mitigate its negative effects. Limiting the number of subjects or the duration of ability grouping, increasing opportunities to change tracks or classrooms and providing high curricular standards for students in the different tracks can lessen the negative effects of early tracking, streaming and grouping by ability.

Policies to improve the quality and design of upper secondary education can make it more relevant for students and raise completion rates. To this end there are different policy options: making academic and vocational tracks equivalent by improving the quality of vocational education and training, allowing transitions from academic to vocational studies and removing dead ends; and reinforcing guidance and counselling for students and designing targeted measures to prevent dropping out, such as additional pathways to obtain an upper secondary qualification or incentives to stay in school until completion.

6.2.3. Preventing early drop-out

Combating early school leaving is essential to address educational inequalities and mobility barriers. Finland has reformed its education system in this direction since 2006. Children are followed on a regular and long-standing basis by the school staff. Those at risk of dropping out are directed in special classes (2nd tier, *Jopo*) and followed by a dedicated teacher in an individualised manner (English, 2014). The students not yet succeeding with this setting are directed to a third tier. In Spain, the 2013 Law for the Improvement of the Quality of Education (LOMCE) aimed at reducing early school

dropouts and improving educational outcomes by providing for new external student assessments and granting greater autonomy to schools (Fernandez and Immervoll, 2017). The Netherlands rose the compulsory school attendance age as a way of fighting early school leaving. The introduction of a "qualification obligation" demands pupils to remain at school until they are 18 years old unless they obtain a basic qualification before (OECD, 2014c).

Low performance and the risks of dropping out need to be tackled early by identifying the low performers at the beginning of the school year and providing targeted support throughout the year, maintaining high expectations for all, reducing grade repetition, delaying academic selection and involving parents throughout the school year. Denmark's *Youth Guidance Services* are an example of a prevention-oriented approach to early school leaving. Guidance counsellors develop educational plans with students and their parents while monitoring student's educational transitions and their school attendance record (OECD, 2015j).

If poor school performance and absenteeism are caused, or aggravated, by non-educational factors, family-related, income or housing problems, for instance, they need to be addressed. Specialised support staff such as trained psychologists or social workers in schools can help to quickly identify and address the challenges. Depending on young persons' needs, social workers or other support staff might help address family problems, resolve a difficult housing situation or put a young person in touch with health services. In Norway, for instance, schools have the freedom to exempt teachers from some of their teaching duties so that they can attend to students at risk of dropping out and absenteeism. In a similar vein, in Belgium, Flanders has adopted the *interne leerlingenbegeleiding* (internal care structure), that functions within schools to provide extra care to pupils in need and affected by non-educational factors (OECD, 2015j).

Another strategy to counter early school drop-out entails setting up special centres for the case management of early school leavers. Austria's *Youth Coaches*, Australia's *Youth Connections* programme, Flanders's *Centra voor Leerlingenbegeleiding* (CLBs), and the regional Register and Co-ordination Centres in the Netherlands, aim to support (potential) early school leavers and help them getting back to school or having a swift transition to work (OECD, 2015j).

6.2.4. Strengthen the link between school and home to avoid the transmission of disadvantage within families

Mentoring programmes can also help fill the gaps for youth who may lack guidance and positive role models at home (OECD, 2016c). A range of successful schemes combine after-school activities for underprivileged youth with a mentoring component. Social and emotional learning school-based programmes have also been shown to improve both behavioural and academic outcomes (Sawhill et al., 2012). A number of studies have identified the positive impact of mentoring on health, self-esteem, risky behaviour and the well-being of adolescents, provided that the relationship lasted at least a year (Grossman and Rhodes, 2002). The impact of mentoring largely depends on the quality and strength of the relationship between the young person and the mentor, as well as on the appropriate targeting of at-risk youth (Dubois et al., 2002; Rhodes 2008).

Examples of mentoring programmes include the "Big Brothers Big Sisters" network in the United States, which for more than 100 years has matched adult volunteers ("Bigs") and children ("Littles"). In Toronto, the Pathways to Education programme provides after-school tutoring, mentoring and financial assistance and has helped to

reduce drop-out rates (OECD, 2016c). In Portugal, the Entrepreneurs for Social Inclusion programme (EPIS) consists of one-to-one or small-group meetings between trained professionals (often psychologists or specialists in educational sciences) and 13-15 year-old students, in particular those most at risk of failing their year and/or dropping out. The programme is tailored to each participant's individual non-cognitive skills deficit using individual techniques (motivational discussions, self-control, problem-solving techniques) and group techniques (study methods, social competences training, management of criticism, anxiety self-control). Overall, the programme was successful and cost-effectively decreased grade retention by 10 percentage points (Martins, 2010).

Other studies have also highlighted that certain forms of parental behaviour help improve outcomes for students from disadvantaged backgrounds. Parental involvement, for example, reading with children when they are young, engaging in discussions that promote critical thinking and setting a good example, are found to be strongly related to cognitive and non-cognitive outcomes of children (Borgonovi and Montt, 2012). Country-specific longitudinal studies suggest that parental participation in learning activities at home and aspirations about children's education are positively associated with children's educational performance once socio-economic background is taken into account (Desforges and Abouchaar, 2003).

This shows that teachers, schools and governments have an opportunity to increase parental involvement. Approaches range from parent training programmes to initiatives to enhance home-school links and programmes involving family or community education. Epstein's National Programme of Parent/School Partnerships (Kreider, 2000) showed that the best outcomes were obtained when parental involvement planning was integrated fully into school development plans, and when the plans also involved teachers and community members. A recent evaluation in France showed that directed parent discussion groups were an effective policy tool for increasing parental involvement and resulted in an increased awareness of school structure and improved student behaviour and positively impacted learning (Avvisati et al., 2010).

6.2.5. Higher education is a pivotal moment for ensuring equal opportunities in working lives

Education has expanded in many OECD countries, but this has not always favoured relative upward mobility, especially into higher education. For individuals with less educated parents or from lower-income households, the chances of access to and completion of higher education remain lower than for those from more affluent backgrounds (see Chapter 5). Given the increasing importance of tertiary education for skills needed in the labour market and for earnings, a lack of access to higher education can have negative consequences for longer-run earnings trajectories and for social mobility. Differences in degree outcomes contribute to the reduced likelihood of moving into a professional job and the lower average earnings of graduates from poorer families. In the United States, for instance, the most competitive colleges are attended almost entirely by students from higher–socio-economic status households who out-populate the poorest students by a margin of fourteen to one (Carnevale et al., 2010). This is also observed in other countries where higher education systems have large differences between elite and standard universities. Besides the United States, the United Kingdom and France display substantial differences in the tightness of their selection process and in their per-student expenditures between the two types of university, and are thereby highly dual, which is not the case in the Nordic countries (Brezis and Hellier, 2017).

To address the under-representation of students from less advantaged socio-economic backgrounds in higher education, especially in more selective or prestigious universities, requires outreach policy actions in upper secondary schooling. 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 but with lower labour-market prospects. Information, advice and guidance play a central role in shaping students' choices, and students from lower socio-economic backgrounds may have less effective guidance coming from their parents, networks and schools in terms of higher education pathways. Contextual admissions by universities avoid situations where high-potential candidates with a disadvantaged background do not pass the initial screening (OECD, 2017d; Mountford-Zimdars et al., 2016).

Mentoring or tutoring whereby students of a given university pair with secondary school students to provide information to know what assessors are looking for in the admission process helps develop interpersonal skills and raise aspirations. The French Programme "*Pourquoi Pas Moi*" initiated by the ESSEC Business School and now available in 130 top universities, representing 34% of the *grandes écoles* (*Cordées de la Réussite*, ONPV, 2016), offers high school students a mentoring programme and workshops. The evaluation shows that 90% of those students pursue tertiary education compared with the average of 75%, and participants are twice as likely to enter a top school (everything else being equal, Accenture, 2012). A similar initiative in the US, the College Coach Program, implemented in twelve Chicago public high schools, helped students go through the college application process and found that they 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 (Rosenbaum et al., 2015). Upscaling such programmes remains a challenge, as it reaches only a small share of students in upper secondary in France, e.g. around 2% (M.E.S.R.I., 2017).

Policies to address socio-economic inequalities and barriers to upward mobility for disadvantaged groups should also include additional measures for encouraging recruitment, such as differential admissions policies. One possibility is class-based affirmative action or contextual admission as a way to curb intergenerational economic disadvantage. The idea behind the use of contextual data in university admissions is that it is fair to consider contextual factors as well as formal educational achievement, given the variation in learners' opportunities and circumstances. Contextual admissions policies typically involve the use of additional information about students' background characteristics such as the overall performance of their school and socio-economic markers that are linked with students' academic achievement (Boliver et al., 2015). Such policies remain highly controversial though.

Several countries have introduced or are considering such differential admissions policies for low-economic groups or disadvantaged demographic groups. A decade ago Brazil introduced affirmative action quotas by race but also for low-income students and public school graduates. In the United States and South Africa, there has been a debate to move from a race-based affirmative action to a class-based one. There is a range of concerns about the effectiveness of affirmative action (Cahuc et al., 2014). From a theoretical point of view, affirmative action might result in lower investment from the targeted groups and be overall detrimental (Coate and Loury, 1993). From an empirical point of view, the extent to which affirmative action benefits its target population is unclear. A study from the University of Colorado has demonstrated that class-based affirmative action policy led to increased socio-economic diversity and slightly increased racial diversity (Gaertner and Hart, 2013), but another study at a more selective

institution, UCLA, showed that minority representation declined (Sander, 1997). The evaluation of Israel's class-based affirmative action programme has shown that it was effective, as it has expanded access for academically borderline applicants from disadvantaged backgrounds and has led to higher rates of admission and enrolment overall (Alon and Malamud, 2014). Sander (2004) shows that black law students in the United States benefitting from affirmative actions were more likely to fall into the lowest performing tail of the distribution, with a higher dropout risk. Arcidiacono et al. (2012) found that affirmative action might bias the choice of majors and be detrimental to students who would have chosen more demanding paths in the absence of affirmative action.

Some proposals call for replacing affirmative action by "percent plans" in order to achieve diversity goals (Arcidiano and Lovenheim 2016). Percent plans guarantee admission to students who are in the top *X* percent of their high school class – thereby expanding access to low-income minority students. Texas and California have implemented plans guaranteeing all students in the top 10 percent of their high school class automatic admission to university.

The effectiveness of contextual admissions also requires the use of accurate and appropriate indicators that can be used by universities to understand previous differences, without compromising student achievement. Common indicators include individual-level, neighbourhood-level and school-level measures of relative disadvantage. This can be supplemented by teachers' evaluations. In France, the University Sciences Po has a special pathway (*Convention d'Education Prioritaire*) for students from disadvantaged schools (*Zone Education Prioritaire*) whereby the requirement of a written exam is waived but selection requires an information jury at school. Since its introduction in 2001, more than 1 700 students have benefited from this admissions process, and their success rate seems similar to other students, although some of them seem to take longer to finish their studies (Tiberj, 2011).

In addition to contextual admissions, diversifying entry routes for the promotion of more disadvantaged students to the best schools is another option to promote social mobility. Preparatory courses or foundation year programmes and summer schools are one way for students who do not have the required levels of prior attainment to acquire sufficient knowledge and skills and find a route into selective universities. France has also developed *parcours passerelles* for those doing short tertiary courses or coming from less selective schools to enter longer courses. In addition, top universities are providing other diplomas to bring people into higher education.

Better opportunities for students from lower socio-economic backgrounds can also be fostered by a transition from a decentralised to a centralised admission system to universities. Experience from Chile shows that the enlarged pool of colleges in the centralised admission system since 2012 has been welfare-improving, particularly for students facing high applications costs (Espinoza et al., 2017). Students are selected on the basis of a score that combines school grades and performance on a nationwide test (*Prueba de Selección Universitaria*). As a result of the transition, students of low socio-economic status are able to enrol in higher quality schools, and the premium of being rich was reduced by half. In terms of feasibility, sizeable application costs and low heterogeneity in college quality may lead to a voluntary transition of the universities to a centralised matching system. A centralised system could be adopted more readily in a market with high search costs, such as countries with high inequality.

Social mobility in higher education needs policy interventions that go well beyond the first day of university. In particular, providing greater support for students from poorer backgrounds while they are at university is also important to ensure that they are able to stay and complete their degrees (Crawford et al., 2016). For some, obstacles are related to the workload, while for others they are related to the combination of work and study. Student services, counselling and tutoring might be targeted to prevent dropping out, particularly during or toward the end of the first year. The First Generation Programme at the University in Colorado Boulder, for instance, helps first-generation students to transition from college to university and to navigate through the range of academic and social resources (Boulder, 2018).

Finally, diversity in higher education is related to funding issues as well, and individuals from a disadvantaged background need certainty in what they can expect to receive in terms of financial aid prior to applying. The policy aim of student grants is to step in and eliminate family income or wealth as a deterrent to access to tertiary education and success there. Several studies have documented the impact of student aid on matriculation decisions and suggest that aid programmes significantly increase enrolment, to the tune of around 1-3 percentage points per USD 1 000 (Kane 1995; Dynarski, 2000, 2003; Seftor and Turner, 2002; for the United States; Nielsen et al., 2010 for Denmark; Dearden et al., 2014, for the United Kingdom). There is also more recent evidence that financial aid leads to increases in annual rates of completion and higher course scores (Murphy and Wyness, 2016; Goldrick-Rab et al., 2016). High tuition fees may also deter low-income students from attending, though low or no tuition fees are also likely to benefit the rich disproportionately. Tuition fees that can be implemented on a sliding scale based on family/individual income, with families/individuals below a certain income threshold exempted from having to pay tuition fees, seems a promising way forward. While loans are an option, it is important to avoid high levels of repayment default, debt and risk. Dynarski and Kreiman (2013) suggest, for example, loans for which student-loan payments will automatically rise and fall with a borrower's earnings.

6.3. Which labour-market policies can best foster social mobility?

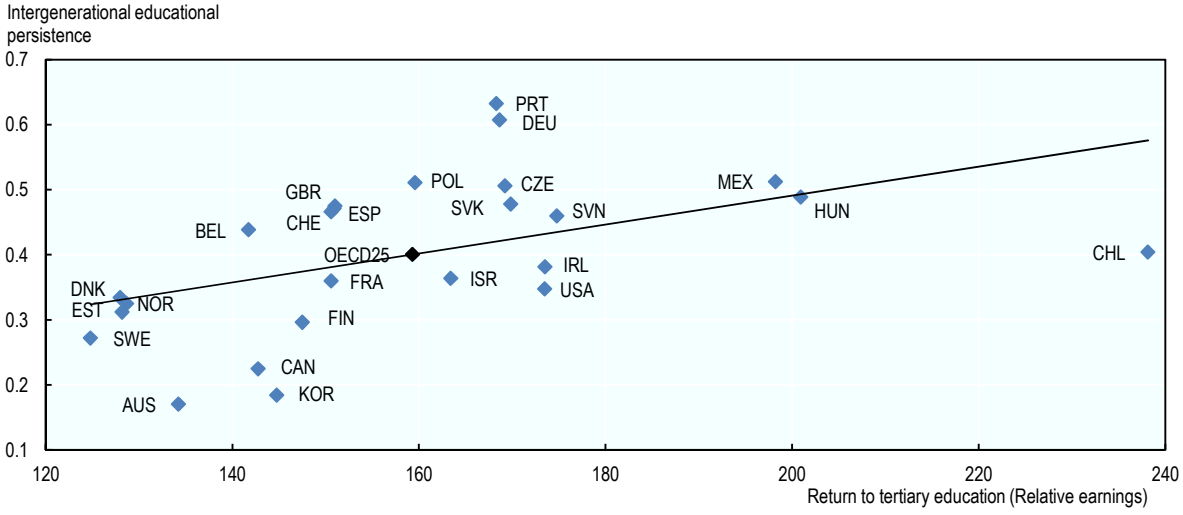
Individuals' labour-market attainment is the main driver of families' upward income mobility (Chapter 3). Those in more precarious forms of employment are less likely to move up the earnings and income ladder and are less equipped to face adverse labour-market trigger events, such as job loss. In addition, labour-market attainment is largely determined by parental background. One out of two children whose parents are managers themselves, but only one out of four among those whose parents are manual workers (Chapter 4).

While a high-quality education and training system is key to give individuals the best possible start in the labour market, labour-market policies can make a substantial difference for earnings and occupational mobility throughout the career. First, low-skilled adults who did not get the benefit of educational opportunities risk getting trapped if their skills remain weak or deteriorate over time, and so need targeted training. Second, even high-skilled youth from disadvantaged backgrounds will benefit from additional policy interventions to enter certain occupations and obtain good jobs. Third, well-functioning labour markets can help to limit not only the occurrence of unemployment spells, but also their scarring effects. Fourth, earnings mobility throughout the working-life cycle is affected by overall job quantity and quality, and therefore is likely to be influenced by labour-market institutions such as employment protection legislation and active

labour-market policies. Finally, trigger events drive income mobility all across the income distribution, and in particular in the middle, and well-designed labour-market policies can support sustainable mobility paths for middle-income earners.

Labour-market policies are also relevant for earnings and income mobility across generations: according to Solon (2004), one of the most important determinants of social mobility is the rate of return to human capital, since this gives better-off parents a greater incentive to invest in their children's human capital. Cross-country evidence shows that higher returns to schooling are associated with lower intergenerational mobility (Corak, 2013). Figure 6.2 shows a strong relationship between the returns to education (relative earnings) and educational mobility. Countries where the relative earnings of individuals with a tertiary education are higher are generally those which also have a higher level of intergenerational educational persistence, i.e. lower mobility. These countries include for example Germany, Hungary, Portugal and Mexico. By contrast, Australia, Canada and Korea exhibit both low levels of persistence and low returns to tertiary education.

Figure 6.2. Educational mobility is lower in countries where returns to tertiary education are higher



Note: Persistence is defined as the regression coefficient between parental and children's years of schooling at age 30-55 (see Chapter 4). Returns to tertiary education are defined as relative earnings with reference to upper secondary education for all earners aged 25-64 in 2015 or latest year available.

Source: OECD *Education at a glance (2015)* and OECD calculations based on the CNEF for Australia, Germany, Korea and the United States, CASEN for Chile, the ESS for European countries and ENIGH for Mexico.

StatLink http://dx.doi.org/10.1787/888933754861

6.3.1. Granting young people the right start

Missing the boat at the beginning of one's career can have long-lasting detrimental consequences. Some countries, however, manage better to rebalance opportunities (Chapter 3). More must be done to help disadvantaged youth make a better start in the labour market to avoid poor careers driven by intermittent spells of low-paid work and unemployment at early stages. Youth from disadvantaged backgrounds are more likely to have left the education system early and without the necessary skills. As a result, they have a higher probability to be neither in employment nor in education or training

(NEET): NEETs are 80% more likely than other young people to have parents with less than upper-secondary schooling and twice as likely to have parents who do not work (OECD, 2016c). The *OECD Action Plan for Youth* recommends a set of measures including second-chance programmes and encouraging employers to expand quality apprenticeships or internship programmes that can help disadvantaged youth who did not pursue their education further.

Early school leavers typically find it very hard to return to school, as the educational, social or personal factors that caused the initial drop-out often persist and remain an obstacle. Second-chance programmes offer a flexible learning environment that is well adapted to early school leavers' needs and helps them back into education by providing intensive support during a period of several months up to one year, with a follow-up if needed. These programmes focus on both cognitive skills and non-cognitive skills by combining catch-up classes in literacy and numeracy skills with vocational classes, intensive counselling, health support and career guidance, with strong links to local employers and stakeholders. Simple work experience or community work components – in catering or elderly care, for example – can help them re-gain their work rhythm (OECD, 2016c). Examples of such programmes include the US Job Corps[4] and YouthBuild, which function as comprehensive pre-apprenticeships, the *École de la Deuxième Chance* in France and the Swedish Folk High Schools, which provide young people aged 18 and over with a mixture of intensive counselling, coaching in social and life skills, and formal education.

Many successful interventions for disadvantaged students seek to improve non-cognitive traits, some of which are transmitted by the social background. Such non-cognitive skills, such as conscientiousness and emotional stability ("locus of control" and self-esteem) are positively related to labour-market performance (Brunello and Schlotter, 2011). There is evidence that non-cognitive skills are as malleable as cognition and can be influenced by education. Personality traits can be changed by experience and specialised interventions, including for teenagers and young adults. After-school support, mentoring, work experience and second-chance programmes can thus all help to influence non-cognitive skills (OECD, 2016c).

The school-to-work transition is a keystone in promoting intergenerational mobility and the prospects for young people's future labour-market trajectory. Apprenticeship training, i.e. combining work and study within a firm-based approach, can be effective in smoothing the school-to-work transition (see for example Acemoglu and Pischke, 1998, for Germany; Fersterer and Winter-Ebmer, 2003, for Austria; McIntosh, 2004, for the United Kingdom; and Abriacet al., 2009, for France). In order to improve social mobility, apprenticeships need to focus more on attracting and retaining youth "at risk" for whom securing internship programmes might be harder (UK Social Mobility Commission, 2014). Successful apprenticeship programmes need to be designed in a way that they encourage the participation of different age groups, disadvantaged youth and women, and cover multiple sectors and occupations. They must include a strong training component and be well integrated in the formal schooling system. Importantly, it has to be ensured that they are not misused as a form of cheap labour. Pre-apprenticeship programmes can prepare more disadvantaged young people, who may struggle to be admitted to apprenticeships, by helping them to brush up on patchy literacy or numeracy skills, build motivation, familiarise themselves with the work routine, and even give them short spells of work experience. Such pre-vocational programmes exist in Germany, where they last up to one year, and in Australia, where they focus on particular occupations or a range of

fields, and typically involve classroom-based vocational education and training (VET) courses and work placements.

A number of OECD countries have introduced financial incentives to incentivise employers to create apprenticeship places (OECD, 2016c). Such measures include wage subsidies, tax credits and/or social security rebates and sub-minimum wages for youth. In the United Kingdom, the National Apprenticeship Service offers apprenticeship grants of GBP 1 500 to employers with up to 1 000 employees who recruit 16-24 year-olds. In Germany, a training allowance is agreed upon by the social partners, which varies according to the apprentice's age and experience with the firm. In Denmark, all companies make a yearly contribution of nearly EUR 400 per employee in the Employer's refund for apprenticeship Fund (AER). The AER then compensates companies every 24 months for each apprentice hired (OECD, 2016c).

6.3.2. Addressing occupational barriers for disadvantaged groups

Even when students from disadvantaged backgrounds have similar educational attainments as their peers, they face difficulties in obtaining good jobs and miss the resulting opportunities. There are a number of intricate phenomena behind this invisible barrier, which can be grouped along two dimensions: lack of information and discrimination. Young people from disadvantaged backgrounds might lack the informal behavioural codes prevailing in recruitment processes (Vance, 2016). Employers might exercise discrimination, either consciously or unconsciously.

Improving the school-to-work transition for disadvantaged youth is an important avenue to ensure upward mobility over the life course and prevent the transmission of disadvantage from one generation to the next. Improving career advice, mentoring and the links between education and employers can help to provide better information to more disadvantaged students about the steps required to build a career, especially in the most selective professions (Marcenaro Gutierrez et al., 2014). The United Kingdom has recently set up the Careers and Enterprise Company, an employer-led organisation established by the government to prepare students for the workplace; it hopes to provide young people with direct support from businesses to boost social mobility.

Unpaid internships can become a barrier to social mobility. Low-income students cannot afford to work for free and might end up choosing summer jobs or paid internships in sectors where they do not gain the skills to climb up the career ladder. The BBC has for example banned unpaid internships as one human resources management measure to proactively support social mobility. Initiatives from social mobility organisations such as the Sutton Trust and the Social Mobility Foundation in the United Kingdom run a number of programmes designed to encourage young people from low-income backgrounds to take up internships in top firms. In the United States, the Year Up programme offers post-secondary education in association with companies to disadvantaged young people who leave school with at least a secondary graduation diploma but do not have the necessary skills to find good jobs. Roder and Elliott (2014) found that three years after the end of the programme the participants had 30% higher annual revenues, mainly due to higher hourly wages.[5]

Internships often rely on informal networks and “who you know” mechanisms, excluding the least well-off young people (Social Mobility Commission, 2016). Joining professional clubs, women’s networks and the like offer great chances to develop social networks and learn of new job opportunities and resources that can help those who come from a lower socio-economic background to mitigate the absence of parental connections.

In France, the social network *Pote Emploi* aims to connect young successful people from a disadvantaged background with their younger peers and provide access to a network, including opportunities for internships.

Young people from a disadvantaged background often face strong barriers at the recruitment stage, in particular conscious or unconscious discrimination by employers, who often tend to recruit candidates with whom they identify themselves (Heath et al., 2013; Bertrand et al., 2017; Dovidio et al., 2016; Pager and Western, 2012). Anonymous resumes are one of the practices intended to benefit the hiring and retention of individuals from a lower socio-economic background. However, evidence remains inconclusive about their effectiveness in terms of call-back rates (Krauser et al., 2012; Behaghel et al., 2015). In practice, anonymous resumes might nevertheless not be fully anonymous, as informal signals can always be detected: residential neighbourhood, schools attended or listed language skills (Krauser et al., 2012). Class references can be hinted at in a resume such as hobbies or extra-curricular activities with lower financial barriers to entry (Rivera and Tilcsik, 2016). Finally, even with anonymous job applications, candidates' identities are signalled during interviews (Rivera and Tilcsik, 2016).

Measures to avoid discriminations linked to social background, which limit opportunities, include for example communication campaigns, in particular aimed at enterprises and human resources managers, so that the recruitment processes are made less subjective. The Company MasterCard launched an InternsWanted campaign, where candidates are invited to submit a "creative submission" profiling their idea to promote a part of the company vision including blogs, videos, or designs.

Public services can act as a role model in guaranteeing non-discrimination (Lipsky, 1980). Access to rewarding careers in the public service for young people with a migrant background or for young women can be a fruitful angle to improve social mobility and recruitment practices (OECD, 2017d). In the United Kingdom, the government has implemented the Civil Service Fast Stream Programme to attract some of the country's most talented graduates for training to develop a career; participants are selected for their potential and not background to become future members of the senior civil service. In France, students from a disadvantaged social background receive scholarships to support their preparation for the competitive exam to enter the National School of Public Administration (ENA). In Norway, public employers have the obligation to invite one qualified applicant with an immigrant background and a person with a disability to an interview, and there is the possibility of choosing the second-best candidate for the job if the applicant comes from an immigrant background. Many countries – Ireland, the Netherlands and New Zealand are examples – train interviewing board members on diversity issues that should be considered during the interview process, and integrate the interview boards in such a way that they themselves reflect diversity. Finland implemented a project called Female Managers Career Advancement in the State Administration (2008-09), which includes the training of supervisors to recognise women's management ability and encourage women to participate in management training.

Other policy measures aim to make access to the liberal professions fairer, for instance by offering financial support to start a new business or introducing programmes to help new liberal professionals to develop a network of customers (Aina and Nicoletti, 2014). Overly tight occupational licensing can damage social mobility by allowing those with resources and connections to benefit from the higher incomes flowing from some of these occupations, in part by preventing others from competing with them (Rodrigue and

Reeves, 2015). Entrepreneurial skills are also often transmitted informally from one generation to the next (Aghion et al., 2017). The EU has launched the EU Entrepreneurship 2020 Action Plan that foresees interventions to remove administrative barriers and support entrepreneurship in crucial phases of the business-life cycle, with a focus on entrepreneurial education and training. Recent suggestions under consideration in this field in the United States include subjecting new licensing proposals to cost-benefit analysis and reclassifying certain occupations that are licensed – in the US, for about 30% of occupations the government establishes qualifications required to practice a trade or profession – to a system of certification or no regulation (Kleiner, 2015).

6.3.3. Reducing the impact of labour-market shocks and helping people back to work

Preventing people from remaining stuck at the bottom of the income distribution and reducing the risks for those in the middle to slide down in case of labour-market shocks requires policies which both address unemployment and inactivity spells and foster labour-market and wage mobility. This section focusses on policy tools to address recurrent unemployment spells over the working career. This can be achieved by limiting time out-of-work, facilitating good-quality returns to employment and helping displaced workers back into work quickly.

6.3.3.1. Never too early to anticipate

Mechanisms anticipating labour-market shocks, such as forecasting economic and labour-market trends and forward-looking management of skills and jobs, can potentially prevent some mass layoffs and plant closures in the first place, whilst improving the way firms adapt to change. In Canada, the Labour Market Partnership (LMP) provides funds to employers, social partners and communities to enable them to proactively develop plans and strategies for dealing with labour force issues and meeting human resource requirements (OECD, 2015c).

Co-ordination of collective-bargaining arrangements across sectors or firms can also facilitate adjustments in wages and working time so that layoffs and income shocks can be avoided. In some countries (e.g. Sweden), working-time reductions are uncompensated so that they result in proportional reductions in earnings, while in others they may be partially compensated through the use of short-time work schemes (OECD, 2017e). These schemes have been widely used in OECD countries following the 2008 crisis, for example in Austria, Belgium, Turkey, Italy, Germany, Luxembourg and Japan. Such programmes significantly contributed to stabilise permanent employment and reduce unemployment by helping firms to avoid unnecessary layoffs, i.e. the permanent dismissal during a business downturn of workers whose jobs would have been viable in the longer run (Cahuc and Carcillo, 2011; OECD, 2016e). [6]

Effective active labour-market policies are instrumental in integrating jobseekers into good-quality employment and preventing unemployment spells from hampering future upward mobility. Activation policies need to find a proper balance between a careful focus on the jobseekers most in need – which is often widely done in OECD countries – and workers who are closer to employment or in need of less intense support – so that the exclusion from employment does not turn permanent.

6.3.3.2. Early activation in case of labour-market shocks

Early activation in case of unemployment prevents the risk of scarring on the long run. In Denmark, warning pools are funds that can be used to establish a temporary employment service in a workplace (OECD, 2016f). Caseworkers from the local job centre deliver job-search assistance and help workers build a job strategy. Counselling services are provided during the notice period, preparing workers for their displacement. Training, starting shortly after the displacement, can be considered. In Ontario, the Rapid Re-employment and Training Service (RRTS) provides an example of immediate response to large-scale layoffs. It connects individuals with the public employment services and helps them regain employment by taking into account long-term retention issues (OECD, forthcoming). In Sweden, the Job Security Councils (JSCs) provide an example of re-employment services for displaced workers, including early intervention. JSCs are probably a key reason why nearly 90% of workers are re-employed within a year of being laid-off (OECD, forthcoming).

6.3.3.3. Accompanying intensively hard-to-place workers

Profiling tools play a key role for giving hard-to-place unemployed better opportunities to participate in the labour market and to move up, and they are now used in many countries (OECD, 2015e). In Austria, for example, the public employment service applies a three-zone concept, with first-tier service just for information, a service zone for registration and basic services, and a counselling zone where clients who are still unemployed after three months receive intensive case-management services. In Germany, clients are segmented into six different profiles using a software-guided assessment of their "distance to the labour market". Each profile is linked to a specific service strategy to be followed by the caseworker, although qualitative research has found that direct links between profiling results and goals set in the action plans are rather weak (OECD, 2015e).

Intensive counselling interviews during the unemployment spell are instrumental to detect opportunities to increase or update jobseekers' skills, review resumes, provide advice on job-search strategies or interview techniques and refer jobseekers to open vacancies. In an experiment in Denmark, early and frequent meetings with unemployed workers increased employment over the next two years by up to five weeks (Maibom Pedersen et al., 2012). Positive impacts on exits to employment have also been found for France, suggesting in particular that intensive counselling can improve the quality of job matches (Behaghel et al., 2014). A recent trial in Nevada in the United States shows that a first meeting of jobseekers with counsellors expedited re-employment and helped participants to get relatively higher-paying jobs (OECD, 2015e).

6.3.4. Making transitions pay on the labour market

Both unemployment spells, but also non-standard forms of employment – although granting a foot in the labour market – can be barriers to upward social mobility (Chapter 3). Policies aimed at promoting social mobility and equal opportunities need to consider the quality of employment and the bridges between the different labour statuses on the labour market – in other words, making transitions happen, and making them pay (Schmid, 2016).

Temporary or part-time jobs and self-employment now account for about one-third of total employment in OECD countries. These forms of non-standard employment are often associated with lower job quality: lower hourly wages, less job security and less social

protection (OECD, 2015a). In addition, they may not be covered by collective bargaining arrangements and/or some labour regulations (including working time, minimum wage). Workers with these jobs also tend to receive less training and suffer more job strain (OECD 2015a). Moreover, transitions towards standard employment are generally scarce, resulting in gaps widening with the passage of time. The challenge for policy is to reduce differences in treatment across different forms of work while, at the same time, encouraging job creation and the use of employment arrangements. This entails, to the extent possible, equitable treatment between regular employees and those in other forms of work in terms of tax and transfer regulations.

In Italy, the *Jobs Act* has introduced a new open-ended contract since 2015. This new contract increases employment protection with job tenure, aiming at simplifying and streamlining dismissal rules while reducing labour-market dualism. Existing temporary contracts were transformed into open-ended ones by 2016, unless collective agreements set flexibility criteria for the use of temporary contracts (OECD, 2015f). In Japan, where the gap between regular and non-regular workers is particularly marked (non-regular work is even referred to as *Hiseiki*, meaning "*not legitimate"* in Japanese), measures for "Equal pay for Equal work" are being developed.[7] The package includes a legal framework ensuring fair and equal treatment of workers regardless of their status, in particular fixed-term workers or part-time workers, with respect to evaluation, working conditions and pay level. In Slovenia, the new Employment Relations Act (2013) made notice periods more dependent on service duration and somewhat strengthened the position of temporary contracts.

Social protection for non-standard workers needs to be strengthened. This could be achieved by aligning benefit rules across different contractual arrangements; adapting existing social insurance schemes to extend them to previously excluded categories of workers; complementing social insurance with non-contributory schemes; and/or making social protection portable (i.e. linking entitlements to individuals rather than jobs). Under the New Employment Relations Act in Slovenia, unemployment insurance contributions are no longer paid for the first two years after hiring a worker on an open-ended contract, while they were increased for fixed-term contracts.[8] In Japan, pensions and health insurance are progressively being extended to cover part-time workers in the framework of the "Equal Pay for Equal Work" programme.

Addressing the coverage gap of non-standard workers by collective bargaining arrangements will also help the upward mobility prospects of workers. This may require adjusting other rules and practices for collective bargaining, such as competition regulations which, in some countries, prevent independent workers from bargaining collectively (as in a recent case that opposed unions and employers in the arts-information-media sector in the Netherlands). Some new initiatives include non-standard workers setting up new unions or associations (such as the Freelancers Union in the United States or platform workers groups emerging in Europe) and/or integration into "traditional" unions (such as the German IG Metall with the FairCrowdWork or the German independent service union ver.di, among others). Another new development is the use of social media to help workers to organise and effectively express individual and collective grievances (OECD 2017e).

Promoting career mobility for middle-skilled workers can also be achieved by improving and diversifying recruitment processes. This implies making employers aware of unconscious bias in recruitment and promotion processes and developing new recruitment methods (see Box 6.2). This involves acknowledging the unconscious bias

that results in a tendency for people often to promote the candidates of the same sex and with the same profile (McGinn and Milkman, 2013).

Women (in particular mothers) face concrete barriers in career progression that could be better addressed by policies. This can be achieved through awareness-raising, for example, about the social networking gap of women with children who still often dedicate more time than men to care constraints (Durbin and Tomlinson, 2010). This can also translate into incentivising firms to rethink their time management approaches or consider developing role models (Skaggs et al., 2012). Paid parental leave, good-quality and affordable childcare, workplace flexibility measures, and more generally policies that aim at facilitating a good work-life balance have a major role to play to foster women's mobility in the workplace. Following the 2013 OECD Gender Recommendation, the Netherlands and the United Kingdom have recently widened the right to request flexible work to all workers, thereby lessening the risk of discrimination against parents (in particular mothers) who ask for this right.

Box 6.2. Developing innovative recruitment methods to foster social mobility

Recruiters tend, consciously or unconsciously, to recruit people with the same profile as them, widening inequalities on the labour market. For example, people often tend to promote the same-sex same-profile candidates (McGinn and Milkman, 2013). This results in significant barriers at the recruitment stage for many. For example, in France, candidates from disadvantaged areas are 2.7 times less likely to get an interview after application than their better-off peers. The unemployment rate of high-educated people living in deprived areas is almost three times higher than the national average for high-educated people (ONPV, 2016). In the United Kingdom, a wide-scale study on applicants to large accounting firms has shown that candidates from low-income backgrounds have a lower success rate compared to those from higher-income backgrounds (5.5% vs 4.5%, Bridge Group, 2017)

Making employers aware of unconscious bias in recruitment and promotion processes can be a first step towards better patterns of social mobility, both over the life course, by making careers more fluid, and intergenerationally, by giving more opportunities to young people from a disadvantaged background. Some organisations, such as Access Accountancy, are commissioned by firms (in this case, the largest accounting firms) to improve access to the profession and social mobility. In France, a communication campaign about the barriers in hiring faced by minorities has been launched, and firms engaged in improving their recruitment processes are flagged with a label *Recruteurs de la Diversité*. Measures aiming at subsidising the recruitment of young people from disadvantaged areas over two to three years after hiring are also under consideration.

New ideas around the recruitment processes are emerging. Firms are rethinking their recruiting in order to broaden the set of applicants' profiles and the value added for businesses and social cohesion. For example, online tests as a screening tool might be carefully considered, as they might filter out applicants from low-income backgrounds, with little indication about the applicant's future performance (Bridge Group, 2017). Such methods could for example translate into recruitment processes based on personality rather than resumes for some positions. Algorithms aiming at measuring the competencies and skills of candidates by other means than a resume (e.g. JP Morgan), such as simulation-based recruitment methods (e.g. Crédit Agricole), video introduction or interviewing, online recruitments, and even virtual reality recruitments are among the new methods under exploration. Such alternative recruitment methods are encouraged by the government through awards and communication campaigns.

6.3.5. Lifelong learning to build capacity throughout the lifetime

In order to ensure upward mobility opportunities throughout the life-course, workers need to be provided with lifelong learning opportunities. Developing, maintaining and upgrading skills at all ages reduces the risk of becoming trapped in low-quality jobs and joblessness. Training contributes to upward intra-generational earnings mobility by

fostering wage growth (Blanden et al, 2012; Mincer, 1988; Parent, 1999; Pavlopoulos et al., 2009; Gerards, 2011; Higuchi, 2013). Lifelong learning policies do however not necessarily increase intergenerational mobility for low-skilled workers. Children coming from managerial and professional backgrounds seem to benefit most from further education (Bukodi, 2017).

Specifically, policies aiming at improving training opportunities should focus on 1) increasing and promoting the benefits of adult learning; 2) helping individuals and firms overcome any financial and non-financial constraints they might face; 3) helping individuals to make good vocational education and training choices by providing high-quality information, advice and guidance; and 4) fostering stronger business-education partnerships which ensure that training programmes are well aligned with the needs of employers. Such efforts should focus in particular on the low-skilled as well as SMEs. In the United Kingdom, SMEs are exempt from paying the apprenticeship levy but still enjoy subsidies to cover the classroom part of apprenticeship training. In 2015, Portugal introduced the training subsidy *Cheque Formação* targeted at both employees and job seekers (Duell and Thévenot, 2017). In 2016, Chile launched *Impulsa Personas*, a tax credit allocated to firms for workers' on-the-job training (OECD, 2018a).

Training policies aiming at removing sticky floors in societies and supporting the less educated should target those with low skills. PIAAC results have confirmed a lower incidence of training among the low-skilled. Moreover, the returns to training are unevenly distributed, with lower returns for low-educated workers (Pavlopoulos et al., 2009; Hidalgo et al., 2014). Proven approaches to target the low-skilled encompass basic skills teaching, e-learning, and contextualisation and embedding, especially in the workplace (Windisch, 2015). Social partners in the United Kingdom have set up a training fund (Union Learning Fund), which actively recruits the participation of low-skilled workers in training activities. In Germany, workers without qualifications and workers who have spent at least four years in a job unrelated to their initial training may receive funds from the government to retrain in an area with good labour-market prospects (OECD, 2017f). In Portugal, Qualifica, launched in 2016, focusses on lifelong learning for the less-educated (Duell and Thévenot, 2017; OECD 2017g). In France, the validation of prior experience (*Validation des Acquis de l'Expérience*) is a scheme that certifies professional or personal skills without a need for candidates to attend formal classes. In addition, social partners in France have developed the CléA certificate, which certifies basic skills with the aim of helping unemployed individuals without qualifications find a job and workers progress in their careers (OECD, 2017f).

Structural changes of labour markets make lifelong learning essential and require new approaches to update skills in order to sustain career and wage growth for workers in mid-career, especially those who lack skills that are critical in today's labour market, such as ICT skills. Compared to workers who can only perform the most basic computer functions, those with more advanced ICT skills are paid 27% more, on average (OECD, 2016h). Future skills challenges will require a significant upscaling of adult learning opportunities as well as the development of new tools for incentivising skills investments.

Existing infrastructures for lifelong learning may need to be geared up, including by exploiting the opportunities afforded by new technologies, which allow access to courses to be scaled up massively at only a fraction of the cost of traditional courses. Massive open online courses (MOOCs) and open educational resources (OERs) offer promising opportunities for the low-skilled, who might be attracted by the unconventional approach to learning. New certification methods have begun to appear. OpenBadge is for instance a

certification tool that can be used to track the lifelong learning journey of participants. A number of technology companies such as Microsoft, CISCO, HP, Samsung, Apple, and Google offer certificates that MOOC participants can earn directly online.

A prominent challenge posed by the rise in non-standard forms of work pertains to the portability of training rights between employers, for instance, by creating and subsidising personal training accounts or promoting lifelong training rights. Such accounts provide individuals with a training subsidy that gives them more responsibility and control, allowing for a better match between individual needs and appropriate training (OECD, 2017h). Individual learning accounts that can be used to finance the direct costs of learning exist in Austria (Individual Learning accounts), Canada (Learn$ave), Belgium-Flanders (Individual Learning and Development Accounts), the United States (Individual Development Accounts), the United Kingdom – Wales (Individual Learning Accounts), the Netherlands (Experiment with Learning Accounts), Spain – Basque region (Ikastxekin Txekinbide) and France *(Compte Personnel d'Activité*). Examples from the Nordic countries, where adult learning is more prominent, highlight the importance of the combination of attractive financial incentives for learners and employers, and a greater willingness to collaborate with unions on such initiatives (OECD, 2017h).

Addressing skills mismatches is also important, because about one-third of workers in OECD countries are not having a job matching their skills (OECD, 2013b), while a majority of them are under-skilled. Having the right skills for a job has long-lasting effects on wages and employment throughout workers' careers, reducing the chances of upward mobility. Mismatches between the level and field of qualifications possessed by workers and those required in their job are pervasive, affecting one-third of workers (OECD, 2016i). Employers need to work with education and training institutions to ensure the provision of relevant skills, provide on-the-job training to facilitate the upgrading and adaptation of skills, and adopt forms of work organisation that make the most of existing skills. Local and national partnerships should be facilitated to reduce policy silos and bring social partners together with training organisations and other intermediaries to design strategies that seek to improve the adaptability of workplaces. In Estonia, the OSKA forecasting system has been implemented to predict employers' future skills demands and improve the co-ordination among stakeholders, including public employment services, employer bodies, trade unions and government ministries (Browne, 2017a).

The relevance of skills formation can also be improved by having in place robust systems and tools for assessing and anticipating skills needs. For instance, Canada carries out analyses of current skills needs along with medium- to long-run forecasts to identify future skills needs and imbalances and tailor immediate policy intervention (e.g. identify migration opportunities or develop short-term worker training schemes) as well as long-term policy orientations (e.g. develop apprenticeship programmes in certain fields). Combining foresight and forecast exercises may help to improve the quality of forward-looking exercises. Foresight exercises rely upon consultations with stakeholders and experts to build scenarios about how the supply and demand dynamics of skills might change in the future. Australia's Work and Productivity Agency conducts foresight exercises which form the basis for economic modelling of the supply and demand for qualifications. Data on skills needs should also be widely disseminated, both to policy makers and to individuals making human capital investment decisions. For example, Italy's Eduscopio website is a good example of a career guidance website that communicates information about skills needs in the labour market to prospective students in a way that is interactive and easy-to-use.

6.4. Which tax and transfers system designs can best foster social mobility?

While taxes and transfers are a direct instrument to redistribute income across individuals, they are also key policy tools to support social mobility. They are instrumental in smoothing income shocks due to changes in labour markets and family situations (Chapter 3) and in reinforcing earnings mobility across generations (Chapter 4). Mechanisms supporting family economic security (minimum wage, earned income tax credit, unemployment insurance, assistance to families in need) impact not only on family incomes but also on other well-being dimensions, for example, health (Spencer and Komro, 2017), and in particular, on children's and infants' health (Hoynes et al., 2015; Wicks-Lim and Arno, 2017; Markowitz et al., 2017).

6.4.1. Wealth taxation, savings and access to credit to foster social mobility

Policies that affect saving behaviour and wealth accumulation can be an important tool for enhancing social mobility. Wealth can act as a buffer against income shocks and hence help cushioning the impact of adverse life events. It moreover influences intergenerational mobility, as parents often use their fortunes to support their children by investing in their education or health or by transmitting part of their wealth to their children before or after the end of their lives (Chapter 4).

However, wealth is much more unequally distributed than income – the level of wealth inequality is twice the level of income inequality on average (OECD, 2015a). Wealth deprivation often goes hand in hand with income poverty: 68% of those living in the bottom income quintile are also asset-poor (Balestra and Tonkin, forthcoming). Half of young people are asset-poor, meaning that they cannot rely on the buffering impact on their own wealth in the event of economic hardship. This is likely to be one of the drivers of the "sticky floors" discussed in Chapter 1. These inequalities are transmitted or further reinforced across generations as high-income households are more likely to receive gifts or inheritances than those at the bottom of the income distribution. This likely explains "sticky ceilings".

Since gifts and inheritances play an important role in wealth accumulation, and because wealth is particularly concentrated at the top, the taxation of such transfers will affect social mobility. Taxation commonly take the form of estate taxes imposed on the wealth left by the decedent, inheritance taxes imposed on the wealth received by the beneficiary, or gift taxes imposed on *inter vivos* transfers. From an intergenerational social mobility perspective, how much an heir inherits matters more than how much a person leaves behind (Kopczuk, 2013a). Therefore, inheritance taxes are preferable to estate taxes as they are levied on the recipient of the estate rather than on the deceased donor.

Twenty-six out of the 35 OECD countries had taxes on wealth transfers in 2017 (OECD, 2018b). Due to their distribution across income groups, inheritance and gift taxes are generally highly progressive (Förster et al., 2014). However, revenues from inheritance and gifts taxes have been very low and declining over time, reflecting the fact that tax bases are narrowed by exemptions and deductions, and tax rates are often low. Avoidance opportunities are also widely available. On average across the OECD, revenues from taxes on wealth transfers have declined from 1.1% of total taxation in 1965 to 0.4% today (OECD, 2018b). First avenues to rebalance opportunities would therefore be to limit avoidance, design progressive tax systems with adequate rates and reduce exemptions. Japan, for instance, reformed the taxation of inheritances and *inter vivos* gifts

in 2015. The tax-free allowance of the inheritance tax was reduced by 40% for certain population groups. While the reform has not yet been formally evaluated, an ex-ante evaluation has pointed to limited behavioural responses to this reform, since in Japan precautionary saving rather than bequest motives are often the main driver for wealth accumulation (Niimi, 2016).

Encouraging savings behaviour can be an important element in promoting upward mobility, especially among the poorest who are more likely to face unexpected income changes, and who are often asset-poor. Research has suggested that children of low-income, high-saving parents are more likely to experience upward income mobility (Cramer et al., 2009). Kast and Pomeranz (2014) found that reducing barriers to saving through access to free savings accounts in Chile decreases participants' short-term debt by about 20%, and that participants prefer borrowing less when a free formal savings account is available. Saving opportunities permit households to smooth temporary income gains, for example in the form of end-of-year bonuses or five-Friday months extra paychecks, and can thus help them to build up liquid assets to better cope with income dips. The 2018 OECD report *Taxation of Household Savings* documents opportunities for equity-enhancing improvements in the design of taxes on household savings, such as turning tax deductions for private pension saving s into tax credits (OECD, 2018c).

6.4.2. Design tax systems that account for personal income shocks

Tax policies not only redistribute incomes between households or individuals but also contribute to smooth income volatility among the same households over time. Blundell (2014) found that taxes and transfers in the United States play a significant role in mitigating the impact of a permanent income loss on consumption, together with family labour supply and access to credit. Bibi et al. (2013) found that Canada's tax system significantly limits the income-equalising impact of income mobility throughout individual lives, and that it also considerably lowers the cost of unforeseen personal income changes income.

In some cases, however, tax systems – at least in their current design – contribute to amplifying income disparities over the life cycle because of the time lag between earnings and taxation. For example, taxation of annual income tends to disproportionately burden lower-income families who are more likely to face large ups and downs over the years, and thus pay higher taxes than they would have paid with a stable equivalent income. Measures smoothing taxes or tax credits over multiple years can help smoothen such income fluctuations (Batchelder, 2003). In Australia, the Average Taxable Income allows authors, artists and athletes to average their income over a multiple years after they start their professional activity in order to adjust taxes on the basis of their long term incomes (Australian Government, 2017b).

6.4.3. Effective transfers as a means to foster social mobility

It is crucial for mobile societies to ensure that people experiencing economic hardship can quickly recover from income shocks. The design of social transfer programmes such as unemployment insurance or in-work benefits, together with family benefits, can shape the persistence of income shocks and thereby impact income mobility. For example, the design of redistribution policies can condition the duration for which people are eligible for a given benefit. In this respect, an effective combination of last-resort income-support schemes with well-designed in-work benefits is likely to avoid long-term benefit dependency and to support upward mobility and returns to employment.

To prevent downward income mobility among working-age people, a first best policy is to strengthen pathways to employment and an individual's own capacity by equipping people to face the risks of negative income shocks. Policy options will depend on the social and economic circumstances of a particular country. In Mexico, for example, conditional cash transfers (Prospera programme) as well as a food programme and health and weather insurance aids are crucial to prevent income shocks leading to extreme poverty spells (De la Fuente et al., 2017). In Argentina, Brazil and Mexico, earnings shocks have been found to have an impact on children dropping out of school, advocating for a greater role of insurance mechanisms to cushion these shocks (Cerutti et al., 2018).

Unemployment insurance reduces earnings volatility, especially at the bottom of the earnings distribution where unemployment spells are more frequent (Chapter 3, Hacker et al. 2014) and decreases downward mobility by preventing further social exclusion. The redistributional impact of unemployment insurance may be particularly significant when measured in terms of life-time earnings (OECD, 2015d). Increasing the coverage of unemployment insurance where it is low is a promising avenue for promoting worker security, provided that systems are designed to preserve incentives to work. This added security is especially important for non-standard workers and those most excluded from the labour market, such as the long-term unemployed, and particularly in countries where both benefit coverage and generosity are low. Recent evidence suggests that the coverage of unemployment benefits has been decreasing during and after the economic crisis (OECD, forthcoming).

Several countries tried recently to reverse the tendency. In Italy, the minimum contribution requirements for unemployment benefits has been shortened and maximum durations were extended in 2015, widening the coverage of unemployment insurance (Pacifico, 2017a). France reduced the minimum requirements to four months, and entitlement is based on the number of days actually worked (Unedic, 2017). In Lithuania, the 2012 reform eased access to unemployment benefits, for example by reducing the employment conditions that a worker must meet to get the benefit, although the strictness of eligibility criteria remains high in international comparison (Pacifico, 2017b). Spain introduced a programme to support, for up to six months, jobseekers undertaking professional qualification programmes who have exhausted their regular unemployment benefits (Fernandez and Immervoll, 2017). In Korea, the self-employed have gained the opportunity to opt in for employment insurance coverage on a voluntary basis since 2012. In practice, however, very few of them do (OECD, 2018d). Like Korea, several OECD countries including Germany have introduced voluntary affiliation for self-employed persons over the past few years. Greece and Slovenia have recently introduced mandatory affiliation.

Transfer programs that are conditioned on low assets and low income will tend to benefit the chronically low-income, affecting long-run inequality more than volatility and mobility risk. However, the strongly means-tested nature of social benefits in some countries is often related to the recurrence of poverty and income volatility among the most precarious, and might create work disincentives. To alleviate such barriers to employment, Ireland has introduced new criteria for the child-care allowances for both working and non-working families, strengthening financial work incentives for out-of-work parents, particularly for lone parents and those whose partner earns relatively little (Browne, 2017b). A new form of social housing support (Housing Assistance Payment), which depends only on income and not hours worked, has also been introduced to replace the previous system, where benefits were completely withdrawn when any

family member worked more than 30 hours a week for those with a long-term, defined housing need.

Well-designed, permanent in-work benefits or earned income tax credits can be effective to make work pay and induce the right incentives for low-pay workers to climb up the earnings ladder, while at the same time supporting living standards of low-income families. However, as these schemes can exert downward pressure on wages, binding wage floors can increase the effectiveness of these schemes by providing a minimum level below which wages cannot fall – as long as they are set at an appropriate level. These usually take the form of a statutory minimum wage or wage floors collectively agreed by the social partners. In France, for example, the Activity Premium (*Prime d'Activité*) is conditioned by a binding wage floor (1.2 times the minimum wage) and household resources. First evaluations show a positive impact on poverty reduction and a mitigated impact on employment, as many recipients were employed, but in part-time jobs, and had unstable employment trajectories (DGCS, 2017).

The case for public social insurance in supporting families' incomes is strong, because lack of investment in children can have long-term negative (and potentially irreversible) consequences for their opportunities. In the United States, the Earned Income Tax Credit (EITC) has been credited with reductions in in-work poverty and improving the health of children in recipient families through three channels: family income, maternal employment and health insurance coverage patterns (Hoynes et al., 2015; Reagan and Duchovny, 2016). In the Netherlands, taxpayers with earned incomes and children below 12 are entitled to an income dependant combination rebate. Well-targeted and designed in-kind services need, however, to complement cash transfers for fostering social mobility (see Section 6.2.4). For instance, conditional cash transfers combined with regular health checks have also shown good results in terms of health and educational outcomes of children in Mexico, Chile and some non-OECD countries (OECD, 2015b).

6.4.4. New social protection measures for tomorrow's social mobility

Changes in work and employment patterns triggered by digitalisation, globalisation and demographic change often imply greater unpredictability of incomes, which can hamper opportunities (Schmid, 2016). First, people are facing more transitions between employment and unemployment, and between different jobs and forms of employment, and have therefore more earnings shocks or risks than they did in the past. Second, new forms of employment blur the lines between employment and self-employment, leaving workers often without adequate social protection (OECD, 2016i). In most OECD countries, the self-employed are covered only for the most basic benefits. While job changes may contribute to increasing earnings mobility, there is also a risk of earnings downgrading, particularly in some countries when changing from permanent to temporary jobs, and this holds whether changes are voluntary or part of a displacement.

To some extent, it is possible to address this concern by extending or adapting existing social security schemes. Some countries are currently reshaping social protection schemes to provide better coverage to the self-employed. In Finland, for instance, the self-employed are covered by unemployment benefits (see Box 6.3). This is also the case in Austria and Spain, but this is on a voluntary basis for unemployment benefits. In Germany, the artists' insurance scheme is designed to cope with the absence of employer social contributions. In Sweden, the self-employed have access to voluntary unemployment insurance but must cease their business activity for five years to be eligible for unemployment benefits. The drawbacks to cover non-standard workers in

standard social protection systems is that the self-employed tend to have more fluctuating earnings, which can lead to problems with the collection of contributions. Another potential problem concerning contributions arises if the employer cannot be easily identified (as is the case for platform workers) or does not exist, and self-employed individuals cannot afford to pay both employers and employees contributions.

With the numbers of individual work and task contracts growing and collective agreements becoming less relevant, social protection arrangements may also become more individualised – in the same way as they are already developing for training (see Section 6.3.5). Such accounts could help to better take income variability into account, and therefore better adapt to individual labour-market transitions. Several countries have experimented with individual activity accounts models, such as the Dutch life-cycle accounts. In the United States, multi-employer plans allow mobile workers to earn and retain their benefits even as they move between employers. However, in terms of social protection, collecting entitlements at the individual level undermines the idea of risk-sharing that is fundamental to any insurance. In addition, myopia may lead individuals to spend their entitlements too early, leaving them poor in old age. The experience of the Dutch Life Course Savings Scheme shows that many choose to use their funds to retire early instead of using them for training or caring.

Individual activity accounts can help support more sustainable mobility patterns, but still more innovative solutions are needed. They can solve the problem of the transferability of social rights (unemployment, parental, pensions and health) when workers move from one employment status to another, limiting losses in protection. But it is unlikely that fully individualised systems can provide enough protection, both in situations of need and more long-term over the life cycle. Therefore, a balance needs to be reached between how much individual savings and how much redistribution should take place in such systems and how benefits can best be financed to establish socially meaningful and financially sustainable models for all workers.

Untying social protection from the employment relationship – that is, defining individual entitlements to tax-financed benefits – would remove coverage gaps as well as the necessity of tracking entitlements across jobs and over the life cycle. Some benefits – such as health insurance and maternity/parental leave – are already universal in a number of OECD countries. With regard to income replacement programmes, such as unemployment or disability benefits, the issue is more complex and depends on whether these payments are means-tested or unconditional. Targeting income replacement payments to low-income households through means-testing remains nevertheless challenging for tracking self-employment incomes, which are often highly volatile.

A more radical solution currently discussed in some OECD countries would be to introduce a universal basic income (OECD, 2017i). Several countries have started or are planning basic income pilots (e.g. Finland, the Netherlands, Canada), under the assumption that basic income might be an important policy innovation for redistributing the gains from automation and globalisation, building a buffer against shocks and systemic risks, and generating positive labour-supply incentives among poor people. Simulations suggest however that it is unlikely that such scheme could provide effective protection to all individuals without significantly raising fiscal pressure or making some people worse off; Browne and Immervoll (2017) suggest that a budget-neutral basic income would not be distributionally neutral, as it would increase the income level of small income groups who are currently not receiving any, or very low, social benefits,

while those receiving earnings-related benefits or several means-tested benefits would see a decline in their standard of living.[9]

A possible solution could be to develop intermediate forms of support that adopt key aspects of a comprehensive basic income while avoiding some of its drawbacks. One option is to have a basic income at levels below guaranteed minimum income standards, while leaving parts of the existing benefits; however, in that case the basic income would no longer provide significant protection and a solution to coverage problems. A gradual move towards greater universality may also be desirable in countries where poorer population groups receive relatively small shares of overall benefit expenditures. Another alternative would be to keep mild eligibility conditions in place or have durations of basic income payments capped. A further option could be to introduce it gradually to different groups, such as future cohorts of young adults (Browne and Immervoll, 2017).

Box 6.3. Income volatility and new forms of employment: the case of freelance journalists in Finland

The self-employed have aroused wide attention recently in policy debates, especially because of the growing interest in new forms of employment (see OECD Labour Ministerial, 2016j). Current expectations are that self-employment will grow in coming decades and that its nature is going to change. At the same time, self-employed people are a diverse population, with a majority of self-employed at the lower part of the income distribution, but also relatively more self-employed concentrated at the very top of the income distribution. They are characterised by high risk levels and greater income volatility, because of interrupted spells of work and periods with no earnings (Luoma-Halkola, 2016; Jensen and Shore, 2008; Farrell and Greig, 2016).

The case of freelance journalists is an interesting example. The transformation of the media industry has arguably led to a decrease in standard employment relationships and an increase in entrepreneurship among journalists globally (Nies and Pedersini, 2003; Walters, Warren and Dobbie, 2006). Media workers have been depicted as risk-bearing, flexible and able to balance between various projects (de Peuter, 2014; Gill and Pratt, 2008; Gollmitzer, 2014; Cohen, 2015). Case studies among this group illustrate how income risk is managed by freelance journalists in Finland (Luoma Halkola, 2016). Support received from the welfare state is used either on a regular and long-term basis to supplement low income or occasionally to manage month(s) with no income. Unemployment benefits, which are extended to the self-employed in Finland, in particular appear as a challenging tool, because freelance journalists often cross the frontier between self-employment and typical forms of employment. Unemployment benefit is used for example in the beginning of self-employment spells, and benefits gained from previous employment help as a buffer during the transition, but are not available after a longer spell of self-employment.

6.5. Which local development policies help to reduce segregation and improve mobility?

Spatial segregation fuels high inequalities and undermines social mobility. There is a particular risk of segregation in large cities – the larger the city, the greater the average household disposable income and people's living standards, but also the more unequal it is in terms of income and wealth. Urban sprawl further increases this risk. Social mobility requires inclusive policies to reduce regional divides and persistent inequalities between neighbourhoods in cities. Identifying effective policies to break spatial segregation is particularly important to allow greater opportunities for all.

Spatial segregation reinforces sticky floors and sticky ceilings. In the United States, the post code has been found to be a significant predictor of children's future outcomes in life, but every year a child is exposed to a better environment improves their chances of

success later in life (Chetty and Hendren, 2016). In Chile, the intergenerational earnings mobility across regions varies from a factor of one to three (OECD, 2015i).

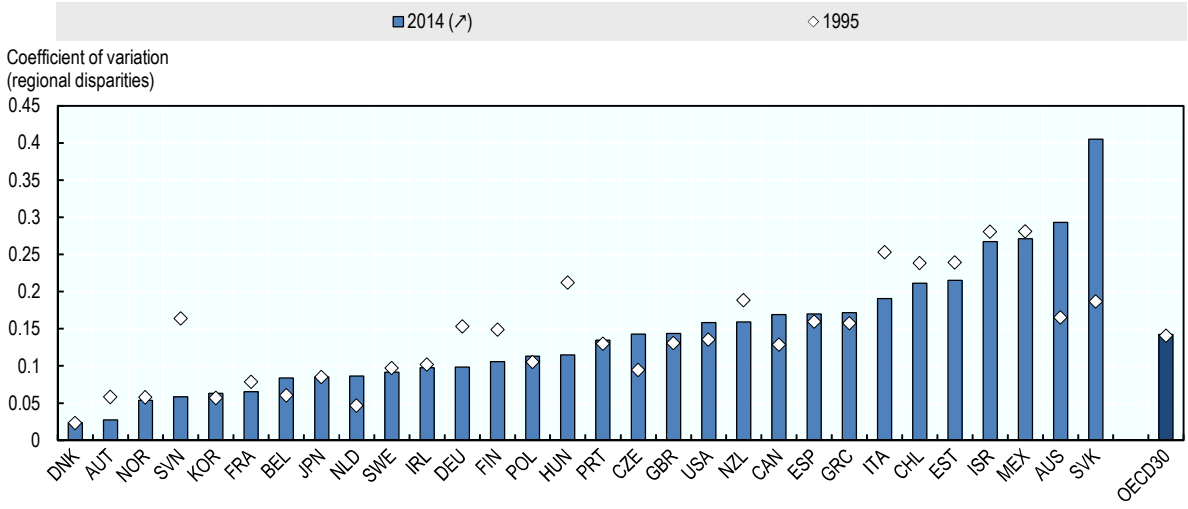
Labour-market opportunities are also quite different depending on the living area. Local labour-market concentration has been found to be pervasive and detrimental to job-to-job mobility (Azar et al., 2017, 2018). In the same line, health outcomes, with all their consequences on labour-market and income mobility, differ by geographical location – the most striking example being the difference in life expectancy by localities – for instance, the life expectancies of the poorest Americans are six years higher in New York than in Detroit. For the richest Americans, the regional difference is less than one year (Bosworth et al., 2016).

6.5.1. How important is spatial segregation?

Territorial disparities in income inequality and employment have increased in half of the OECD countries over the past two decades (Figure 6.3). Further, employment growth in many OECD countries was highly concentrated in specific regions, reinforcing inter-regional inequalities: on average, 40% of overall employment creation in OECD economies during 1999-2012 was generated in just 10% of their regions (OECD, 2015g). Because cities attract many people, including people looking for opportunity and upward mobility prospects, they feature higher inequality. In most OECD countries, income inequality is higher, on average, in cities than in their respective countries.

Highly segregated cities can also breed sticky floors and sticky ceilings (Prieto and Brain, 2017; van Ham et al., 2012). In metropolitan spaces, people are increasingly over-concentrated along specific socio-economic lines, such as income, economic status or education. In addition, rising trends of segregation might also increase the spatial mismatches between affordable housing for low-income households and the jobs they can find (McKenzie, 2016). Spatial segregation and rising income inequality are closely linked to the concentration of poverty, which significantly hampers mobility within urban areas. In the United States, the share of the population living either in the poorest or in the most affluent neighbourhoods has more than doubled since 1970, while that of people living in middle-income areas of cities has dropped significantly (Reardon and Bischoff, 2011).

Figure 6.3. Regional disparities in household disposable income have increased in half of the OECD countries



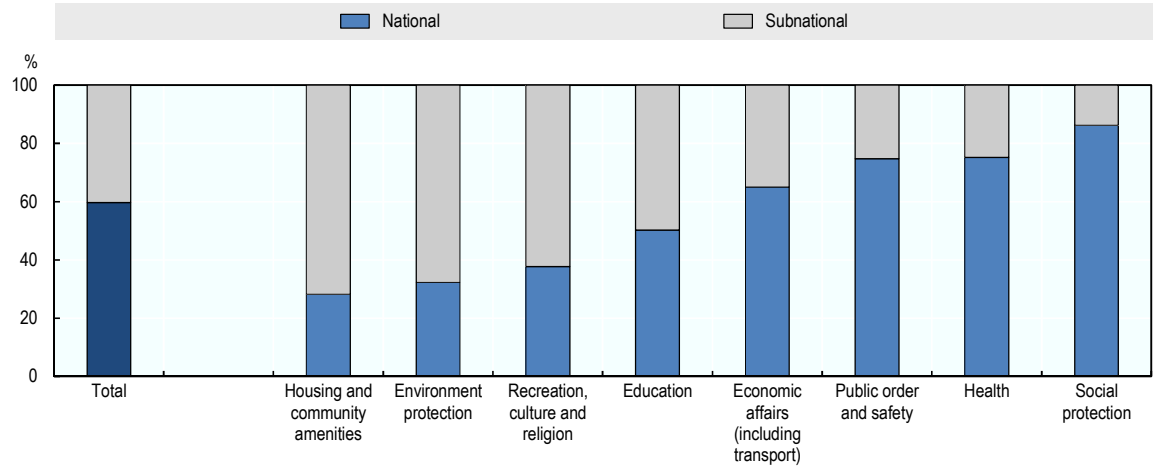
Note: First available year: Chile, Ireland, Israel, and Slovak Republic 1996; United Kingdom 1997; New Zealand 1998; Slovenia 1999; Austria, Denmark, Finland, Hungary, Portugal, and Sweden 2000; Japan 2001; Estonia and Mexico 2008; Korea and Poland 2010; and Norway 2011. Last available year: Mexico, Turkey and the United States 2014; Australia, Austria, Canada, Czech Republic, Denmark, Estonia, France, Greece, Korea, New Zealand, and United Kingdom 2013; Chile, Finland, Germany, Hungary, Italy, Japan, Norway, Poland, Slovak Republic and Sweden 2012; and Belgium, Israel, Netherlands, Portugal and Spain 2011.

StatLink http://dx.doi.org/10.1787/888933754880

Larger cities, particularly sprawling ones, have both higher income levels and higher levels of income inequality, which can hamper social mobility. Chetty et al. (2014b) report a negative correlation between commute times – their proxy for sprawl – and upward mobility in the United States. Recent research in the United States also finds that upward mobility is significantly higher in compact areas than sprawling ones, because more compact areas have a direct effect on improving job accessibility; and when compactness doubles, the likelihood of upward mobility increases by about 41% (Ewing et al., 2016).

In terms of governance, good co-operation between local and national governments and rules is key to removing sticky floors. There is an important role for sub-national governments to help address the challenges of urban segregation. Subnational governments cover 40% of total public expenditure, on average across the OECD, with prominent weights in housing, environment, culture and education (Figure 6.4).

Figure 6.4. Public spending by regional and local government is substantial



Note: Data refer to the unweighted average of 28 OECD countries (not including Australia, Canada, Mexico, Chile, New Zealand and Turkey), except for environment protection, which is based on 27 OECD countries (not including Australia, Canada, Mexico, Chile, New Zealand, Turkey and the United States).

Source: *OECD Subnational government Structure and Finance Database*, http://dx.doi.org/10.1787/05fb4b56-en.

StatLink http://dx.doi.org/10.1787/888933754899

6.5.2. Urban planning policies

People living in disadvantaged, economically depressed areas have less access to quality housing and experience a lower quality of the surrounding environment. This dampens opportunities to prosper and undermines mobility. As a policy response, governments need to promote urban planning policies that support a human and social capital infrastructure and guarantee equal access to public services, namely quality education, employment opportunities and health services.

6.5.2.1. Access to education

Residential segregation in cities is closely linked with socio-economic segregation in schools (Chapter 5). Strong inequalities within cities in terms of access to quality education both reflect and reinforce socio-economic inequalities in cities, with long-lasting consequences on the residents' mobility prospects. Inequalities persist in many cities and can perpetuate the vicious circle of residential segregation and socio-economic segregation in schools. A variety of policies can help to reduce spatial segregation in terms of education and improve social mobility.

Providing full parental school choice can result in segregating students by ability and socio-economic background and generate greater inequities across education systems. Less-educated families face more difficulties gauging the information required to make informed school choice decisions. Local authorities are particularly well-positioned to encourage disadvantaged parents to exercise school choice by providing them first-hand information (OECD, 2012). To further limit a process of segregation, enhancing equity considerations in school choice schemes is a widely used policy option in OECD countries: controlled school choice schemes and school voucher programmes, for

example, can help low-income children pursue quality education and expand opportunities.

Controlled choice programmes (or flexible enrolment plans) introduce mechanisms that ensure that children are allocated to schools more equitably (e.g. in terms of parental socio-economic status, ethnic origin, etc.). In the event of oversubscription to some schools, this type of scheme prevents disadvantaged students from getting crowded out. For example, Rotterdam offers a system of double waiting lists, which allow oversubscribed schools to give preference to children who would enrich their ethnic and socio-economic mix (OECD, 2016k). If admissions policies are established by a central independent authority, schools have fewer opportunities to select students using criteria that benefit better-off children. For instance, in Chile, an educational reform introduced in 2009 has forbidden schools from receiving public funding to select students based on their socio-economic background or prior educational attainment at primary school.

Fundamental differences are also observed in the quality of education across regions. In the OECD area, 15-year-old students in urban schools outperform those in rural areas on the Programme for International Student Assessment (PISA) test by more than 20 points on average, which is the equivalent of almost one year of education. Options to improve opportunities for students living in areas with limited access to higher education could include mobility assistance programmes for students, a geographically wider offer of study programmes or increased co-operation between the academies in regions with a high offer and those in the surrounding regions (Dherbécourt, 2015). Some countries, like Chile and the Netherlands, for example, provide more funding to schools that accept low-performing students to offset the additional costs to educate them through progressive voucher schemes or weighted student funding ("virtual vouchers").

6.5.2.2. Skills and labour-market opportunities

Expanding the prospects for upward mobility requires making urban labour markets more inclusive. They need to provide jobs for a wide spectrum of skills, qualifications and backgrounds. Cities differ widely in their labour-force composition, and policy efforts therefore need to focus on attracting and retaining workers for different types of jobs – from cutting-edge jobs in the digital economy to more traditional manufacturing jobs.

Strategies to attract workers for a certain type of job include preparing and training the workforce of that neighbourhood for that type of job. For example, the city of Lulea in Sweden has combined a set of infrastructure reforms, education initiatives and efficient branding of its natural environmental characteristics to attract Facebook, which is expected to create 2 200 new jobs in the city (Eudes, 2016). Meanwhile, New York City's recently announced Industrial Action Plan aims to revitalise manufacturing industries in the city's outer boroughs to tackle the displacement of worker communities and provide a dynamic entry into the innovative field of robotics thanks to its FutureWorks incubator (OECD, 2016i).

Projects targeted at the working poor are also important to enhance social mobility and provide opportunities to those who, being in employment, still are deprived of actual opportunities to improve their overall situation. Examples can be found in Calgary, Edmonton, Toronto and Saint John in Canada, where comprehensive, community-based programmes have set out to tackle in-work poverty. The city government of Calgary has proposed to establish a Social Business Centre and Community Investment Fund to support the development of co-operatives and social enterprises, and is working on

establishing inclusive business practices, including targeted support for vulnerable workers (e.g. through childcare, transport and housing support), progressive hiring practices to ensure diversity, opportunities for workers with disabilities, and transparent performance reporting (CPRI, 2013).

Place-based tax breaks and enterprise zones constitute local hiring or employment support programmes aimed at creating more job opportunities in local areas and/or pushing wages upward. They are often oriented towards deprived areas (Neumark and Simpson, 2014). Briant et al. (2015) have found that in France, the impact of enterprise zones differed in accordance with the surrounding geography. In remote areas, enterprise zones had a positive impact in pushing wages up, while in areas with high unemployment, there were significant deadweight losses following the rebalancing of local equilibria. Givord et al. (2017) found that, after a positive short-term impact, the positive results are off-set by more frequent business shutdowns. In Italy, financial incentives for firms in Lombardy have been found to have little impact on employment growth (Porro and Salis, 2017).

6.5.2.3. Access to affordable quality health care

A person's place of residence shapes much more of their life than their mere income. Life expectancies, for example, differ by almost 20 years across neighbourhoods in Baltimore (Baltimore City Health Department, 2018) and London (Cheshire, 2012). Quality health care and the policies needed to ensure access to it constitute one of the most important dimensions, independent of a person's place of residence.

Across regions, the number of doctors per capita varies widely. A common feature in many countries is the concentration of physicians in capital cities[10] and urban regions in general, reflecting the concentration of specialised services such as surgery, reflecting physicians' preferences to practice in urban settings. There are large differences in the density of doctors between predominantly urban and rural regions in France, Australia and Canada, although the definition of urban and rural regions varies across countries (OECD, 2015b).

A range of policy levers can influence the choice of where physicians practice, including: 1) providing financial incentives for doctors to work in underserved areas; 2) increasing the enrolment in medical education programmes of students from specific social or geographic backgrounds; 3) regulating the choice of practice location of doctors; and 4) re-organising health service delivery to improve the working conditions of doctors in underserved areas (OECD, 2015b). In France, the "Health Territory Pact" was launched in 2012 to promote the recruitment and retention of doctors and other health workers in underserved areas. In particular, it promoted tele-medicine and created new multi-disciplinary medical offices that enable physicians and other health professionals to work in the same location (OECD, 2015b).

6.5.3. Inclusive urban environment

To improve equality of opportunity and social mobility, it is essential to design and implement policy packages that exploit the complementarities between different policy areas. Policies for improving the supply of affordable housing, for example, need to be closely connected with transport planning, service provision and labour-market interventions at all levels of government. An example of a strategic and practical partnership in this sense can be found in the New York and Connecticut Sustainable

Communities Consortium, which offered a platform for the co-ordination of housing and transport policy (OECD, 2016k).

6.5.3.1. Housing policies

The intergenerational transmission of inequalities has become more pronounced with regard to housing, since parental support has become increasingly important for allowing young adults to become homeowners or to acquire secure housing in general (Druta and Ronald, 2017; Forrest and Hirayama, 2009; Helderman and Mulder, 2007). Longitudinal data for Amsterdam and Rotterdam show that spatial segregation based on parental wealth is strong. Parental wealth has notable spatial consequences, as it both deepens existing socio-spatial divides and establishes new ones. The influence of parental wealth on socio-spatial divides is stronger in Amsterdam than in Rotterdam, suggesting that especially in the high-demand Amsterdam housing context, young adults may need to draw on parental resources to outcompete other households and/or to acquire housing in expensive areas (Hochstenbach, 2018).

Access to good-quality affordable housing is important for achieving equality of opportunity and social inclusion. A major challenge for housing policy is to tackle the concentration of low-income families in areas where cheap housing is available but education and labour-market conditions are poor. Two major approaches have been taken towards increasing mobility in cities. First, policies may focus on improving the situation in disadvantaged areas. According to the results of the 2016 OECD Regional Outlook Survey (OECD, 2016l), the targets of these policies are often predominantly what are deemed to be particularly "problematic" cities or neighbourhoods. Second, initiatives may focus on helping lower-income households to move to higher-income neighbourhoods. The four main types of housing policy instruments that the OECD QuASH (Questionnaire on Social and Affordable Housing) surveyed at national level are homeownership subsidies, housing allowances, social rental housing and rental support and regulations.

Support for homeownership receives considerable public backing (with reported spending up to 2.3% of GDP) (Salvi del Pero et al., 2016). Some categories of homeownership support are reserved to low-income households (e.g. grants and financial assistance) and are expected to help improve the access of disadvantaged groups to homeownership. However, a major pitfall of homeownership support in cities and regions is that it tends to discourage residential and labour mobility and to incentivise urban sprawl (Henley et al., 1994; OECD, 2016k).

Well-targeted housing allowances can help low-income households to stay inside the cities and promote mixed-income urban neighbourhoods. If well designed and targeted to the needs of different socio-economic groups, they are less likely to harm residential and labour mobility. One example is the Moving to Opportunity programme and Section 8 vouchers in the United States, which offers housing vouchers to randomly selected households in five U.S. cities (Baltimore, Boston, Chicago, Los Angeles, New York) living in high-poverty housing projects to move to an area where the rent is beyond what they would normally be able to afford. While preliminary evaluations of this programme found that it did not affect adults' economic outcomes (although it had some positive benefits on their physical and mental health), recent evidence suggests that such policies to encourage residential mobility and social mix may yield the highest benefits for young children. Chetty, Hendren and Katz (2017) found that children who moved before the age of 13 are more likely to attend college and have on average 31% higher

earnings as adults. Moreover, as adults, the children often live in better neighbourhoods and are less likely to become single parents, suggesting that the benefits of such social mobility policies have the potential to persist across generations (Brookings, 2016).

Nevertheless, housing allowances also have limitations, as they cannot guarantee good housing quality and may adversely affect rent prices (Salvi de Pero et al., 2016). Evidence has shown in several countries that housing allowances can result in sizeable rent rises, such as in Finland (Kangasharju, 2010; Virén, 2011), France (Fack, 2005; LaFerrère and Le Blanc, 2004), the United Kingdom (Gibbons and Manning, 2006) and the United States (Susin, 2002). Another issue of housing voucher programmes, in particular, is that, while the aim is to help households move from low-income areas to more prosperous locations, most families chose to stay close to their original location or move to an area with similar characteristics.

Inclusionary zoning policies require developers to build a specified share of affordable housing units within otherwise market-rate residential developments in exchange for a relaxation of regulations on development or other incentives. This policy aims to increase the supply of housing affordable to lower-income households while encouraging the spatial inclusion of low-income households in higher-opportunity areas. In practice, though, thresholds for qualifying income levels are set relatively high and can thus exclude the lowest-income households through competition. Examples for inclusive zoning policies to ensure social mix can be found in several US states, as well as Germany and Sweden (Granath Hansson, 2017).

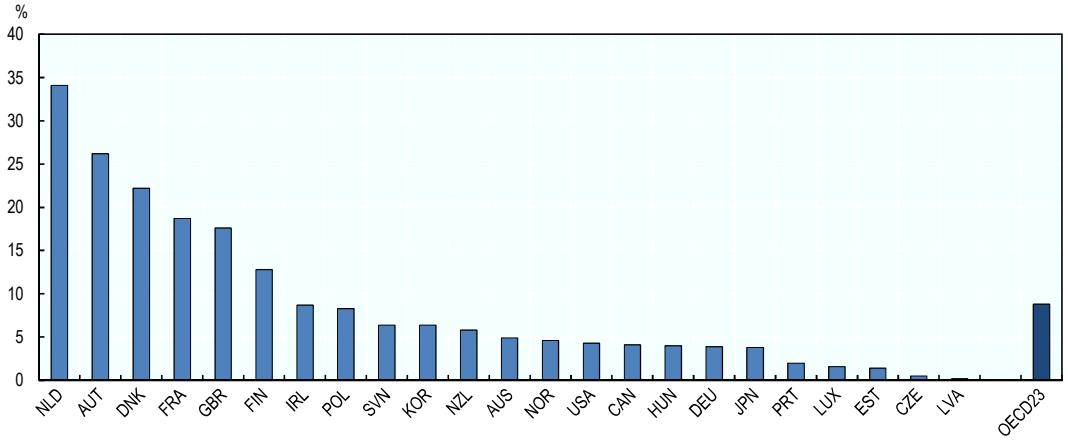
Compared with housing allowances and inclusionary zoning, social rental housing may complicate the integration of poorer and wealthier households in the same neighbourhood. The majority of OECD countries provide at least some form of social rental housing (Figure 6.5). While social rental housing policies help low-income families, they may also increase segregation. In practice, social rental housing often concentrates low-income households in deprived urban neighbourhoods that offer low-quality public services and little access to job opportunities, which exacerbates urban social exclusion. National legal frameworks sometimes impose a minimum target of social housing on local authorities, but this is not always respected: for instance, in France, where the law requires a minimum of 25% of social housing in each municipality, some areas escape their obligations and pay a fine instead of meeting the target. On the other side, municipalities with a large share of low-income households and a high share of unemployment may not have the financial and organisational capacity to supply and maintain social housing. Further, this type of housing is often awarded at the municipal level. Fear of losing the entitlement to social housing might prevent people from being geographically mobile and result in spatial mismatches (Salvi del Pero et al., 2016).

The most common way to define eligibility for the allocation of a social dwelling is the use of income tests. While there is a general trend towards restricting the provision of social housing by defining stricter categories of beneficiaries, several countries have adjusted the eligibility criteria for social housing in order to avoid segregation. The maximum income is set high enough to permit income mixing in some countries including France, Austria and Germany, while it is set at significantly low levels for instance in Italy. Access criteria can also be defined according to criteria based on need (e.g. homelessness, unhealthy accommodation, over-occupation, forced cohabitation, etc.) and even criteria relating to the beneficiaries and target groups (youth, elderly or disabled persons, families with many children, mentally disabled persons, employees of certain undertakings, etc.). Criteria can also vary according to local needs and gaps in local

housing markets, for instance, the need to attract certain types of key workers or professionals, to provide housing for students and young people with the aim of revitalising areas with an ageing population, etc. In Sweden, no income ceilings are used in the allocation of dwellings from public housing companies. This is a consequence of the principle of avoiding social segregation by providing access to public dwellings to all segments of society.

Figure 6.5. Relative size of the social rental housing stock

Number of social rental dwellings as a share of the total number of dwellings, 2015 or latest year available



Note: Data refer to 2011 for Canada, Hungary, Ireland and Luxembourg; 2012 for Germany; 2013 for Denmark, Estonia, Japan and Poland; and 2014 for Australia, Austria, France, Norway and the United Kingdom.

Source: OECD Questionnaire on Affordable and Social Housing (QuASH), 2016.

StatLink http://dx.doi.org/10.1787/888933754918

Other ways to avoid segregation include policies that help promote the development of the rental market through financial support and regulations. Around one-third of the countries reporting in QuASH use construction subsidies to promote the production of rental housing (most prominently France and the United States). Rent controls in the housing market are used in over half of the reporting countries, and other forms of support for private rental housing, such as the provision of guarantees and rent tax relief for tenants, are currently used by over one-fifth of the reporting countries.

New actors on the housing market are also emerging to bring disparate groups of society together, and this process can create opportunities for people and, ultimately, economic growth (Chetty and Hendren, 2016; Chetty et al. 2017). For example, in the United Kingdom, community land trusts (CLT)[11] are playing an important role in providing affordable housing for lower-income households. CLTs act as long-term stewards of housing, ensuring that it remains genuinely affordable, based on what people actually earn in their area, not just for now but for every future occupier.

6.5.3.2. Transport and infrastructure policies

People in disadvantaged communities often have less well-maintained infrastructure – notably roads and less access to reliable public transport services, and they are less likely to own a private car. Differences in the quality of the infrastructure within cities are major

contributors to spatial segregation and limit social mobility. De-segregating and connecting all groups of effective transport networks thus needs to be at the core of urban transport planning. A major challenge for policy makers is to strike a balance between network coverage, affordability and financial sustainability.

Several OECD countries have implemented programmes to improve the accessibility, affordability and quality of public transport infrastructure for all groups of society. The "Lisbon Door-to-Door" programme, created in 2004 by the Lisbon City Council, aims to connect populations who were displaced from the city's expensive centre toward more affordable suburbs. Municipalities across Canada have implemented discount transit programmes that aim to lower the risk of the social exclusion of people on lower incomes. Recent OECD/ITF research suggests that targeted subsidies (as opposed to generalised ones) allow transport operators to charge fares that are close to the cost-recovery rate for most of the population, while cheaper fares are set for vulnerable groups (ITF, 2017).

Like housing policies, transport and infrastructure policies need to be integrated into broader strategies for urban regeneration. Where possible, an assessment of the combined impact of transport, housing and other investment decisions on different socio-economic groups could be conducted. Improvements of transport-related data collection and analysis can facilitate respective policy making (e.g. the Housing + Transport Affordability Index in the United States). An integrated public investment strategy can help improve people's access to affordable, equitable and sustainable infrastructure and expand opportunities for socio-economic mobility in cities. For example, narrowly conceived urban and environmental regeneration initiatives may drive housing prices up and put pressure on the transport network, thereby pushing lower-income households out of regenerated neighbourhoods while attracting wealthier residents and high-end businesses. Urban governance systems characterised by higher administrative fragmentation are associated with a higher income segregation of households (OECD, 2016k). More effective governance to integrate policies combining key sectors such as land regulation, housing and transport at the metropolitan scale can help fight income segregation in cities.

One example of metropolitan transport co-ordination based on intergovernmental collaboration can be found in Germany. All large metropolitan areas in Germany have set up a metropolitan transport authority (*Verkehrsverbund*) that brings together all local governments located in the metropolitan area as well as the corresponding Land (or Länder if there are several of them). As illustrated in the example of Frankfurt, the creation of such metropolitan transport authorities has facilitated fare integration and the expansion of the public transport supply, which can support more inclusive economic development. Some authorities also have competencies in terms of public parking and sometimes urban spatial planning, which can help guide an integrated urban development strategy.

6.6. Conclusion

Our economies and societies are changing rapidly, becoming more fluid in some aspects, but lacking mobility in others. New social risks are emerging. Against this backdrop, addressing social mobility and offering equal opportunities to individuals requires public action in order to prevent the occurrence and the impact of social risks, and to level the playing fields for all. Such a roadmap requires interventions in a broad range of areas, encompassing health and family policies, education, the labour market, and tax and transfer policies, as well as urban planning and housing policies.

Notes

1. Liu (2016) has shown that, following this reform, after a health shock, households with access to health insurance invested more in children's human capital and reduced the use of child labor, relative to the levels that they would have done in the absence of the reform.
2. In Australia, non-take-up of the (private) insurance systems by young (and healthy) people is high, raising concerns for their economic vulnerability in the event of health issues.
3. This extra funding can be used by schools to fund smaller class sizes, more specialist literacy and numeracy teachers, dedicated equipment, greater support for students with higher needs and additional training and support for teachers (OECD, 2016g).
4. Schochet et al. (2008) found that the Job Corps induced short-term earnings gains and had beneficial long-term impacts on educational attainment but also in other areas such as health, family formation and criminal activity.
5. The programme combines six months of courses on writing emails in a professional style, time management, teamwork, problem-solving, self-presentation, interview preparation and conflict resolution and six months where young participants take up work placements. At the end of the programme, one-third of the participants are hired.
6. Such programmes need to be designed in a way that they do not curb labour reallocation inefficiently in the long run by subsidising jobs that would disappear sooner or later (Cahuc and Nevoux, 2017).
7. The Action Plan for the Realization of Work Style Reform decided by the Council for the Realization of Work Style Reform on 28 March 2017.
8. There is some evidence that the reforms stopped (and possibly managed to reverse) the downward trend in the share of open-ended contracts in new contracts.
9. Note that these results do not include behavioural responses in particular about working hours – hence the interest of the national pilots.
10. For example, Austria, Belgium, the Czech Republic, Greece, Mexico, Portugal, the Slovak Republic and the United States have a much higher density of doctors in their national capital region.
11. A community land trust is a form of community-led housing, set up and run by ordinary people to develop and manage homes as well as other assets important to that community, like community enterprises, food growing or workspaces.

References

Abriac, D., R. Rathelot and R. Sanchez (2009), "L'apprentissage, entre formation et insertion professionnelles", *Formation et emploi*, édition 2009, INSEE

Accenture (2012), "Une grande école : pourquoi pas moi? Un programme qui fait bouger les lignes", ESSEC and Accenture Foundation, https://www.accenture.com/frfr/company-etude-sroi-mecenat-competences-acn-pqpm.

Acemoglu, D. and J.S. Pischke (1998), "Why do firms train? Theory and evidence". *The Quarterly Journal of Economics*, Vol. 113/1, pp. 79-119.

Adema, W. et al. (2015), "Paid Parental Leave: Lessons from OECD Countries and Selected U.S. States", *OECD Social, Employment and Migration Working Papers*, No. 172, OECD Publishing, Paris. http://dx.doi.org/10.1787/5jrqgvqqb4vb-en

Aghion, P., U. Akcigit, A. Hyytinen and O. Toivanen (2017), Living the American dream in Finland: the social mobility of inventors (accessed 2 November 2017).

Aina, C. and C. Nicoletti (2014), "The intergenerational mobility of liberal professions: Nepotism versus abilities", https://www.econstor.eu/handle/10419/126461 (accessed on 23 November 2017).

Aizer, A. and J. Currie (2014), "The intergenerational transmission of inequality: Maternal disadvantage and health at birth", *Science*, http://dx.doi.org/10.1126/science.1251872.

Alon, S. and O. Malamud (2014), "The impact of Israel's class-based affirmative action policy on admission and academic outcomes", *Economics of Education Review*, http://dx.doi.org/10.1016/j.econedurev.2014.02.004.

Arcidiacono, P. and M. Lovenheim (2016), "Affirmative action and the quality-fit trade-off". *Journal of Economic Literature*, Vol. 54/1, pp. 3-51.

Arcidiacono, P., E.M. Aucejo and K. Spenner (2012), "What happens after enrollment? An analysis of the time path of racial differences in GPA and major choice". *IZA Journal of Labor Economics*, Vol. 1/1, p. 5.

Avvisati, F., B. Besbas and N. Guyon (2010), "Parental Involvement in School : A Literature Review", *Revue d'économie politique*, Vol. 120/5, p. 759, http://dx.doi.org/10.3917/redp.205.0759.

Australian Government (2017a), "Major reforms to make private health insurance simpler and more affordable", http://www.health.gov.au/internet/ministers/publishing.nsf/Content/health-mediarel-yr2017-hunt106.htm (accessed 16 April 2018)

Australian Government (2017b), "Income averaging for special professionals 2017", http://www.health.gov.au/internet/ministers/publishing.nsf/Content/health-mediarel-yr2017-hunt106.htm (accessed 16 April 2018)

Azar et al. (2018), Concentration in US Labor Markets: Evidence from online Vacancy Data.

Azar et al. (2017), Labour market Concentration.

Balestra, C. and R. Tonkin (forthcoming), "Inequalities in household wealth across OECD countries: Evidence from the OECD Wealth Distribution Database", *Statistics and Data Working Papers*, No. 2018/1, OECD Publishing, Paris.

Baltimore City Health Department (2018), *Life Expectancy at birth in Years*, Baltimore City, 2011-2015.

Batchelder, L.L. (2003), Taxing the Poor: Income Averaging Reconsidered. Harv. J. on Legis., Vol. 40, p. 395.

Beaumont, K. and P. Mason (2014), Child maintenance systems in EU Member States from a gender perspective.

Becker, S.O., S. Bentolila, A. Fernandes and A. Ichino (2010), "Youth emancipation and perceived job insecurity of parents and children". *Journal of Population Economics*, Vol. 23/3, pp. 1047-1071.

Behaghel, L., B. Crépon and M. Gurgand (2014), "Private and public provision of counseling to job seekers: Evidence from a large controlled experiment". *American Economic Journal: Applied Economics*, Vol. 6/4, pp. 142-74.

Behaghel, L., B. Crépon and T. Le Barbanchon (2015), "Unintended effects of anonymous resumes". *American Economic Journal: Applied Economics,* Vol. 7/3, pp. 1-27.

Berlinski, S., S. Galiani and M. Manacorda (2008), "Giving children a better start: Preschool attendance and school-age profiles", *Journal of Public Economics*, Vol. 92/5-6, pp. 1416-1440, http://dx.doi.org/10.1016/J.JPUBECO.2007.10.007.

Bertrand, M., and E. Duflo (2017), "Field Experiments on Discrimination". in *Handbook of Economic Field Experiments*, Vol. 1, pp. 309-393, North-Holland.

Bibi, S., J.Y. Duclos and A. Araar (2014), "Mobility, taxation and welfare". *Social Choice and Welfare*, Vol. 42/3, pp. 503-527.

Blanden, J., P. Gregg and S. Machin (2005), "Intergenerational Mobility in Europe and North America A Report Supported by the Sutton Trust", https://intouniversity.org/sites/all/files/userfiles/files/Sutton%20Trust%20Social%20Mobiliity.pdf (accessed 23 November 2017).

Blanden, J., F. Buscha, P. Sturgis and P. Urwin (2012), "Measuring the earnings returns to lifelong learning in the UK". *Economics of Education Review*, Vol. 31/4, pp. 501-514.

Blundell, R. (2014), "Income Dynamics and Life-cycle Inequality: Mechanisms and Controversies". *The Economic Journal*, Vol. 124/576, pp. 289-318.

Boliver, V., S. Gorard and N. Siddiqui (2015), "Will the Use of Contextual Indicators Make UK Higher Education Admissions Fairer?", *Educ. Sci*, Vol. 5, pp. 306-322, http://dx.doi.org/10.3390/educsci5040306.

Borgonovi, F. and G. Montt (2012), "Parental Involvement in Selected PISA Countries and Economies", *OECD Education Working Papers*, No. 73, OECD Publishing, Paris, http://dx.doi.org/10.1787/5k990rk0jsjj-en.

Bosworth, B., G. Burtless and K. Zhang (2016), Later retirement, inequality in old age, and the growing gap in longevity between rich and poor. Economic Studies at Brookings, 87.

Boulder, University of Colorado (2018), *First Generation Scholars*. https://www.colorado.edu/cue/programs-and-services/first-generation-scholars

Brezis, E. and J. Hellier (2017), "Social mobility at the top and the higher education system", *European Journal of Political Economy*, http://dx.doi.org/10.1016/j.ejpoleco.2017.04.005.

Briant, A., M. Lafourcade and B. Schmutz (2015), "Can tax breaks beat geography? Lessons from the French enterprise zone experience". *American Economic Journal: Economic Policy*, Vol. 7/2, pp. 88-124.

Bridge Group (2017), Access Accountancy Report http://www.accessaccountancy.org/new-bridge-group-report.html.

Browne, J., and H. Immervoll (2017), Basic Income as a Policy Option: Illustrating costs and distributional implications for selected countries. *Technical background note* http://www.oecd.org/employment/future-of-work.htm.

Browne, J. (2017a), Faces of Joblessness in Estonia: Main Results and Policy Inventory.

Browne, J., (2017b), Faces of Joblessness in Ireland: Main Results and Policy Inventory.

Brunello, G. and M. Schlotter (2011), Non-Cognitive Skills and Personality Traits: Labour Market Relevance and Their Development in Education & Training Systems, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1858066 (accessed on 23 November 2017).

Brookings (2016), "Metromonitor 2016: Tracking growth, prosperity and inclusion in the largest 100 U.S. metropolitan areas", The Brookings Institution, Washington, DC.

Bukodi, E. (2017), "Cumulative Inequalities over the Life-Course: Life-long Learning and Social Mobility in Britain", *Journal of Social Policy*, http://dx.doi.org/10.1017/S0047279416000635.

Cabrera, N. et al. (2007), "Fathers' Influence on Their Children's Cognitive and Emotional Development: From Toddlers to Pre-K", *Applied Developmental Science*, Vol. 11/4, pp. 208-213, http://dx.doi.org/10.1080/10888690701762100.

Cahuc, P. and S. Carcillo (2011), Is Short-Time Work a Good Method to Keep Unemployment Down? https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1749855 (accessed on 22 November 2017).

Cahuc, P., S. Carcillo and A. Zylberberg (2014), *Labor economics*. MIT press.

Cahuc, P and S. Nevoux (2017), "Inefficient Short-Time Work". Centre for Economic Policy Research, London, https://www.cepr.org/active/publications/discussion_papers/dp.php?dpno=12269

Caille, J. (2001), "Scolarisation à 2 ans et réussite de la carrière scolaire au début de l'école élémentaire", Éducation et formations, pp. 7-18.

Cancian, M., D. Meyer and D. Reed (2010), "Promising Antipoverty Strategies for Families", *Poverty & Public Policy*, http://dx.doi.org/10.2202/1944-2858.1085.

Carneiro, P. and J. Heckman (2003), Human Capital Policy, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=434544 (accessed on 22 November 2017).

Carnevale, A.P., N. Smith and J. Strohl (2010), Help wanted: Projections of job and education requirements through 2018. Lumina Foundation.

Case, A. et al. (2002), "Economic status and health in childhood: The origins of the gradient". *American Economic Review*, Vol. 92/5, pp. 1308-1334.

Cerutti, P.M., E. Crivellaro, G.J. Reyes and L. Sousa (2018), Hit and run? Income shocks and school dropouts in Latin America.

Cheshire, P. (2012), "Are Mixed Community Policies Evidence Based? A Review of the Research on Neighbourhood Effects", in *Neighbourhood Effects Research: New Perspectives*, Springer Netherlands, Dordrecht, http://dx.doi.org/10.1007/978-94-007-2309-2_12.

Chetty, R., N. Hendren, O. Kline and E. Saez (2015), *The Economic Impacts of Tax Expenditures: Evidence from spatial variation across the US*. Mimeo

Chetty, R. et al. (2014), "Where is the land of Opportunity? The Geography of Intergenerational Mobility in the United States", *The Quarterly Journal of Economics*, Vol. 129/4, pp. 1553-1623, http://dx.doi.org/10.1093/qje/qju022.

Chetty, et al. (2014b), "Is the United States still a land of opportunity? Recent trends in intergenerational mobility". *American Economic Review*, Vol. 104/5, pp. 141-47.

Chetty, R., and N. Hendren (2016), The impacts of neighborhoods on intergenerational mobility i: Childhood exposure effects (No. w23001). National Bureau of Economic Research.

Chetty, R., N. Hendren and L. Katz (2017), "The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment *", http://dx.doi.org/10.1257/aer.20150572.

Clarke, B. and F. Younas (2017), Helping Parents to Parent: 20 February 2017.

Coate, S., and G.C. Loury (1993), "Will affirmative-action policies eliminate negative stereotypes?". *The American Economic Review*, pp. 1220-1240.

Cohen, N.S. (2015), "Entrepreneurial journalism and the precarious state of media work". *South Atlantic Quarterly*, Vol. 114/3, pp. 513-533.

Cooper, K. and K. Stewart (2013), "Does money affect children's outcomes?", https://econpapers.repec.org/paper/cepsticar/casereport80.htm (accessed on 21 November 2017).

Cooper, K., and K. Stewart (2017), Does Money Affect Children's Outcomes? An update (No. 203). Centre for Analysis of Social Exclusion, LSE.ISO 690.

Corak, M. (2013), "Income Inequality, Equality of Opportunity, and Intergenerational Mobility, American Economic Association, http://dx.doi.org/10.2307/41955546.

CPRI (2013), "Enough for all: Unleashing our communities' resources to drive down poverty in Calgary", final report of the Calgary Poverty Reduction Initiative, Vol. 1.

Cramer, R. et al. (2009), "A penny saved is mobility earned", http://www.economicmobility.org.

Crawford, C. et al. (2016), "Higher education, career opportunities, and intergenerational inequality", *Oxford Review of Economic Policy*, http://dx.doi.org/10.1093/oxrep/grw030.

Crettaz, E. and C. Jacot (2014), "Do Family Policies Matter for Educational Outcomes?" *European Societies,* Vol. 16/5.

Cullen, K. and T. Chen (2017), "The contribution of the USDA school breakfast and lunch program meals to student daily dietary intake", *Preventive Medicine Reports*, http://dx.doi.org/10.1016/j.pmedr.2016.11.016.

Cunha, F. and J. Heckman (2007), "Identifying and Estimating the Distributions of Ex Post and Ex Ante Returns to Schooling", *Labour Economics*, Vol. 14/6, pp. 870-893, http://dx.doi.org/10.1016/J.LABECO.2007.06.002.

Currie, J. (2009), "Healthy, wealthy, and wise: Socioeconomic status, poor health in childhood, and human capital development". *Journal of Economic Literature*, Vol. 47/1, pp. 87-122.

Currie, J. (2011), Inequality at birth: Some causes and consequences, http://dx.doi.org/10.1257/aer.101.3.1

Dearden, L., E. Fitzsimons and G. Wyness (2014), "Money for nothing: Estimating the impact of student aid on participation in higher education". *Economics of Education Review*, Vol. 43, pp. 66-78.

De la Fuente, A., E. Ortiz-Juárez and C. Rodríguez-Castelán (2017), "Living on the edge: Vulnerability to poverty and public transfers in Mexico". Oxford Development Studies, pp. 1-18.

De Peuter, G. (2014), "Beyond the model worker: Surveying a creative precariat". *Culture Unbound: Journal of Current Cultural Research*, Vol. 6/1, pp. 263-284.

Desforges, C. and A. Abouchaar (2003), "The Impact of Parental Involvement, Parental Support and Family Education on Pupil Achievements and Adjustment: A Literature Review", http://good-id-in-schools.eu/sites/default/files/sof_migrated_files/sof_files/impactparentalinvolvment.pdf (accessed on 23 November 2017).

Devaux, M. and M. de Looper (2012), "Income-Related Inequalities in Health Service Utilisation in 19 OECD Countries, 2008-2009", *OECD Health Working Papers*, No. 58, OECD Publishing, Paris, http://dx.doi.org/10.1787/5k95xd6stnxt-en.

DGCS (2017), Rapport d'évaluation de la Prime d'Activié 2017, Direction Générale de la Cohesion Sociale, Ministère des Solidarités et de la Santé.

Dovidio, J.F., S.L. Gaertner and A.R. Pearson (2016), Racism among the Well Intentioned. The social psychology of good and evil, 95.

Druta, O., and R. Ronald (2017), "Young adults' pathways into homeownership and the negotiation of intra-family support: A home, the ideal gift". *Sociology*, Vol. 51/4, pp. 783-799.

Dubois, D.L., H.A. Neville, G.R. Parra and A.O. Pugh-Lilly (2002), Testing a new model of mentoring. New Directions for Student Leadership, Vol. 93, pp. 21-57.

Duell and Thévenot (2017), Faces of Joblessness In Portugal: Main results and policy inventory. http://www.oecd.org/els/soc/Faces-of-Joblessness-in-Portugal-CPP2017.pdf.

Dumas, C. and A. Lefranc (2010), Early schooling and later outcomes: Evidence from pre-school extension in France. Inequality from Childhood to Adulthood: A Cross-

National Perspective on the Transmission of Advantage. New York: Russell Sage Foundation.

Duncan, G.J. and K.A. Magnuson (2003), Off with Hollingshead: Socioeconomic resources, parenting, and child development. Socioeconomic status, parenting, and child development, pp. 83-106.

Duncan, G.J. and K. Magnuson (2004). Individual and parent-based intervention strategies for promoting human capital and positive behavior. Human development across lives and generations: The potential for change, 93-135.

Duncan, G.J., K. Magnuson, A. Kalil and K. Ziol-Guest (2012), "The importance of early childhood poverty". *Social Indicators Research*, Vol. 108/1, pp. 87-98.

Duncan, G.J. and A.J. Sojourner (2013), Can intensive early childhood intervention programs eliminate income-based cognitive and achievement gaps?. *Journal of Human Resources*, Vol. 48/4, pp. 945-968.

Durbin, S. and J. Tomlinson (2010), "Female part-time managers: networks and career mobility". *Work, employment and society*, Vol. 24/4, pp. 621-640.

Dynarski, S. (2000), Hope for Whom? Financial Aid for the Middle Class and Its Impact on College Attendance, National Bureau of Economic Research, Cambridge, MA, http://dx.doi.org/10.3386/w7756.

Dynarski, S. (2003), "American Economic Association Does Aid Matter? Measuring the Effect of Student Aid on College Attendance and Measuring the Effect of Student Aid on College Attendance and Completion", *The American Economic Review*, Vol. 93/1, pp. 279-288. http://www.jstor.org/stable/3132174 (accessed on 23 November 2017).

Dynarski, S. and D. Kreisman (2013), "Loans for Educational Opportunity: Making Borrowing Work for Today's Students".

English, J. (2014), "The "Finnish Way" to Optimize Student Learning"; http://www.globaleducationproject.org/

Eriksson, T. et al. (2005), "Earnings persistence across generations: Transmission through health?", Memorandum, https://ideas.repec.org/p/hhs/osloec/2005_035.html (accessed on 21 November 2017).

Esping-Andersen, G. et al. (2012), "Child care and school performance in Denmark and the United States", *Children and Youth Services Review*, Vol. 34/3, pp. 576-589, http://dx.doi.org/10.1016/J.CHILDYOUTH.2011.10.010.

Espinoza, R., S. Lee and H. Lopez (2017), *Endogenous Market Formation: Theory and Evidence from Chilean College Admissions*. University of Maryland, mimeo.

Ewing, R., S. Hamidi, J.B. Grace and Y.D. Wei (2016), "Does urban sprawl hold down upward mobility?" *Landscape and Urban Planning*, Vol. 148, pp. 80-88.

Eudes, Y. (2016), "Visite exceptionnelle dans le data center de Facebook, en Suède", *Le Monde*, www.lemonde.fr/pixels/article/2016/06/03/les-datas-du-grandfroid_4932566_4408996.html#0r0BIYvjGrJRMTU7.99 (accessed 4 July 2016).

Farrell, D., and F. Greig (2016), Paychecks, paydays, and the online platform economy: Big data on income volatility. JP Morgan Chase Institute.

Fernandez, R. and H. Immervoll (2017), Faces of Joblessness in Spain: Main Results and Policy Inventory. http://www.oecd.org/els/soc/Faces-of-Joblessness-in-Spain-CPP2017.pdf

Ferreira, F.H. et al. (2013), *Economic mobility and the rise of the Latin American middle class*, World Bank Publications.

Fersterer, J. and R. Winter-Ebmer (2003), "Smoking, Discount Rates and the Returns to Education", *Economics of Education Review*, Vol. 22, pp. 561–566.

Filatriau, O., D. Fougère and M. Tô (2013), Will sooner be better? The impact of early preschool enrollment on cognitive and noncognitive achievement of children.

Forrest, R. and Y. Hirayama, Y. (2009), "The uneven impact of neoliberalism on housing opportunities". *International Journal of Urban and Regional Research*, Vol. 33/4, pp. 998-1013.

Förster, M., A. Llena-Nozal and V. Nafilyan (2014), "Trends in top incomes and their taxation in OECD countries". *OECD Social, Employment, and Migration Working Papers*, No. 159, OECD Publishing, Paris, http://dx.doi.org/10.1787/5jz43jhlz87f-en.

Dherbécourt, C. (2015), "La géographie de l'ascension sociale", Notes d'analyse No 36 France Stratégie.

Fack, G. (2005), Pourquoi les ménages pauvres paient-ils des loyers de plus en plus élevés? [L'incidence des aides au logement en France (1973-2002)]. *Économie et statistique*, Vol. 381/1, pp. 17-40.

Gaertner, M.N. and M. Hart (2013), "Considering class: College access and diversity". *Harv. L. and Pol'y Rev*., Vol. 7, p. 367.

Gennetian, L.A. and C. Miller (2002), 'Children and Welfare Reform: A View from an Experimental.

Gerards, R. (2011), "Instrumental variables estimates of the effects of training on low skilled workers", https://www.bvekennis.nl/Bibliotheek/11-0040_trainingthelowskilled.pdf (accessed on 27 November 2017).

Gibbons, S. and A. Manning (2006), "The incidence of UK housing benefit: Evidence from the 1990s reforms". *Journal of Public Economics*, Vol. 90/4-5, pp. 799-822.

Gill, R. and A. Pratt (2008), "In the social factory? Immaterial labour, precariousness and cultural work". *Theory, culture & society*, Vol. 25/7-8, pp. 1-30.

Givord, P., S. Quantin and C. Trevien (2017), "A long-term evaluation of the first generation of French urban enterprise zones". *Journal of Urban Economics*.

Goldrick-Rab, S., R. Kelchen, D.N. Harris and J. Benson (2016), "Reducing income inequality in educational attainment: Experimental evidence on the impact of financial aid on college completion". *American Journal of Sociology*, Vol. 121/6, pp. 1762-1817.

Gollmitzer, M. (2014), "Precariously employed watchdogs? Perceptions of working conditions among freelancers and interns". *Journalism Practice*, Vol. 8/6, pp. 826-841.

Goux, D. and E. Maurin (2010), "Public school availability for two-year olds and mothers' labour supply", *Labour Economics*, Vol. 17/6, pp. 951-962, http://dx.doi.org/10.1016/J.LABECO.2010.04.012.

Granath Hansson, A. (2017), "Inclusionary zoning policies in Germany and Sweden: the importance of underlying institutions", KTH Royal Institute of Technology.

Greenberg, D.H. and M. Shroder (2004), The digest of social experiments. The Urban Insitute.

Grossman, J. and J. Rhodes (2002), "The Test of Time: Predictors and Effects of Duration in Youth Mentoring Relationships", *American Journal of Community* Psychology, Vol. 30/2, pp. 199-219, http://dx.doi.org/10.1023/A:1014680827552.

Grunow, M. and R. Nuscheler (2013), "Public and private health insurance in Germany: The ignored risk selection problem". *Health Economics*, Vol. 23/6, pp. 670-687.

Hacker, J.S., G.A. Huber, A. Nichols, P. Rehm, M. Schlesinger, R. Valletta and S. Craig (2014), "The Economic Security Index: a new measure for research and policy analysis". *Review of Income and Wealth*, Vol. 60(S1).

Haut Conseil de la Famille (2014), Les Ruptures Familiales – Etat des lieux et propositions – 10 avril 2014,

Havnes, T. and M. Mogstad (2011), "No child left behind: Subsidized child care and children's long-run outcomes". *American Economic Journal: Economic Policy*, Vol. 3/2, pp. 97-129.

Havnes, T. and M. Mogstad (2015), "Is universal child care leveling the playing field?", *Journal of Public Economics*, http://dx.doi.org/10.1016/j.jpubeco.2014.04.007.

Heath, A., T. Liebig, and P. Simon (2013), "Discrimination against immigrants – measurement, incidence and policy instruments", in *International Migration Outlook 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/migr_outlook-2013-7-en.

Heckman, J. and D. Masterov (2007), "The Productivity Argument for Investing in Young Children", *Review of Agricultural Economics*, Vol. 29/3, pp. 446-493, http://dx.doi.org/10.1111/j.1467-9353.2007.00359.x.

Heckman, J.J. (1999), "Doing it right: job training and education". *The Public Interest*, 86.

Heckman, J. (2007), "The economics, technology, and neuroscience of human capability formation.", Proceedings of the National Academy of Sciences of the United States of America, Vol. 104/33, pp. 13250-5, http://dx.doi.org/10.1073/pnas.0701362104.

Heckman, J. (2008), "Early Childhood Education and Care: the case for investing in disadvantaged children", CESifo DICE Report No. 2/2008.

Helderman, A. and C. Mulder (2007), "Intergenerational transmission of homeownership: The roles of gifts and continuities in housing market characteristics". *Urban Studies*, Vol. 44/2, pp. 231-247.

Heller, S.B. et al. (2017), Thinking, fast and slow? Some field experiments to reduce crime and dropout in Chicago. *The Quarterly Journal of Economics,* Vol. 132/1, pp. 1-54.

Henley, A., R. Disney and A. Carruth (1994), "Job Tenure and Asset Holdings", *The Economic Journal*, Vol. 104/423, p. 338, http://dx.doi.org/10.2307/2234754.

Hertz, T. (2006), Understanding mobility in America. Center for American Progress Discussion Paper.

Hidalgo, D., H. Oosterbeek and D. Webbink (2014), "The impact of training vouchers on low-skilled workers", *Labour Economics*, Vol. 31, pp. 117-128, http://dx.doi.org/10.1016/j.labeco.2014.09.002.

Higuchi, Y. (2013), "The Dynamics of Poverty and the Promotion of Transition from Non-Regular to Regular Employment in Japan: Economic Effects of Minimum Wage Revision and Job Training Support". *The Japanese Economic Review*, Vol. 64/2, pp. 147-200.

Hochstenbach, C. (2018), "Spatializing the intergenerational transmission of inequalities: Parental wealth, residential segregation, and urban inequality", *SAGE journal*.

Hoynes, H., D. Miller and D. Simon (2015), "Income, the earned income tax credit, and infant health", *American Economic Journal: Economic Policy*, http://dx.doi.org/10.1257/pol.20120179.

Hupkau, C. and M. Leturcq (2017), "Fertility and Mothers' Labor Supply: New Evidence Using Time-to-Conception".

Imazeki, J. and L. Goe (2009), "The Distribution of Highly Qualified, Experienced Teachers: Challenges and Opportunities. TQ Research & Policy Brief.", National Comprehensive Center for Teacher Quality, https://eric.ed.gov/?id=ED520728 (accessed on 23 November 2017).

ITF (2017), "Income Inequality, Social Inclusion and Mobility", ITF Roundtable Report 164. OECD Publishing, Paris, https://www.itf-oecd.org/income-inequality-social-inclusion-mobility.

Jensen, S.T. and S.H. Shore (2008), Changes in the distribution of income volatility.

Kagitcibasi, C., D. Sunar and S. Bekman (2001), "Long-term effects of early intervention: Turkish low-income mothers and children", *Journal of Applied Developmental Psychology*, Vol. 22/4, pp. 333-361, http://dx.doi.org/10.1016/S0193-3973(01)00071-5.

Kalil, A. (2014), "Inequality Begins at Home: The Role of Parenting in the Diverging Destinies of Rich and Poor Children".

Kamerman, S. (2000), "Early childhood education and care: an overview of developments in the OECD countries", *International Journal of Educational Research*, Vol. 33/1, pp. 7-29, http://dx.doi.org/10.1016/S0883-0355(99)00041-5

Kane, T. (1995), Rising Public College Tuition and College Entry: How Well Do Public Subsidies Promote Access to College?, National Bureau of Economic Research, Cambridge, MA, http://dx.doi.org/10.3386/w5164.

Kangasharju, A. (2010), Housing Allowance and the Rent of Low-income Households. *The Scandinavian Journal of Economics*, Vol. 112/3, pp. 595-617.

Kast, F. and D. Pomeranz (2014), Saving More to Borrow Less: Experimental Evidence from Access to Formal Savings Accounts in Chile, National Bureau of Economic Research, Cambridge, MA, http://dx.doi.org/10.3386/w20239.

Kirkegaard, J.F. (2015), The true levels of government and social expenditures in advanced economies. Policy Brief, (15-4).

Kleiner, M. (2015), "Reforming Occupational Licensing Policies".

Kleven, H., et al. (2018), Children and gender inequality: Evidence from Denmark (No. w24219). National Bureau of Economic Research.

Kopczuk, W. (2013a), Incentive effects of inheritances and optimal estate taxation. *American Economic Review*, Vol. 103/3, pp. 472-77.

Kopczuk, W. (2013b), "Taxation of intergenerational transfers and wealth". In *Handbook of public economics*. Vol. 5, pp. 329-390. Elsevier.

Krause, A., U. Rinne and K.F. Zimmermann (2012), "Anonymous job applications in Europe". *IZA Journal of European Labor Studies*, Vol. 1/1, p. 5.

Kreider, H. (2000), The National Network of Partnerships Schools. A model for family-school-community partnerships. Cambridge, MA: Harvard Family Research Project.

Laferrère, A. and D. Le Blanc (2004), How do housing allowances affect rents? An empirical analysis of the French case. *Journal of Housing Economics*, Vol. 13/1, pp. 36-67.

Lamb, M.E. (2010), How do fathers influence children's development? Let me count the ways. The role of the father in child development, 1.

Leffel, K. and D. Suskind (2013), "Parent-directed approaches to enrich the early language environments of children living in poverty". In *Seminars in speech and language*. Vol. 34/ 04, pp. 267-278. Thieme Medical Publishers.

Lipsky, M. (1980), Street-Level Bureaucracy. Dilemmas of the Individual in Public Services. Russel Sage Foundation, New York.

Liu, K. (2016), "Insuring against health shocks: Health insurance and household choices". *Journal of health economics*, Vol. 46, pp. 16-32.

Lundborg, et al. (2015), "Heterogeneity in the impact of health shocks on labour outcomes: evidence from Swedish workers". *Oxford Economic Papers*, Vol. 67/3, pp. 715-739.

Luoma-Halkola, H. (2016), How do freelance journalists manage income risk? Practices from late modernity.

Maibom Pedersen, J., M. Rosholm, and M. Svarer (2012), "Experimental evidence on the effects of early meetings and activation" (No. 6970). *Discussion Paper Series*, Forschungsinstitut zur Zukunft der Arbeit.

Marcenaro Gutierrez, O., J. Micklewright and A. Vignoles (2014), "Social mobility and the importance of networks: evidence for Britain", https://riuma.uma.es//xmlui/bitstream/handle/10630/8626/Paper%20Marcenaro%20Miclewright%20Vignoles.pdf?sequence=1 (accessed on 23 November 2017).

Markowitz, S., K.A. Komro, M.D. Livingston, O. Lenhart and A,C. Wagenaar (2017), "Effects of state-level Earned Income Tax Credit laws in the US on maternal health behaviors and infant health outcomes". *Social Science & Medicine,* Vol. 194, pp. 67-7

Marmot, M. et al. (2008), "Closing the gap in a generation: health equity through action on the social determinants of health", *The Lancet*, Vol. 372/9650, pp. 1661-1669, http://dx.doi.org/10.1016/S0140-6736(08)61690-6.

Martins, P.S. (2010), Can targeted, non-cognitive skills programs improve achievement? Evidence from EPIS.

Mayer, S. and L. Lopoo (2008), "Government spending and intergenerational mobility", *Journal of Public Economics*, Vol. 92/1-2, pp. 139-158, http://dx.doi.org/10.1016/J.JPUBECO.2007.04.003.

McEwen, A. and J.M. Stewart (2014), "The relationship between income and children's outcomes: A synthesis of Canadian evidence". *Canadian Public Policy*, Vol. 40/1, pp. 99-109.

McFadden, A. et al. (2014), "Can food vouchers improve nutrition and reduce health inequalities in low-income mothers and young children: a multi-method evaluation of the experiences of beneficiaries and practitioners of the Healthy Start programme in England", BMC Public Health, http://dx.doi.org/10.1186/1471-2458-14-148.

McGinn, K.L. and K.L. Milkman (2013), "Looking up and looking out: Career mobility effects of demographic similarity among professionals". *Organization Science*, Vol. 24/4, pp. 1041-1060.

McIntosh, S. (2004), "The Impact of Vocational Qualifications on the Labour Market Outcomes of Low- Achieving School-Leavers" *CEP Discussion Paper* No 621

McKenzie, E. (2016), "The relationships between the rise of private communities and increasing socioeconomic stratification", in: McCarthy, G.W., G.K. Ingram and S.A. Moody (eds.), *Land and the City, Proceedings of the 2014 Land Policy Conference*, Lincoln Institute.

Melhuish, E. (2016), "Longitudinal research and early years policy development in the UK". *International Journal of Child Care and Education Policy*, Vol. 10/1, pp. 3.

Mincer, J. (1988), Job Training, Wage Growth, and Labor Turnover, National Bureau of Economic Research, Cambridge, MA, http://dx.doi.org/10.3386/w2690.

Murphy, R. and G. Wyness (2016), Testing Means-Tested Aid, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2866923 (accessed on 21 November 2017).

Mountford-Zimdars, A., J. Moore and J. Graham (2016), "Is contextualised admission the answer to the access challenge?", *Perspectives: Policy and Practice in Higher Education*, Vol. 20/4, pp. 143-150, https://doi.org/10.1080/13603108.2016.1203369.

Neumark, D. and H. Simpson (2014), Place-based Policies: National Bureau of Economic Research

Nielsen, H.S., T. Sørensen and C. Taber (2010), "Estimating the effect of student aid on college enrollment: Evidence from a government grant policy reform". *American Economic Journal: Economic Policy*, Vol. 2/2, pp. 185-215.

Nies, G. and R. Pedersini (2003), Freelance journalists in the European media industry. European Federation of Journalists.

Niimi, Y. (2016), To Avoid or Not to Avoid Inheritance Taxes? That Is the Question for Parents: Empirical Evidence from Japan.

Nolan, B., G. Esping-Andersen, C.T. Whelan, B. Maitre and S. Wagner (2010), The role of social institutions in inter-generational mobility.

OECD (2010a), *Obesity and the Economics of Prevention: Fit not Fat*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264084865-en.

OECD (2010b), *Closing the Gap for Immigrant Students: Policies, Practice and Performance,* OECD Reviews of Migrant Education, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264075788-en.

OECD (2012), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264130852-en .

OECD (2013a), *PISA 2012 Results: Excellence through Equity (Volume II): Giving Every Student the Chance to Succeed*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264201132-en.

OECD (2013b), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264204256-en.

OECD (2014a), *Society at a Glance 2014: OECD Social Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/soc_glance-2014-en.

OECD (2014b), "How is Equity in Resource Allocation Related to Student Performance?", *PISA in Focus*, No. 44, OECD Publishing, Paris. http://dx.doi.org/10.1787/5jxvl3zwbzwg-en.

OECD (2014c), *Mental Health and Work: Netherlands*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264223301-en.

OECD (2015a), *In It Together: Why Less Inequality Benefits All*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264235120-en

OECD (2015b), *Health at a Glance 2015: OECD Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/health_glance-2015-en.

OECD (2015c), *Back to Work: Canada: Improving the Re-employment Prospects of Displaced Workers, Back to Work*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264233454-en.

OECD (2015d), *OECD Employment Outlook 2015*, OECD Publishing, Paris, http://dx.doi.org/10.1787/empl_outlook-2015-en.

OECD (2015e), "Activation policies for more inclusive labour markets", in *OECD Employment Outlook 2015*, OECD Publishing, Paris, http://dx.doi.org/10.1787/empl_outlook-2015-7-en.

OECD (2015f), *OECD Economic Surveys: Italy 2015*, OECD Publishing, Paris.http://dx.doi.org/10.1787/eco_surveys-ita-2015-en.

OECD (2015g), *All on Board: Making Inclusive Growth Happen*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264218512-en.

OECD (2015h), *Investing in Youth: Latvia*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264240407-en.

OECD (2015i), *OECD Economic Surveys: Chile 2015*, OECD Publishing, Paris. http://dx.doi.org/10.1787/eco_surveys-chl-2015-en.

OECD (2015j), *Fit Mind, Fit Job: From Evidence to Practice in Mental Health and Work, Mental Health and Work*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264228283-en.

OECD (2016a), "Who uses childcare? Background brief on inequalities in the use of formal early childhood education and care (ECEC) among very young children."

OECD (2016b), *Investing in Youth: Australia*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264257498-en.

OECD (2016c), *Society at a Glance 2016: OECD Social Indicators*, OECD Publishing, Paris.http://dx.doi.org/10.1787/9789264261488-en.

OECD (2016d), *Supporting Teacher Professionalism Insights from TALIS 2013,* OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264248601-en.

OECD (2016e), *Back to Work: United States: Improving the Re-employment Prospects of Displaced Workers, Back to Work*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264266513-en.

OECD (2016f), *Back to Work: Denmark: Improving the Re-employment Prospects of Displaced Workers, Back to Work*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264267503-en.

OECD (2016g), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264258051-en.

OECD (2016h), "New Forms of Work in the Digital Economy", *OECD Digital Economy Papers,* No. 260, OECD Publishing, Paris.DOI: http://dx.doi.org/10.1787/5jlwnklt820x-en.

OECD (2016i), "Skills for a Digital World", Policy Brief on the Future of Work. https://www.oecd.org/els/emp/Skills-for-a-Digital-World.pdf.

OECD (2016j), Labour Ministerial Council Meeting, Paris, 1-2 June 2016.

OECD (2016k), Making Cities Work for All: Data and Actions for Inclusive Growth, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264263260-en.

OECD (2016l), *OECD Regional Outlook 2016: Productive Regions for Inclusive Societies*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264260245-en.

OECD (2017a), Obesity Update, OECD Publishing, Paris. https://www.oecd.org/els/health-systems/Obesity-Update-2017.pdf.

OECD (2017b), *The Pursuit of Gender Equality: An Uphill Battle*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264281318-en

OECD (2017c), *Educational Opportunity for All: Overcoming Inequality throughout the Life Course*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264287457-en.

OECD (2017d), *Catching Up? Intergenerational Mobility and Children of Immigrants*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264288041-en

OECD (2017e), *OECD Employment Outlook 2017*, OECD Publishing, Paris, http://dx.doi.org/10.1787/empl_outlook-2017-en

OECD (2017f), *Getting Skills Right: Good Practice in Adapting to Changing Skill Needs: A Perspective on France, Italy, Spain, South Africa and the United Kingdom*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264277892-en.

OECD (2017g), *Economic Surveys: Portugal 2017*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_surveys-prt-2017-en.

OECD (2017h), *Financial Incentives for Steering Education and Training*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264272415-en

OECD (2017i), "Basic income as a policy option: Can it add up?", Policy brief on the future of work, No. May, https://www.oecd.org/els/emp/Basic-Income-Policy-Option-2017.pdf (accessed on 14 September 2017).

OECD (2018a), *OECD Economic Surveys: Chile*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_surveys-chl-2018-en.

OECD (2018b), *The Role and Design of Net Wealth Taxes in the OECD*, OECD Tax Policy Studies, No. 26, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264290303-en.

OECD (2018c), *Taxation of Household Savings*, OECD Tax Policy Studies, No. 25, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264289536-en.

OECD (2018d), *Towards Better Social and Employment Security in Korea*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264288256-en.

OECD (forthcoming), *Employment Outlook 2018*, OECD Publishing, Paris.

ONPV (2016), Rapport de l'Observatoire National de la Politique de la Ville, 2016.

Pacifico (2017a), Faces of Joblessness In Italy: Main results and policy inventory.

Pacifico (2017b), Faces of Joblessness In Lithuania: Main results and policy inventory.

Pager, D. and B. Western, B. (2012). "Identifying discrimination at work: The use of field experiments". *Journal of Social Issues*, Vol. 68/2, pp. 221-237.

Parent, D. (1999), "Wages and Mobility: The Impact of Employer-Provided Training", i, Vol. 17/2, pp. 298-317, http://dx.doi.org/10.1086/209922.

Pavlopoulos, D., R. Muffels and J. Vermunt (2009), "Training and Low-pay Mobility: The Case of the UK and the Netherlands", *LABOUR*, Vol. 23/s1, pp. 37-59, http://dx.doi.org/10.1111/j.1467-9914.2008.00438.x.

Pekkarinen, T. et al. (2009), "School tracking and intergenerational income mobility: Evidence from the Finnish comprehensive school reform". *Journal of Public Economics*, Vol. 93/7-8, pp. 965-973.

Petitclerc, A., S. Côté, O. Doyle, M. Burchinal, C. Herba, H.D. Zachrisson, ... and H. Raat (2017), "Who uses early childhood education and care services? Comparing socioeconomic selection across five western policy contexts". *International Journal of Child Care and Education Policy*, Vol. 11/1, p. 3.

Piquero, A.R. et al. (2009), "Effects of early family/parent training programs on antisocial behavior and delinquency". *Journal of Experimental Criminology*, Vol.5/2, pp. 83-120.

Porro, G. and V. Salis (2017), "Do local subsidies to firms create jobs? Counterfactual evaluation of an Italian regional experience". *Papers in Regional Science*.

Prieto, J. and I. Brain (2017), "Neighborhood effect on poverty dynamics in the city of Santiago, Chile".

Prost, C. (2013), "Teacher Mobility: Can Financial Incentives Help Disadvantaged Schools to Retain Their Teachers?", *Annals of Economics and Statistics,* Vol. 111/112, p. 171, http://dx.doi.org/10.2307/23646330.

Reagan A.B. and N. Duchovny (2016), "State Earned Income Tax Credits and the Production of Child Health: Insurance Coverage, Utilization, and Health Status," *National Tax Journal*, Vol. 69/1, pp. 103-132.

Reardon, S. and K. Bischoff (2011), "Income Inequality and Income Segregation", *American Journal of Sociology*, Vol. 116/4, pp. 1092-1153, http://dx.doi.org/10.1086/657114.

Rhodes, J.E. (2008), "Improving Youth Mentoring Interventions Through Research-based Practice". *American Journal of Community Psychology*, Vol. 41/1-2, pp. 35-42.

Rivera, L. and A. Tilcsik (2016), "Class Advantage, Commitment Penalty", *American Sociological Review*, Vol. 81/6, pp. 1097-1131, http://dx.doi.org/10.1177/0003122416668154.

Robling, M. et al. (2015), "The Building Blocks Trial Executive Summary Chief Investigator Evaluating the Family Nurse Partnership programme in England: The Building Blocks randomised controlled trial".

Rodrigue, E. and R.V. Reeves (2016), Four ways occupational licensing damages social mobility, Social Mobility Memos, Brookings, https://www.brookings.edu/blog/social-mobility-memos/2016/02/24/four-ways-occupational-licensing-damages-social-mobility/.

Roder, A. and M. Elliott (2014), Sustained gains: Year Up's continued impact on young adults' earnings. Technical report, Economic Mobility Corporation.

Rosenbaum, J.E. et al. (2015). "Beyond BA Blinders: Cultural Impediments to College Success". In *The Cultural Matrix: Understanding Black Youth*. Harvard University Press.

Ruhm, C., and J. Waldfogel (2012), "Long-term effects of early childhood care and education". *Nordic Economic Policy Review*, Vol. 1/1, pp. 23-51.

Salvi Del Pero, A., W. Adema, V. Ferraro and V. Frey (2016), "Policies to promote access to good-quality affordable housing in OECD countries". *OECD Social, Employment and Migration Working Papers*, No. 176, OECD Publishing, Paris, http://dx.doi.org/10.1787/5jm3p5gl4djd-en.

Sander, R.H. (1997)," Experimenting with class-based affirmative action". *Journal of legal education*, Vol. 47/4, pp. 472-503.

Sander, R.H. (2004), A systemic analysis of affirmative action in American law schools. *Stan. L. Rev.*, Vol. 57, p. 367.

Sandstrom, H. and S. Huerta (2013), The negative effects of instability on child development: A research synthesis. Low-income working families discussion paper, p. 3.

Sawhill, I. et al. (2012), Middle childhood success and economic mobility. Washington, DC: Centers on Children and Families at Brookings Institute.

Scharle A. and M. Csillag (2015), Disability and Labour Market Intergration, Analytical Paper, European Commission.

Schmid, G. (2016), "Flexible and Secure Labour Market Transitions: Towards Institutional Capacity Building in the Digital Economy" (No. 116). Institute for the Study of Labor (IZA).

Schochet, P.Z., J. Burghardt and S. McConnell (2008), "Does job corps work? Impact findings from the national job corps study". *American Economic Review*, Vol. 98/5, pp. 1864-86.

Seftor, N. and S. Turner (2002), "Back to School: Federal Student Aid Policy and Adult College Enrollment", *The Journal of Human Resources*, Vol. 37/2, p. 336, http://dx.doi.org/10.2307/3069650.

Shuey, E.A. and M. Kankaras (forthcoming), "The Power and Promise of Early Learning", *OECD Working paper*, OECD Publishing, Paris.

Skaggs, S., K. Stainback and P. Duncan (2012), "Shaking things up or business as usual? The influence of female corporate executives and board of directors on women's managerial representation". *Social Science Research*, Vol. 41/4, pp. 936-948.

Snellman, K. et al. (2015), "The Engagement Gap", *The ANNALS of the American Academy of Political and Social Science*, Vol. 657/1, pp. 194-207, http://dx.doi.org/10.1177/0002716214548398.

Social Mobility Commission (2014), State of the nation 2014: social mobility and child poverty in Great Britain. HM Government, London.

Social Mobility Commission (2016), State of the Nation 2016, London.

Solon, G. (2004), A model of intergenerational mobility variation over time and place. Generational income mobility in North America and Europe, pp. 38-47.

Spinath, B. and F. Spinath (2005), "Development of self-perceived ability in elementary school: The role of parents' perceptions, teacher evaluations, and intelligence", *Cognitive Development*, Vol. 20, pp. 190−204.

Spencer, R.A. and K.A. Komro (2017), "Family economic security policies and child and family health". *Clinical child and family psychology review*, Vol. 20/1, pp. 45-63.

Susin, S. (2002), "Rent vouchers and the price of low-income housing". *Journal of Public Economics*, Vol. 83/1, pp. 109-152.

Tiberj, V. (2011), "Sciences Po, dix ans après les Conventions Education Prioritaire", https://hal-sciencespo.archives-ouvertes.fr/hal-01064424/ (accessed on 23 November 2017).

Tremblay, R.E. (2000), "The development of agressive behaviour during childhood: What have we learned in the past century?". *International journal of behavioral development,* Vol. 24/2, pp. 129-141.

van Huizen, T. and J. Plantenga (2015), "Universal Child Care and Children's Outcomes : A Meta-Analysis of Evidence from Natural Experiments", Discussion Paper Series / Tjalling C. Koopmans Research Institute, Vol. 15/13, https://dspace.library.uu.nl/handle/1874/324613 (accessed on 22 November 2017).

Vandenbroucke, F. and K. Vleminckx (2011), "Disappointing poverty trends: is the social investment state to blame?", *Journal of European Social Policy*, Vol. 21/5, pp. 450-471, http://dx.doi.org/10.1177/0958928711418857.

M.E.S.R.I. (2017), Livre blanc de l'enseignement supérieur et de la recherche 2017, Ministère de l'éducation nationale, de l'enseignement supérieur et de la recherche, Paris.

Unedic (2017), L'essentiel pour comprendre ce qui change en 2017, References.

Van Ham, M. et al. (2012), "Neighbourhood effects research: New perspectives". In *Neighbourhood effects research: New perspectives* (pp. 1-21). Springer, Dordrecht.

Vance, J.D. (2016), *Hillbilly elegy*. Harper Collins, New York.

Virén, M. (2011), Does housing allowance feed through into rental prices?

Waldfogel, J. and K. Stewart (2017), "CLOSING GAPS EARLY The role of early years policy in promoting social mobility in England".

Walters, E., C. Warren and M. Dobbie (2006), The Changing Nature of Work: A global survey and case study of atypical work in the media industry. International Federation of Journalists.

Wicks-Lim, J. and P.S. Arno, P. S. (2017). "Improving population health by reducing poverty: New York's Earned Income Tax Credit". *SSM-population health*, Vol. 3, pp. 373-381.

Williams, D.R. et al. (2008), Moving upstream: how interventions that address the social determinants of health can improve health and reduce disparities. *Journal of public health management and practice: JPHMP*, Vol. 14(Suppl), S8.

Woolfson, L. and J. King (2008), Evaluation of the extended pre-school provision for vulnerable two year olds pilot programme-Final report. The Scottish Government.

Windisch, H. (2015), "Adults with low literacy and numeracy skills: A literature review on policy intervention", *OECD Education Working Papers*, No. 123, OECD Publishing, Paris, http://dx.doi.org/10.1787/5jrxnjdd3r5k-en.

World Health Organization. (2007), Fatherhood and health outcomes in Europe. http://apps.who.int/iris/bitstream/10665/108571/1/E91129.pdf.

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