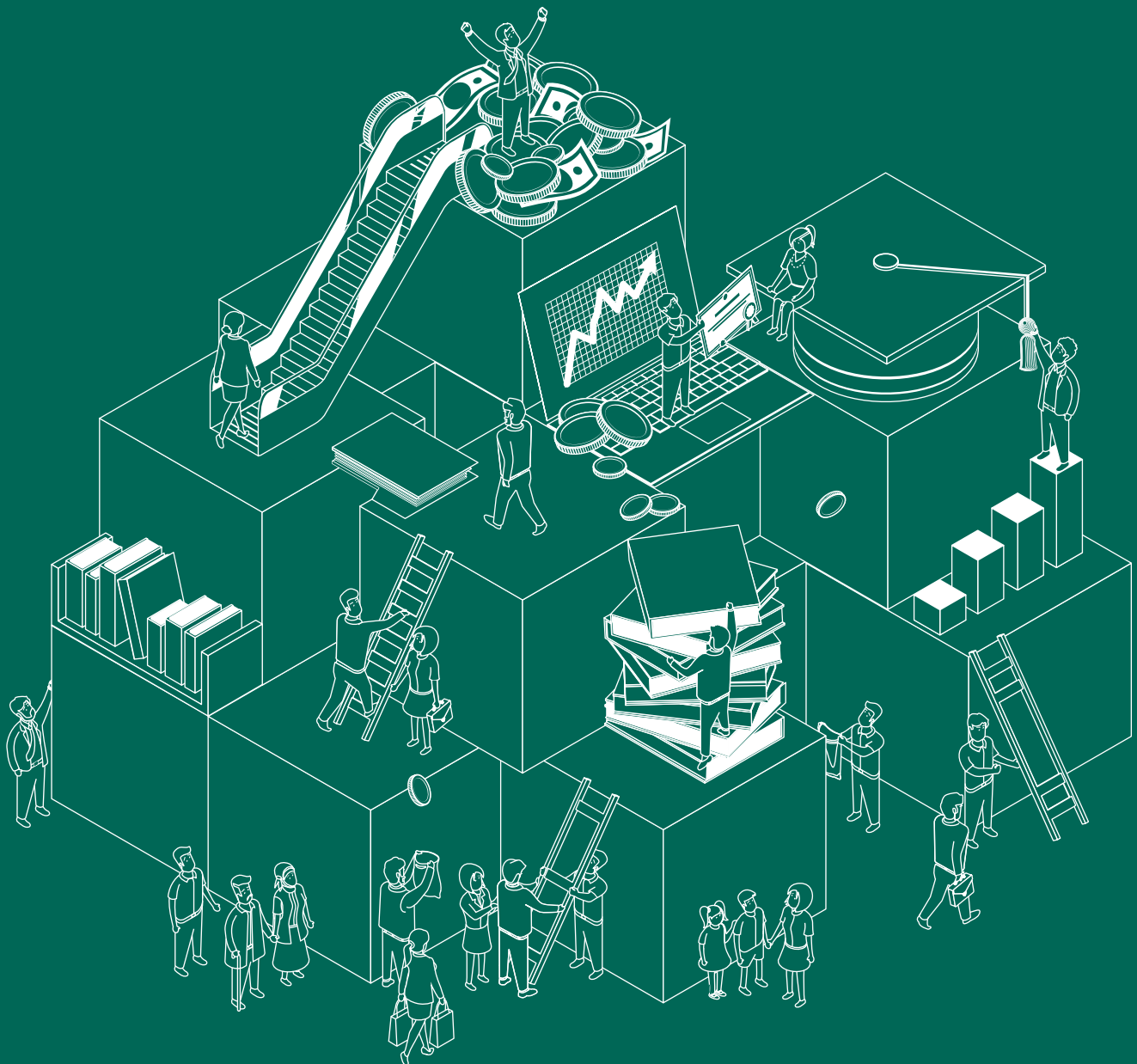


INEQUALITY OF OPPORTUNITY



31%

AVERAGE EARNINGS PREMIUM FOR PEOPLE IN THE REGION WITH UNIVERSITY DEGREES

68%

OF INEQUALITY OF OPPORTUNITY IN POLAND IS DUE TO PARENTAL BACKGROUND

IN EBRD RECIPIENT COUNTRIES

16%

OF INEQUALITY OF OPPORTUNITY IS DUE TO PLACE OF BIRTH

AROUND

60%

OF JOBS IN THE REGION CAN BE CLASSIFIED AS "GOOD JOBS"

In a well-functioning market economy, opportunities to receive an education, have a good job and earn sufficient income should not be limited on the basis of a person's gender, race, place of birth or parental background. Inequality of opportunity in the EBRD region in terms of education, jobs and income remains higher than in western Europe, but is lower than in Brazil, India and the United States of America. Parental background is the most important determinant of inequality of opportunity across the region, followed by gender. Meanwhile, inequality of opportunity is higher in terms of getting a good job than it is in terms of getting a job in general. And in countries where inequality of opportunity is high, people express less support for market economics and democracy.

Introduction

Inequality of opportunity lies at the very heart of discussions about inequality and social welfare. It occurs when people living in the same society do not have access to the same opportunities. High levels of inequality of opportunity mean that people's circumstances at birth – their gender, the place where they were born, their ethnicity or their parental background – determine to a significant degree the educational qualifications they obtain, the type of job they get and, ultimately, their level of earnings. Inequality of opportunity is thus widely regarded as the unfair part of inequality. Equality of opportunity does not mean eliminating all differences in terms of educational qualifications or levels of income; rather, it means that such differential achievements reflect people's differing levels of effort, as well as choices freely made by individuals at different stages of their lives.¹

Inequality of opportunity is inefficient, because it prevents people from making the best use of their skills or realising their entrepreneurial ideas. This may negatively affect economic growth in the long term and trap a country on a path of increasing income and wealth inequality.² The adverse impact of inequality of opportunity may be even greater where, in times of fast technological change, whole sections of the population are

unable to acquire the new skills needed for – and share the benefits associated with – technological innovation.³

Unequal access to opportunities may also lead to a loss of confidence in the key economic and political institutions that underpin society and the market-based economic system as a whole. This, in turn, can result in the reversal of reforms and significant economic costs. More broadly, the concept of equality of opportunity is rooted in a Rawlsian philosophical tradition whereby people are expected to construct society in such a way that they would be happy for their place in society to be determined by a random draw.⁴

This chapter estimates inequality of opportunity in the EBRD region in terms of people's incomes, their jobs, the quality of their jobs and their level of educational attainment. This analysis is based on the third round of the *Life in Transition Survey* (LiTS III), which was conducted by the World Bank and the EBRD in the second half of 2015 and the first half of 2016. These estimates complement the results presented in the *Transition Report 2013*, which were based on LiTS II (which was conducted in 2010).

LiTS III data show that inequality of opportunity remains higher in the EBRD region than it is in western European comparator countries such as Germany. Parental background is the key circumstance influencing inequality of opportunity, followed by gender and place of birth. Inequality of opportunity is also strongly correlated with inequality of observed incomes: in all countries with high levels of inequality of opportunity, income inequality is also high. Inequality of opportunity is substantially higher in terms of getting a good job that provides financial security than it is in terms of getting a job in general. Moreover, inequality of opportunity with respect to tertiary education is higher among younger people (those who started school after 1989) than it is among older people (those who started school before the fall of the Berlin Wall).

Importantly, high levels of inequality of opportunity in society are associated with lower levels of support for the market economy and democracy. This remains true even when income inequality is taken into account.

The rest of the chapter is structured as follows. It begins by looking at inequality of opportunity across the EBRD region and key components such as gender and place of birth. It then turns its attention to inequality of opportunity at key junctures in a career, looking at the point at which a person obtains a university degree or gets a job. Lastly, it considers the impact that inequality of opportunity and people's perceptions of their own relative income have on support for market economics and democracy.

Inequality of opportunity in terms of income

An individual's income is determined by a number of factors: their level of effort, circumstances such as their gender or place of birth, and perhaps an element of luck. This section uses the LiTS III dataset to look at the relative importance of individual circumstances in terms of determining wages in the EBRD region. This analysis is based on individuals' self-reported incomes over

¹ See Roemer (1998), Fleurbaey (2008) and Ferreira and Peragine (2016).

² See Marrero and Rodríguez (2013) and Ferreira et al. (2014).

³ See Murphy and Topel (2016).

⁴ See Rawls (1971) and Dworkin (1981).

the last 12 months, which come from a variety of different types of employment – both formal and informal, and both permanent and seasonal. The average respondent is 42 years old and was born in an urban area. Fifty per cent of the sample are female, and 35 per cent have at least some tertiary education. Around a third of survey respondents (approximately 15,000 in total) answered the question about income, which represents three-quarters of those who reported having a job (see Chart 3.1).

Income inequality is typically measured using a Gini coefficient. This ranges from 0 (where income levels are the same for everyone) to 1 (where all the income goes to one person). There is a strong, statistically significant correlation between the Gini coefficients computed for each country on the basis of responses in LiTS III and those derived from official sources (with a correlation coefficient of around 0.7 being observed when comparing LiTS III responses with data from the World Bank's World Development Indicators). Income distributions in the LiTS III data are also representative of society-wide income differences (as can be seen by comparing income distributions derived from LiTS III and official sources).

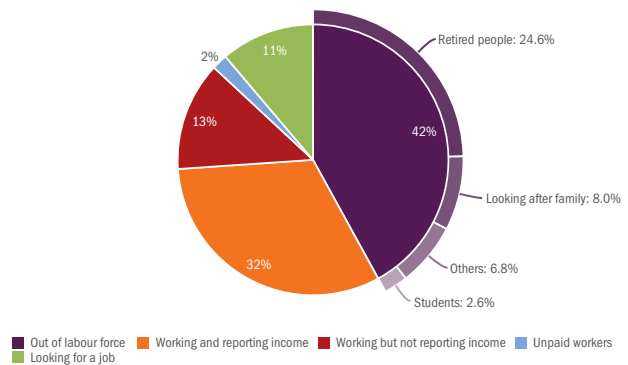
Gini coefficients can also be used to measure inequality of opportunity. First, regression analysis is used to explain individual incomes in each country on the basis of a number of individual circumstances at birth: gender, rural or urban place of birth, ethnicity, mother's and father's level of education, and parents' membership of the communist party. Predicted incomes based solely on these characteristics are then used to calculate a Gini coefficient. This coefficient captures the inequality of income that can be attributed to differences in circumstances at birth and thus measures inequality of opportunity (see Box 3.1 for details). This is always lower than the Gini coefficient for overall income inequality, since only part of income (and thus only part of income inequality) is explained by individual circumstances. The rest is explained by individual "efforts" – all the factors that lie within the sphere of individual responsibility – as well as circumstances that are not captured in this analysis.

Differences across the region

On average, inequality of opportunity in the EBRD region is higher than in western Europe (see left-hand axis of Chart 3.2), but much lower than in other emerging economies or the USA.⁵ In the USA, inequality of opportunity in terms of income is nearly twice the size of the average for the EBRD region; in India, it is more than three times the size of that average; and in Brazil, it is almost ten times the size.

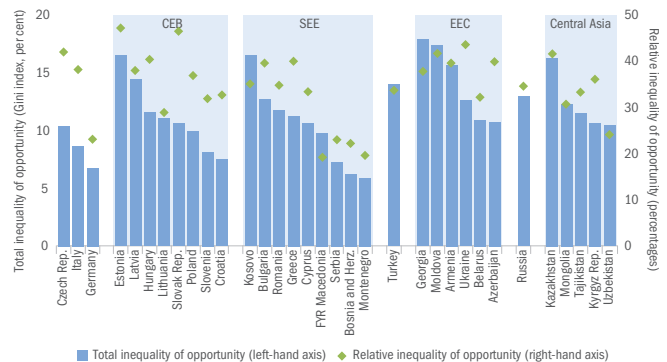
Inequality of opportunity also varies substantially across the EBRD region, often varying between neighbouring countries. Notably, inequality of opportunity is relatively high in several EU countries, which also have better developed economic and political institutions. The largest variation can be observed in south-eastern Europe (SEE), where Bosnia and Herzegovina, Montenegro and Serbia display some of the lowest levels (comparable to those seen in Germany), while inequality of opportunity in Bulgaria, Kosovo and Romania is estimated to be above the median for the EBRD region as a whole. Eastern

CHART 3.1. LiTS III respondents' labour force participation



Source: LiTS III.

CHART 3.2. Total inequality of opportunity in terms of income and relative inequality of opportunity



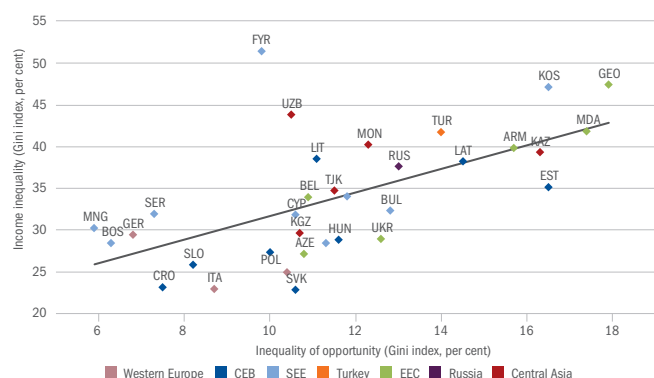
Source: LiTS III and authors' calculations.

33%
OF INCOME INEQUALITY IN
TURKEY IS ESTIMATED TO BE
DUE TO CHARACTERISTICS
SUCH AS PARENTS' LEVEL OF
EDUCATION, PLACE OF BIRTH
OR GENDER

⁵ Data for the USA, India and Brazil are taken from studies that use an alternative measure of inequality of opportunity – the mean log deviation (MLD). Use of the MLD does not entail changes to the way in which inequality of opportunity is interpreted, but results are on a different scale. The MLD takes a value of 0 where everyone has the same income and larger values as incomes become more unequal. The average MLD for the EBRD region is 0.024, compared with 0.04, 0.082 and 0.22 for the USA, India and Brazil respectively.

INEQUALITY OF OPPORTUNITY

CHART 3.3. Inequality of opportunity and income inequality



Source: LITS III and authors' calculations.
 Note: Gini coefficients have been calculated on the basis of winsorised income distributions (with the top and bottom 0.5 per cent being adjusted).

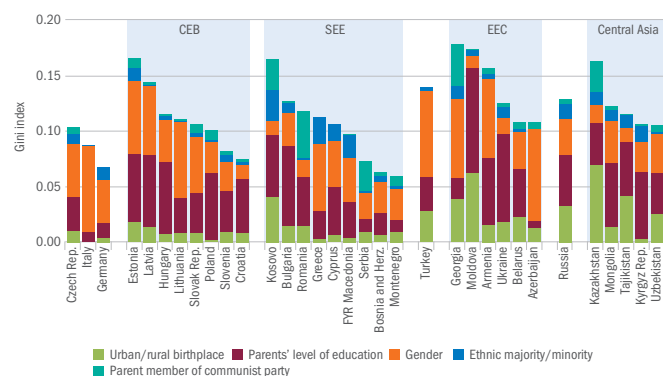
at birth is 0.14. This means that a third of total income inequality in Turkey is due to individual circumstances. In comparison, Germany's Gini coefficient for income inequality is 0.29, and its Gini coefficient for inequality of opportunity is 0.07, resulting in relative inequality of opportunity of 23 per cent – 10 percentage points less than in Turkey. In Italy and the Czech Republic, the two other comparator countries, relative inequality of opportunity is high at around 40 per cent. In Estonia, inequality of opportunity explains almost half of observed income inequality.

Inequality of opportunity and income inequality

Countries with high levels of inequality of opportunity also tend to have high levels of income inequality (see Chart 3.3). This relationship is stronger among countries with greater inequality and weaker for countries with less inequality. In particular, in Germany and several SEE countries, estimated inequality of opportunity is low relative to the Gini coefficient for income inequality.

Remarkably, there are no cases where a country with high levels of inequality of opportunity enjoys moderate or low levels of income inequality. In contrast, there are a few rare instances (FYR Macedonia, for example) where inequality of opportunity is relatively low, but income inequality is still high. This suggests that inequality of opportunity establishes a floor – but not necessarily a ceiling – for income inequality.

CHART 3.4. Shapley decompositions of total inequality of opportunity in terms of income



Source: LITS III and authors' calculations.
 Note: This chart indicates the percentage of the variation in income in each country that is explained by five individual circumstances. The relative contributions of these five circumstances are calculated using Shapley decompositions.

Which circumstances matter?

The relative contributions that specific circumstances such as gender or place of birth make to overall inequality of opportunity also vary greatly across regions and countries. The bars in Chart 3.4 show total inequality of opportunity, as in Chart 3.2, while the different colours correspond to the contributions made by each circumstance. In Poland, for example, parental background (parents' level of education and membership of the communist party) is responsible for 68 per cent of total inequality of opportunity, gender accounts for a further 27 per cent, and place of birth and ethnicity account for 3 and 2 per cent respectively.

A large percentage of inequality of opportunity can be traced back to a person's parental background. This accounts for more than 50 per cent of overall inequality of opportunity in a third of the countries where the EBRD invests and is important in almost all other countries.

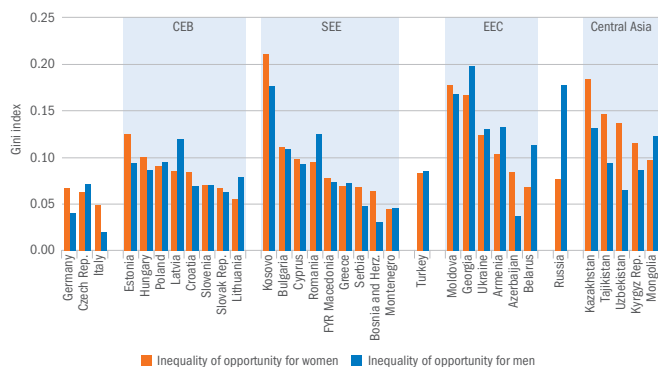
Gender tends to be the second most important factor, explaining between a quarter and half of overall inequality of opportunity in most countries. Inequality of opportunity also plays an important role in income inequality among women in the southern and eastern Mediterranean (SEMED; see Box 3.2).

A person's birthplace accounts for an average of 16 per cent of inequality of opportunity, and its impact is not always consistent. In Kosovo and Moldova, for instance, being born in a rural area is associated with a reduction in income of between 25 and 35 per cent. In Poland and the Kyrgyz Republic, meanwhile, the impact of a rural place of birth is negligible. In Poland, this may reflect good connectivity and labour mobility. And in the Kyrgyz Republic, it may be because urban areas do not offer the additional earning

Europe and the Caucasus (EEC) and Central Asia display more uniform regional trends, with relatively high levels of inequality of opportunity.

Inequality of opportunity in the EBRD region is also substantially higher than in Germany when expressed in relative terms (see right-hand axis of Chart 3.2). Relative inequality of opportunity represents the ratio of inequality of opportunity to total income inequality. For example, Turkey's Gini coefficient for income inequality is 0.42, while its Gini coefficient for the predicted income distribution based on individual circumstances

CHART 3.5. Inequality of opportunity among men and women



Source: LiTS III and authors' calculations.

Note: This chart indicates the percentage of the variation in men's and women's incomes in each country that is explained by individual circumstances.

opportunities that rural areas do. Lastly, being part of an ethnic minority accounts for an average of only 7 per cent of total inequality of opportunity. That said, certain minorities (such as the Roma) may be particularly disadvantaged (see Box 3.3).

Inequality of opportunity among men and women

While men earn more on average, inequality of opportunity is at least as high among men as it is among women. Indeed, in the EEC region and Russia in particular, it tends to be higher for men than for women (see Chart 3.5). The estimates in Chart 3.5 were obtained by running separate income regressions for men and women in each country. In these regressions, place of birth in particular tends to be more important for men. These results may, in part, reflect greater variation in income and job opportunities for men relative to women.

Education and jobs

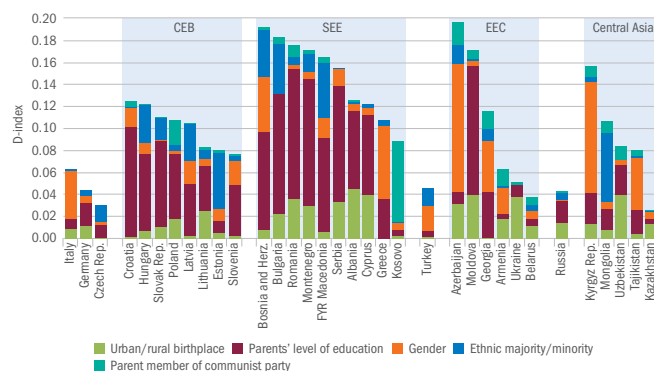
In order to better understand the drivers of unequal opportunities to earn income, it is useful to explore inequality of opportunity at key junctures in a person's career, such as the point at which a person obtains a tertiary degree, gets a job or gets a good job. At each of those points, individual circumstances may affect the opportunities available, and thus the choices made by individuals.

Getting a good job

Most survey respondents who want to work have a job. However, the quality of available jobs varies.⁶ On the basis of the LiTS III survey, a "good job" can be defined as one that provides a predictable income stream of sufficient size. Specifically, people with good jobs have a contract and indicate that their income is

⁶ Respondents are considered to be employed if they report having worked for money in the last 12 months. They are considered to be unemployed if they have not worked in the last 12 months but would like to work.

CHART 3.6. Inequality of opportunity in terms of getting any kind of job



Source: LiTS III and authors' calculations.

Note: Inequality of opportunity is calculated as a D-index, based on a probit regression of the binary employment variable on individual circumstances.

sufficient to cover unexpected expenses in the order of US\$ 10 a day. Around 60 per cent of jobs in the LiTS III survey qualify as good jobs, while the remaining 40 per cent fail to provide adequate financial security. Predictably, the "good job" variable is strongly correlated with income and is thus an important measure of a successful career.

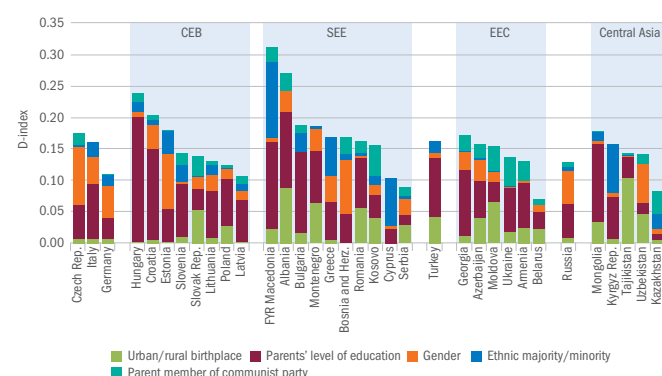
On average, inequality of opportunity is 50 per cent higher in terms of getting a good job than it is in terms of getting a job in general (see Charts 3.6 and 3.7) on the basis of the D-index measure (see Box 3.1 for a definition). In both cases, inequality of opportunity tends to be lower in countries with lower unemployment rates. Where unemployment is high, workers who are unjustly discriminated against do not have any leverage to make demands of employers, because it is relatively easy for employers to replace them. A decline in unemployment may therefore contribute to improvements in equality of opportunity.

Furthermore, high levels of inequality of opportunity in terms of getting a good job (as opposed to getting a job in general) are linked to greater differences between male and female labour force participation rates. This suggests that women are less likely to participate in the labour force in countries where access to good jobs is constrained by individual circumstances. Women who bear the burden of caring for children and sick relatives may require jobs with greater security and flexible working hours and may opt out of the labour force if such jobs are hard to obtain.⁷ This may also result in the role played by gender as a factor in inequality of opportunity being understated when measured among those men and women who do choose to be part of the labour force. Conversely, male labour force participation rates are lower in countries with higher levels of inequality of

⁷ See Bender et al. (2005) and Neyer (2006).

INEQUALITY OF OPPORTUNITY

CHART 3.7. Inequality of opportunity in terms of getting a good job



Source: LITS III and authors' calculations.

Note: Inequality of opportunity is calculated as a D-index, based on a probit regression of the binary employment variable on individual circumstances.

opportunity in terms of getting a job in general, which suggests that men are more likely to drop out of the labour force when it is hard to get any kind of job.

Parental background remains the most important factor determining the probability of having a good job – indeed, any kind of job. In almost all countries in the sample, parents' membership of the communist party is much more important for good jobs than it is for jobs in general, suggesting the persistence of networks dating back to pre-transition times. In western European comparator countries, this effect is predictably absent.

Education

Inequality in access to tertiary education is often seen as the first hurdle that countries must overcome in order to reduce inequality of opportunity. Returns to tertiary education are high in most countries, both within the EBRD region and globally. However, if access to education is limited or unfair, educational attainment can itself contribute substantially to overall income inequality. For example, since 1980, income gains in the USA have accrued almost exclusively to those with tertiary education. Meanwhile, lower-skilled workers in the USA have not seen real wage increases since 2003.⁸

In the EBRD region, the incomes of people with a tertiary degree are an average of 31 per cent higher than those of people who have completed only secondary education, according to the regression analysis reported in column 1 of Table 3.1. This is comparable to estimates for some western European countries, such as the Netherlands or Spain, but lower than the returns to education seen in the region in the early years of the transition process.⁹ These returns remain high, despite the fact that the percentage of people gaining tertiary degrees in the EBRD region

TABLE 3.1. Returns to tertiary education

Dependent variable: log of income	(1)	(2)
Respondent has completed tertiary education	0.309*** (0.017)	0.271*** (0.018)
Female	-0.249*** (0.013)	-0.253*** (0.013)
Age	0.037*** (0.003)	0.036*** (0.003)
Age squared	-0.000*** (0.000)	-0.000*** (0.000)
Tertiary education completed before 1989	0.050* (0.027)	0.056** (0.028)
Born in urban area		0.097*** (0.015)
Father has tertiary degree		0.075*** (0.020)
Parent was member of communist party		0.075*** (0.020)
Constant	10.232*** (0.067)	10.184*** (0.069)
Country fixed effects?	Yes	Yes
No. of observations	15,350	14,753

Source: LITS III and authors' calculations.

Note: Estimated using ordinary least squares. Standard errors are reported in parentheses. *, ** and *** denote values that are statistically significant at the 10, 5 and 1 per cent levels respectively.

has risen since 1989, and despite persistent skills mismatches (see Box 3.4).¹⁰ Moreover, tertiary degrees obtained prior to 1989 do not appear to have a lower value. Women's pay is an average of around 25 per cent lower than men's. Similar results are observed when individual circumstances are taken into account (see column 2 of Table 3.2). The coefficient for tertiary education declines by only 4 percentage points, showing that most of the returns stem from having the degree itself, rather than circumstances that make completion of university education more likely.

⁸ See Goldin and Katz (2007) and Acemoglu and Autor (2011).

⁹ See Badescu et al. (2011) and Bartolj et al. (2013).

¹⁰ See Barro and Lee (2013).

Market liberalisation has had a profound impact on the education systems of former communist countries. First of all, tertiary education has gone from being universally free to often entailing a significant cost. Even where education remains nominally free, scholarships covering the cost of living, which were generous prior to the transition process, have effectively been phased out, resulting in large increases in the opportunity cost of being a student. Second, what was previously a strong and closely controlled link between tertiary education and jobs has effectively disappeared. Third, the transition process has placed a premium on new skills.

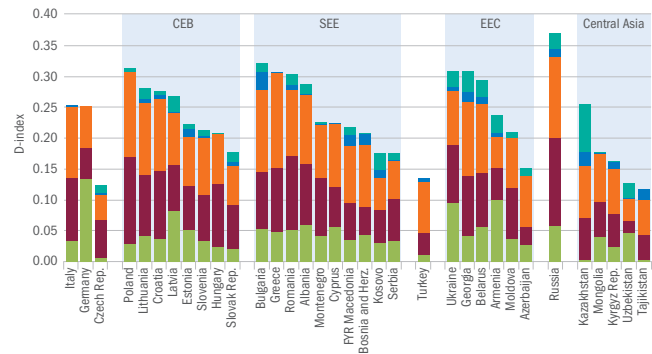
Consequently, when studying inequality of opportunity with respect to education, it is interesting to distinguish between younger cohorts – those whose education began after 1989 – and older cohorts. Those younger cohorts would have had the option to embark on tertiary education in the early 2000s, by which point those education systems had largely been reformed and many SEE countries and central European and Baltic (CEB) countries had stronger prospects of EU membership.¹¹

Again, the majority of inequality of opportunity in terms of education is attributable to a person's parental background (see Chart 3.8). The father's level of education typically explains up to two-thirds of all inequality in educational attainment. Being born in a rural area is also an important factor in educational attainment, accounting for an average of nearly 20 per cent of estimated inequality of opportunity. Meanwhile, parents' membership of the communist party plays a small but meaningful role across countries.

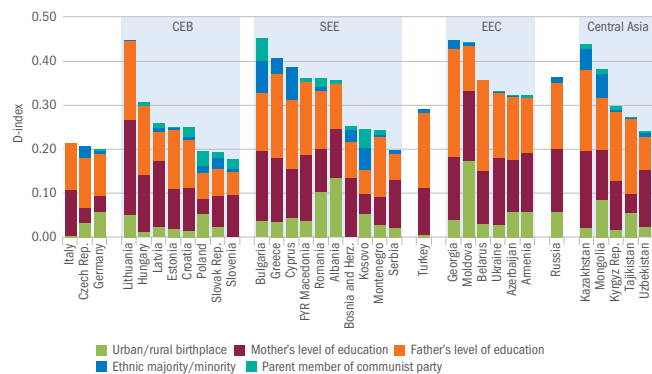
Importantly, individual circumstances matter more for younger cohorts than they do for older cohorts. Of particular note is the increased role of parental background for younger cohorts. This increased dependence on parents' level of education can be explained by the fact that parents with tertiary education gained more from the transition process than other people, as manufacturing jobs not requiring a university degree had a relatively high status prior to transition.¹² Those highly educated parents were then in a better position to send their children to university and cover the associated costs (in terms of university fees and/or paying for children's living expenses). In contrast, the importance of parents' communist party membership has halved. Lastly, it should be noted that the importance of the father's level of education has not increased for younger cohorts in Greece, Italy and Turkey, which have not undergone the same kind of transformation.

CHART 3.8. Inequality of opportunity in terms of tertiary education: breakdown by age

Panel A: Older cohorts



Panel B: Younger cohorts



Source: LITS III and authors' calculations.

Note: These charts show a D-index of inequality of opportunity, based on a probit regression of the variable indicating the completion of some form of tertiary education on individual characteristics.

IN
25
OUT OF 34 COUNTRIES
YOUNG WOMEN ARE MORE
LIKELY TO HAVE A UNIVERSITY
DEGREE THAN YOUNG MEN

¹¹ See Guriev and Zhuravskaya (2009) and Brunello et al. (2010) for a discussion of this issue.

¹² See Münich et al. (2005), Brunello et al. (2010) and Chase (1998) for a more detailed description of the impact that the transition process has on returns to education.

INEQUALITY OF OPPORTUNITY

In contrast with the situation observed for income and jobs, women are more likely to obtain tertiary degrees than men. Moreover, this “reverse gender gap” is more prevalent in younger cohorts (where it is observed in 25 of the 34 countries under examination). This may reflect women’s intrinsic preference for studying, or it may be a result of inequality of opportunity in the labour market that leads women to select jobs that require higher levels of education. Women may also have fewer good job opportunities if they lack a university degree. Between 1979 and 2007, women in the USA who had not obtained a university degree experienced dramatic declines in their employment rates for middle-skill occupations. In contrast, their male counterparts experienced much smaller declines.¹³ Thus, underlying inequalities in the labour market could partly explain why women are more likely to embark on tertiary education.

The overall results for inequality of opportunity across its various dimensions are summarised in Table 3.2. They show that parents’ level of education is consistently the key driver of inequality of opportunity in the region.

Individual perceptions

One potentially important consequence of high levels of inequality of opportunity is a reduction in support for market-oriented reforms and democracy. Inequality of opportunity can have a direct impact on policy preferences, as people have a preference for fair processes when it comes to income. In particular, people tend to be more accepting of differences in outcomes if the procedure that determines the outcome is either unbiased (as in the case of a coin toss) or reflects effort.¹⁴ Likewise, people will reduce their support for policies that are viewed as unfair. For example, some people tend to express dissatisfaction with the results of privatisation because they think it was done in an unfair manner, not necessarily because they have an inherent dislike of private ownership.¹⁵ Perceptions of fairness were also correlated with inequality of opportunity in terms of employment and wealth in LiTS I and II.¹⁶

Inequality of opportunity can also influence policy preferences indirectly, through its impact on the way people perceive their own well-being relative to that of their peers. People who perceive themselves to be the losers of the reform process judge their success against the perceived winners and may not be able to estimate the extent of their losses objectively.¹⁷ In fact, it is people’s perception of their own economic situation that matters most when it comes to support for government policies, and this perception may, to a significant extent, be influenced by people’s views of opportunities open to them – more so than by average measures of economic performance such as output or unemployment.

LiTS III can shed light on these direct and indirect channels, as the survey includes several questions about individuals’ support for the market economy and democracy. Respondents are also asked where they think they sit on their country’s “income ladder” – whether they think their household is in the poorest decile,

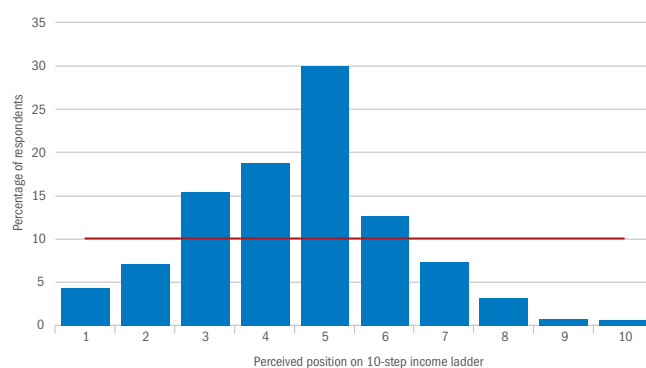
TABLE 3.2. Average estimates of inequality of opportunity and the role of individual circumstances

	Tertiary education	Job of any kind	Good job	Income
Overall inequality of opportunity	0.25	0.11	0.16	0.12
Average share of inequality of opportunity explained by each circumstance				
Parents’ level of education	0.74	0.40	0.43	0.37
Urban/rural birthplace	0.18	0.18	0.18	0.16
Gender	N/A	0.20	0.16	0.33
Ethnic majority/minority	0.03	0.14	0.12	0.06
Parent member of communist party	0.05	0.08	0.12	0.08

Source: LiTS III and authors’ calculations.

Note: Averages across the EBRD region. Inequality of opportunity in terms of tertiary education, jobs of any kind and good jobs is calculated using a D-index. Inequality of opportunity in terms of income is calculated as a Gini coefficient.

CHART 3.9. Respondents’ perception of their own position in the income distribution



Source: LiTS III.

¹³ See Autor (2010).

¹⁴ See Bolton et al. (2005) and Saito (2013).

¹⁵ See Denisova et al. (2007).

¹⁶ See Abras et al. (2013) and Brock (2016).

¹⁷ See Bloom and Price (1975) and Tversky and Kahneman (1991).

the second-poorest decile, and so on. If people perceive their relative incomes accurately, the distribution of responses across deciles will be roughly uniform.

In reality, respondents have a disproportionate tendency to place their households among the poorer deciles (see Chart 3.9), and the distribution is far from uniform. (A uniform distribution would correspond to the horizontal line in the chart.)¹⁸ The bias towards the middle of the ladder seen in the histogram may be a result of limited information about the income distribution and mistaken beliefs about being average. The bias towards the middle is greater for the right-hand tail, indicating that people are more likely to underestimate – rather than overestimate – their relative position on the income ladder. This propensity to place oneself among the poorer deciles is also more pronounced in countries with higher levels of inequality of opportunity, meaning that inequality of opportunity has a negative impact on people's perception of their relative income.

People's perceptions of their own relative income and society-wide inequality of opportunity both affect support for the market economy (see Table 3.3, where the dependent variables take a value of 1 if the respondent believes that the market economy (or democracy) is always preferable to alternative systems and a value of 0 otherwise). Inequality of opportunity with respect to income, jobs and education has an additional negative impact on support for democracy. In other words, where the prevailing political regime fails to provide sufficiently equal access to education and jobs, people have less faith in political institutions.

Remarkably, the results hold even when inequality of income (measured by the Gini coefficient) is taken into account. In fact, the Gini coefficient for income inequality is positive. This suggests that, provided that increases in income inequality can be attributed to individual efforts, and not to differences in individual circumstances (which are taken into account separately in the same regression), support for the market economy and democracy may actually improve.

Lastly, people who place themselves higher up on the income ladder are more supportive of market economies. To some extent, this is to be expected, as these people are the relative winners in the transition process. However, this result holds when respondents' income, level of education and self-reported level of satisfaction with life are controlled for. In other words, people's perception of relative income has an additional impact on their support for the market economy that has contributed to their success. In contrast, individuals who believe their relative income to be lower than it actually is are less likely to support the market economy. This may be an additional indirect channel through which inequality of opportunity affects support for reforms, as inequality of opportunity is linked to individuals underestimating their relative position on the income ladder.¹⁹

TABLE 3.3. Inequality of opportunity and support for the market economy and democracy

	Support for the market economy		Support for democracy	
	(1)	(2)	(3)	(4)
Direct channels				
Inequality of opportunity: income	-7.553*** (2.767)	-7.277*** (2.738)	-7.441** (2.947)	-7.287** (2.925)
Inequality of opportunity: any kind of job	-3.702 (2.697)	-3.971 (2.633)	-7.834*** (2.490)	-7.928*** (2.486)
Inequality of opportunity: education	-2.144 (1.864)	-2.150 (1.843)	-4.733** (2.002)	-4.761** (1.985)
Indirect channel				
Perception of relative economic well-being		0.076*** (0.022)		0.034 (0.023)
Controls				
Income decile	0.042*** (0.011)	0.034*** (0.011)	0.041*** (0.011)	0.038*** (0.011)
Gini coefficient of income inequality	0.049* (0.025)	0.050** (0.025)	0.103*** (0.027)	0.103*** (0.027)
Unemployment (five-year average)	-0.034** (0.016)	-0.037** (0.015)	-0.029 (0.018)	-0.030* (0.017)
GDP growth (five-year average)	0.099* (0.052)	0.102* (0.053)	0.007 (0.049)	0.010 (0.049)
Level of democracy (Polity II)	0.065*** (0.022)	0.068*** (0.022)	0.076*** (0.021)	0.077*** (0.021)
Additional individual, region and country-level controls?	Yes	Yes	Yes	Yes
No. of observations	12,258	12,185	12,514	12,433

Source: LITS III, World Economic Outlook, World Development Indicators and authors' calculations.

Note: Estimated using a logistic model with fixed effects. The "perception of relative economic well-being" is the income decile where the respondent sees his/her household (with 1 corresponding to the poorest decile). Additional controls include gender, level of education, age, satisfaction with life, region dummies, country-level inflation and country-level GDP per capita. Income inequality relates to the latest available year. Standard errors are clustered at the country level and are shown in parentheses. *, ** and *** indicate statistical significance at the 10, 5 and 1 per cent levels respectively.

Conclusion

The transition to market economies was accompanied by expectations of greater and fairly distributed opportunities for all. These expectations have been only partially met. Levels of inequality of opportunity in the EBRD region are moderate on average. They are much lower than in other emerging economies and the USA, but they are still higher than in western Europe. Differences in circumstances at birth – such as parental background, gender, place of birth or ethnicity – account for between 20 and 50 per cent of income inequality in many countries in the region. Moreover, countries with higher levels of inequality of opportunity also have high levels of income inequality.

Modest levels of inequality of opportunity among wage earners may conceal high barriers preventing entry to formal employment for certain groups of people. In fact, inequality

¹⁸ Kolmogorov-Smirnov tests confirm a lack of uniformity in all countries.

¹⁹ The results hold if each correlation is considered in a separate regression, though the statistical significance of the coefficients is lower in some specifications.

INEQUALITY OF OPPORTUNITY

of opportunity in terms of getting a job in the EBRD region is higher than in western Europe – and similar to the inequality of opportunity observed in terms of income. This means that, from the perspective of an unemployed person, inequality of opportunity in terms of income looms much larger owing to the limited opportunities to overcome that first obstacle and get a job. Furthermore, inequality of opportunity in terms of getting a good job – one which results in financial security – is significantly higher than inequality of opportunity in terms of getting a job in general (and the two are positively correlated). Policies that engage with people at various stages in their careers may be successful in limiting this gap. Firms can also contribute by advertising job openings widely, encouraging network-building among employees and providing clear paths for promotion.

Of the various circumstances that explain inequality of opportunity in the EBRD region, parental background is the strongest driver. Parents' level of education plays a particularly important role in determining children's level of education. This, in turn, affects labour market outcomes and income levels. Inequality of opportunity in terms of obtaining a university degree has risen among younger cohorts, which means that the link between parents' and children's education is of fundamental concern as regards reducing inequality of opportunity for future generations. Improving access to tertiary education through targeted scholarship programmes and working to improve public primary and secondary education are two ways of doing this.

Parents' communist party membership is still a factor in labour market outcomes, perhaps reflecting the strength and persistence of elite networks. However, in contrast to the effect of parent's level of education, the impact of communist party membership may be gradually decreasing, with a smaller effect being observed among younger cohorts. The waning influence of the communist party on individual outcomes is promising, but does not preclude the rise of new elites. And since the impact of moving in elite circles can last for decades, policy-makers must work to prevent elite groups from dominating access to high-quality education and jobs. For example, strengthening links between secondary education and formal-sector employment can reduce inequality based on parental background.

Gender is also an important source of inequality of opportunity, especially in terms of income, as a substantial gender gap continues to be observed in wages. Moreover, women participate less in the labour force in the presence of higher levels of inequality of opportunity in terms of good jobs. Commitments to providing equal pay for equal work are critical in this regard. While such policies work best as part of a formal legal framework, they can also be accommodated in the private sector. For example, companies can adjust compensation schemes to reduce the wage differential that women face as a result of interruptions to their careers (on account of maternity leave, for instance). Paternity leave policies can also help to reduce inequality of opportunity in terms of income. Lastly, offering subsidised childcare and flexible working patterns can help to boost equality of opportunity for women.

Being born in a rural area has a smaller impact than parental background and gender, typically accounting for an average of between 15 and 20 per cent of total inequality of opportunity in the EBRD region. Better links – both physical and technological – between urban and rural areas can help to ensure that there is no “wrong place” to be born.

Inequality of opportunity also has implications for people's support for market reforms and democracy. The analysis in this chapter shows that inequality of opportunity can erode support for core economic and political reforms. However, inequality does not always hinder support for reforms. Indeed, it may actually strengthen it, provided that differences in income arise as a result of differences in effort, rather than individual circumstances such as gender or place of birth. This highlights the importance of implementing reforms, be it privatisation or an overhaul of the tax system, in ways that are perceived to be fair and do not serve special interests. Public policies may need to specifically target access to education and employment by the most disadvantaged groups, helping to create a more inclusive society.

It is important to note that these results represent a lower bound for inequality of opportunity, for two main reasons. First, not all circumstances at birth that could be considered important for inequality have been included in this analysis, owing to data limitations. For instance, the question of whether someone is an immigrant or comes from a region with low-quality public goods may also matter when it comes to education and job-related opportunities. Second, estimates based on income may underestimate true differences in opportunities because people who are out of the labour force are not included in the analysis. It may be that some people who are out of the labour force actually want to work, but are discouraged from looking for jobs by the low expected returns to job search efforts. This may be the case for women with children if they expect wages that are insufficient to cover the cost of childcare (especially where they have more than one child) or lower than their husbands' earnings (where their husbands would otherwise be willing to opt out of the labour force instead). People may also weigh the loss of social security benefits (such as subsidised rent or childcare) that may be associated with returning to work against the income that will be earned. Policies aimed at improving labour force participation should thus be aligned with any benefit programmes that could interfere with employment choices.

Box 3.1. Estimating inequality of opportunity

The canonical model used here to measure inequality of opportunity follows the conceptual framework whereby a distinction is drawn between a person's circumstances and his/her efforts.²⁰ Consider income distribution x at country level, which is determined by a set of circumstances beyond individual control (such as ethnicity or parents' level of education) and individuals' efforts. In this framework, all individuals who have the same characteristics and apply the same level of effort obtain identical incomes.

An econometric model is then estimated in order to establish the extent to which circumstances at birth contribute to the variation observed in income (or other outcomes, such as employment or level of education). The coefficients for circumstances capture both the direct and the indirect effects that these circumstances have on economic outcomes. For example, parents' level of education may influence an individual's skill and effort, which will affect his/her income directly. But it may also influence future earnings for given levels of skill and effort through, for instance, social connections or inherited assets.

On the basis of that model, predicted incomes explained purely by circumstances at birth are constructed for each individual. A Gini coefficient for the distribution of predicted incomes can then be used to assess the extent of the inequality of opportunity – that is to say, inequality that is due to differences in circumstances.

A different measure is required where the outcome of interest is binary – as in the question, for example, of whether an individual is employed or has a university degree. A commonly used measure is a “dissimilarity index” (D-index) – broadly speaking, the average distance between predicted outcomes and the actual mean of outcomes.

Higher predicted outcomes, based on favourable circumstances, will lead to a higher D-index, as will lower predicted outcomes due to unfavourable circumstances. A modified version of the D-index is used here, where y is the economic outcome of interest and N is the number of people in the sample:²¹

$$D^*(y) = \frac{2}{N} \sum_{i=1}^N |\hat{y}_i - \bar{y}|$$

The estimates derived from the regressions may be biased owing to characteristics missing from the analysis (such as people's mother tongues). Because the aim is not to interpret the coefficients for individual characteristics, but rather to see how well a certain set of characteristics can explain the outcomes observed, such biases matter less, as long as omitted characteristics have similar effects across countries or are unrelated to the circumstances included.

In order to assess the contributions that specific circumstances such as ethnicity or gender make to overall inequality of opportunity, this chapter employs Shapley decompositions. This approach, which is adapted from cooperative game theory, breaks an outcome down into shares attributable to each type of circumstance, with these shares adding up to one.²²

Ideally, the analysis of inequality of opportunity would be run for each age cohort separately. Unfortunately, however, the limited sample sizes in most cases preclude this approach. As a robustness check, age and age squared have been added to the regressions as controls. While these controls tend to be significant, they do not explain much additional variation in outcomes, and the inequality indices remain essentially unchanged.

²⁰ There are a variety of different methods and approaches that can be used to measure inequality of opportunity. See Roemer and Trannoy (2015) for a review. The methodology described in this box draws on Bourguignon et al. (2007), Barros et al. (2009) and Ferreira and Gignoux (2011).

²¹ See Chávez-Juárez and Soloaga (2015).

²² See Shorrocks (2013).

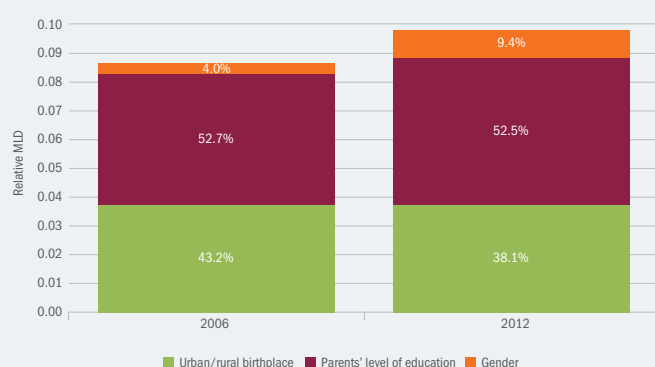
Box 3.2. Inequality of opportunity in terms of income in Egypt

After a long period of economic and political stagnation, people in North Africa and the Middle East took to the streets in 2011 demanding freedom, social justice and dignity. The protests started in Tunisia, but soon spread to the rest of the region, including Egypt. Analysts sought to explain the underlying causes of these uprisings, which included dissatisfaction among young people, rising inequality, persistent authoritarianism and political Islam. This box provides evidence on the extent and determinants of inequality of opportunity in terms of income in Egypt, looking at the situation before and after the uprising. It also discusses policy implications with a view to establishing a more equal society in Egypt in terms of opportunities.

This analysis is based on data from the nationally representative Egypt Labour Market Panel Surveys (ELMPS) for 2006 and 2012.²³ The sample comprises all wage earners between the ages of 15 and 64 in both the formal and informal sectors. The survey includes information on a number of individual circumstances, including parents' level of education, region of birth (urban/rural) and gender.

On the basis of these data, inequality of opportunity accounts for 10 per cent of overall income inequality, and the contribution that this "unfair" inequality makes to total inequality increased by around 1.1 percentage points between 2006 and 2012 (see Chart 3.2.1). A large percentage of this inequality of opportunity (more than 50 per cent; see chart) can be traced back to a person's parental background, while his/her place of birth accounts for around 40 per cent of the total. Gender plays a smaller role, although its relative importance in explaining inequality of opportunity has risen over time. This may be due to very low female labour force participation rates.

CHART 3.2.1. Inequality of opportunity in terms of income in Egypt



Source: ELMPS and authors' calculations.

Note: This chart shows the percentage of total income inequality that is due to inequality of opportunity in Egypt (relative MLD). By way of comparison, average relative MLD for the EBRD region as a whole stands at 0.106, very close to the level observed in Egypt. The percentages indicate the contribution that each circumstance makes to total inequality of opportunity.

Inequality of opportunity in terms of income in Egypt is comparable to that seen in other parts of the EBRD region. Results for Egypt and the EBRD region as a whole can be compared on the basis of an alternative measure of inequality – the mean log deviation (MLD). The MLD has a value of 0 when everyone has the same level of income and rises as income becomes more unequally distributed. In the EBRD region, average inequality of opportunity calculated using the MLD is 0.024, while in Egypt it was 0.020 in 2012. As in the EBRD region as a whole, parental background is the most important circumstance determining inequality of opportunity. In contrast with the data for the region as a whole, however, place of birth is more important than gender in Egypt.

Further analysis by subgroup reveals additional insights. In particular, income in Egypt is more closely linked to individual circumstances for young people in urban areas and women. These groups suffer for a number of reasons. Public-sector employment, which previously absorbed large percentages of young graduates, declined between 2006 and 2012, and the private sector was not able to compensate for this trend. This was partly due to the global financial crisis and the uprisings seen in the country, as well as systemic challenges in the Egyptian economy.

A caveat

The analysis in this box shows that "unfair" inequality (that is to say, inequality that is due to conditions at birth) accounts for around 10 per cent of total income inequality in Egypt. This could be misleadingly portrayed as a small amount – especially when compared with estimates for the USA, where in the early 2000s inequality of opportunity made up almost 20 per cent of total income inequality.²⁴ It is important to emphasise that, because of omitted variables, these results represent a lower bound. Including other characteristics (whether an individual has links to the elite, for example) would result in inequality of opportunity accounting for more of income inequality.

Moreover, the dependent variable in this study, wages, represents only part of overall income. Inequality of opportunity is estimated to account for around 30 per cent of inequality in asset ownership in Egypt, much higher than the level observed for income.²⁵ This is probably due to the fact that assets reflect the accumulation of income from a wide range of sources, not just earnings, as well as accumulation over a number of generations.

Policy implications

The most important contributors to inequality of opportunity in Egypt are parental background and geographical disparities between urban and rural areas. Only those who come from privileged backgrounds are able to undertake tertiary education.²⁶ In addition, public expenditure tends to be disproportionately allocated to tertiary education, thus further favouring the better-off. Overall, these findings suggest that public expenditure should focus on improving the quality of public primary and secondary schools, where wealthier

(Continued on page 56)

²³ See Assaad and Krafft (2013). These surveys were conducted by the Economic Research Forum (ERF) and the Central Agency for Public Mobilization and Statistics (CAPMAS).

²⁴ See Pistolesi (2009).

²⁵ See El Enbaby and Galal (2015).

²⁶ See Assaad (2010).

(Continued from page 55)

parents are able to compensate for the low quality of teaching with supplementary tutoring, while more disadvantaged groups cannot afford to do so.

Turning to geography, the pattern of public investment reflects a bias against rural areas. As public investment is highly centralised, rural areas, where poverty is concentrated, receive significantly smaller shares of public investment than wealthier urban areas.²⁷ Government policies need to take account of this imbalance.

Particular attention should be paid to improving access to jobs for vulnerable groups, namely the young and women. Young people suffer from skills mismatches in the labour market, which result in extended progression gaps between school and work. Policy responses should focus on improving the quality and relevance of secondary and tertiary education by involving the private sector in the development of skills standards as part of Egypt's nascent National Qualification Framework. Also important are the expansion of learning models based on dual principles and the development of a national labour market information system. Lastly, the provision of career advice and guidance is of particular relevance for the educational choices of young women, who remain under-represented in STEM subjects (which tend to lead to higher-income jobs). Some of the most significant obstacles to women's employment are poor working conditions, inflexible working hours, a lack of childcare for working mothers, and a lack of safe and reliable transport to and from work.

Box 3.3. Inclusion of the Roma people in the EBRD region

The Roma are a diverse population group with different languages, traditions and histories. Unlike other minority groups, they have no historical homeland. They are present in most countries in Europe and Central Asia, with an estimated 10 to 12 million living in Europe and an estimated 6 million living in the EU.²⁸

The transition from planned to market economies has had a disproportionate impact on the Roma in terms of falling living standards, increasing unemployment, and reduced access to housing, health care and education. While the transition process has resulted in increased opportunities for many people the Roma have generally been unable to avail themselves of these opportunities. This reflects their low levels of education, weak and sometimes antagonistic relationships with mainstream society and national governments, a lack of personal and property-related documentation and a tendency to be subjected to cultural separation and discrimination. Between 70 and 90 per cent of the Roma living in EU countries currently live in conditions of severe material deprivation.²⁹ They often have no running water, sanitation or electricity. They often live in segregated areas, where property ownership is unclear, and lack the documentation required to access social assistance, health care and/or education.

A large percentage of the Roma do not complete secondary education.³⁰ For example, less than 36 per cent of the Roma population in Hungary and just 7 per cent in Montenegro finish secondary school. Cultural and social factors both affect access to educational services. This partly reflects language barriers, but also the persistence of stereotypes among both Roma and non-Roma populations, which further increases prejudice and mistrust. Low levels of parental education and high levels of household poverty also have a negative effect on educational outcomes for many Roma children,³¹ thus reducing equality of opportunity for future generations.

Partly as a result of their lower levels of education, Roma populations have much higher unemployment rates. For the same reason, they are also over-represented in lower-skilled jobs and in the informal sector. In most countries in central and south-eastern Europe, the Roma are twice as likely to be unemployed as their non-Roma neighbours,³² and in some countries this gap is even larger. These differentials are even more pronounced when comparing Roma

²⁷ See Al-Shawarby et al. (2012).

²⁸ http://ec.europa.eu/justice/discrimination/roma/index_en.htm (last accessed 18 October 2016).

²⁹ UNDP/World Bank/European Commission Regional Roma Survey (2011).

³⁰ This is significant, since LiTS III data indicate that the incomes of those who complete secondary education (but not tertiary education) are 24 per cent higher than the incomes of those who do not.

³¹ See Kertesi and Kézdi (2012).

³² *Ibid.*

and non-Roma women.

Data from LiTS III suggest that the attitudes of the Roma are slightly different from those of non-Roma populations. For instance, while the survey respondents from both Roma and non-Roma populations believe that the main reason people are in need in their respective countries is injustice in society, the Roma tend to place more emphasis on the role of bad luck, while non-Roma populations tend to point to laziness or a lack of willpower. Another difference is the higher levels of distrust towards the police among the Roma. Attitudes concerning the role of women in the household differ too. Roma women are more likely than their non-Roma counterparts to believe that it is women's responsibility to do most of the domestic chores. Moreover, Roma men are more than three times as likely to hold this view as non-Roma men. In many other areas, there are similarities between the views and attitudes of Roma and non-Roma populations, for example as regards general levels of trust towards political parties and belief in the importance of law and order.

The question of how to address the exclusion of the Roma and improve their economic opportunities and living conditions on a sustainable basis represents an important policy issue. Key priorities in this regard include the provision of identity documents, adequate housing and access to health care and education. Approaches need to be multipronged and take account of the tension between the desire to maintain the Roma culture and the desire to better integrate the Roma into society.

Legislation alone is unlikely to improve the living conditions of the Roma. Prejudice needs to be addressed, together with the feelings of defeatism and exclusion that are felt by many Roma, which prompt behaviour that can impede access to opportunities. Further developing Roma community-based organisations' capacity to participate in policy-making is crucial. One successful example of this is the role that civil society groups have played in Bulgaria in increasing access to social insurance.³³

Children need to feel welcome at school and be encouraged to continue their education. Moreover, support needs to be given to Roma applying for work in the formal sector, with incentives and targets given to employers in order to encourage them to employ Roma men and women. While some Roma may well prefer to keep their own culture, many Roma men and women would like to be able to make that decision as to how they and their children live.

Box 3.4. Skills mismatches

Mismatches between the skills needed by employers and those acquired by individuals represent a key challenge for policy-makers trying to resolve inequality of opportunity in the EBRD region. Large skills mismatches impose significant costs on all layers of the economy, limiting the productivity of businesses and negatively impacting the current and future welfare of young people. For example, a recent study of 19 OECD countries (four of which are in the EBRD region) highlighted the fact that larger skills mismatches are associated with lower levels of labour productivity.³⁴

In most countries in the EBRD region for which data are available, a third of people under the age of 30 are either over- or underqualified for the job they hold. The worst examples of this phenomenon can be seen in Cyprus, Romania and Turkey, where such mismatches between job requirements and qualifications negatively affect the employment opportunities of every second young person. Moreover, the average percentage of young people in the region who are overqualified for their job has steadily increased over the last decade, rising from 12.5 per cent to 15.1 per cent.

One of the adverse effects of skills mismatches is a reduction in productivity owing to low levels of job satisfaction. A key indicator of job quality, job satisfaction is central to a person's well-being and can have positive returns for firms, as workers reciprocate through increased effort, longer retention periods and more proactive engagement.³⁵ Being overqualified, however, is associated with significantly lower levels of job satisfaction among young people in the EBRD region (see Chart 3.4.1).

Both generic and country-specific factors determine the prevalence of skills mismatches. Most of the economies in the region face similar challenges: education curricula that are of limited relevance to the modern workplace (especially when it comes to technical and vocational programmes); lack of standardisation across degree programmes; the obsolescence of work experience acquired prior to 1989; and limited on-the-job learning opportunities.

(Continued on page 58)

CHART 3.4.1. Overqualification and job satisfaction among 15 to 29 year olds



Source: ILO KILM 2015 and LiTS III.

³³ See www.amalipe.com.

³⁴ See McGowan and Andrews (2015).

³⁵ Clark (2015) and Edmans (2012).

(Continued from page 57)

Other challenges are country-specific. In Kazakhstan, for instance, low levels of labour mobility (with two-thirds of the population still living in their place of birth) limit individuals' access to a broader range of educational choices and employment opportunities.³⁶ Another example is Turkish women's self-segregation in less marketable university courses, such as two-year and/or distance-learning programmes in subjects that are less relevant to private-sector employers. This leads to gender gaps in terms of both the scale of skills mismatches and, in turn, employment opportunities for young people entering the labour market.

Involving the private sector in the development and implementation of education and skills policies can be an effective response to a growing skills mismatch. This is particularly relevant in the presence of swift technological changes. The bridging of gaps between the supply of and demand for skills requires an in-depth understanding of the dynamics of labour markets, as well as the ability to identify fast-changing qualification needs in an economy.

The involvement of the private sector in the establishment of occupational standards and qualification frameworks that meet employers' needs and the introduction of dual learning models that offer work-based and work-relevant experience are critical in this context. Sector-level skills councils can act as important catalysts in this process. Through its private-sector mandate, the EBRD contributes directly to the establishment and enhancement of such public-private cooperation schemes by working with its clients across a wide range of sectors, including manufacturing, property, tourism, power and energy.

References

A. Abras, A. Hoyos, A. Narayan and S. Tiwari (2013)

"Inequality of opportunities in the labor market: evidence from life in transition surveys in Europe and Central Asia", *IZA Journal of Labor & Development*, Vol. 2, Article 7.

D. Acemoğlu and D. Autor (2011)

"Skills, tasks and technologies: Implications for employment and earnings", *Handbook of Labor Economics*, Vol. 4, pp. 1043-1171.

S. Al-Shawarby, H. El-Laithy and

C. Velez (2012)

"Equality of Opportunity for Children in Egypt, 2000-2009", World Bank Policy Research Working Paper No. 6159.

R. Assaad (2010)

"Equality for all? Egypt's free public higher education policy breeds inequality of opportunity", Economic Research Forum Policy Perspective No. 2.

R. Assaad and C. Krafft (2013)

"The Egypt Labor Market Panel Survey: Introducing the 2012 Round", *IZA Journal of Labor & Development*, Vol. 2, Article 8.

D. Autor (2010)

"The polarization of job opportunities in the U.S. labor market: Implications for employment and earnings", Center for American Progress and The Hamilton Project.

M. Badescu, B. D'Hombres and

E. Villalba (2011)

"Returns to education in European countries: Evidence from the European Community Statistics on Income and Living Conditions (EU-SILC)", Joint Research Centre Report No. 65411.

R.J. Barro and J.W. Lee (2013)

"A new data set of educational attainment in the world, 1950-2010", *Journal of Development Economics*, Vol. 104, pp. 184-198.

T. Bartolj, A. Ahčan, A. Feldin and

S. Polanec (2013)

"Evolution of private returns to tertiary education during transition: evidence from Slovenia", *Post-Communist Economies*, Vol. 25, pp. 407-424.

K.A. Bender, S.M. Donohue and

J.S. Heywood (2005)

"Job satisfaction and gender segregation", *Oxford Economic Papers*, Vol. 57, pp. 479-496.

³⁶ See ILO (2015).

H.S. Bloom and H.D. Price (1975)

“Voter response to short-run economic conditions: The asymmetric effect of prosperity and recession”, *American Political Science Review*, Vol. 69, pp. 1240-1254.

G.E. Bolton, J. Brandts and A. Ockenfels (2005)

“Fair procedures: Evidence from games involving lotteries”, *The Economic Journal*, Vol. 115, pp. 1054-1076.

F. Bourguignon, F.H.G. Ferreira and M. Menéndez (2007)

“Inequality of opportunity in Brazil”, *The Review of Income and Wealth*, Vol. 53, pp. 585-618.

M. Brock (2016)

“Inequality of opportunity and beliefs about success and failure”, EBRD Working Paper No. 187.

G. Brunello, E. Crivellaro and L. Rocco (2010)

“Lost in Transition? The Returns to Education Acquired under Communism 15 Years after the Fall of the Berlin Wall”, IZA Discussion Paper No. 5409.

R.S. Chase (1998)

“Markets for communist human capital: Returns to education and experience in the Czech Republic and Slovakia”, *ILR Review*, Vol. 51, pp. 401-423.

F. Chávez-Juárez and I. Soloaga (2015)

“Scale vs. Translation Invariant Measures of Inequality of Opportunity When the Outcome is Binary” (available at: <http://ssrn.com/abstract=2226822>).

A. Clark (2015)

“What makes a good job? Job quality and job satisfaction”, IZA World of Labor.

I. Denisova, M. Eller, T. Frye and E. Zhuravskaya (2007)

“Who Wants to Revise Privatization and Why? Evidence from 28 Post-Communist Countries”, CEFIR Working Paper No. 105.

R. Dworkin (1981)

“What is equality? Part 1: Equality of welfare”, *Philosophy and Public Affairs*, Vol. 10, pp. 185-246.

A. Edmans (2012)

“The link between job satisfaction and firm value, with implications for corporate social responsibility”, *Academy of Management Perspectives*, Vol. 26(4), pp. 1-19.

H. El Enbaby and R. Galal (2015)

“Inequality of Opportunity in Individuals’ Wages and Households’ Assets in Egypt”, Economic Research Forum Working Paper No. 942.

F.H.G. Ferreira and J. Gignoux (2011)

“The measurement of inequality of opportunity: Theory and an application to Latin America”, *The Review of Income and Wealth*, Vol. 57, pp. 622-657.

F.H.G. Ferreira, C. Lakner, M.A. Lugo and B. Ozler (2014)

“Inequality of opportunity and economic growth: A cross-country analysis”, IZA Discussion Paper No. 8243.

F.H.G. Ferreira and V. Peragine (2016)

“Individual Responsibility and Equality of Opportunity”, in M. Adler and M. Fleurbaey (eds.), *The Oxford Handbook of Well-Being and Public Policy*.

M. Fleurbaey (2008)

Fairness, Responsibility, and Welfare, Oxford University Press, Oxford.

C. Goldin and L.F. Katz (2007)

“The race between education and technology: the evolution of US educational wage differentials, 1890 to 2005”, NBER Working Paper No. 12984.

S. Guriev and E. Zhuravskaya (2009)

“(Un)happiness in transition”, *Journal of Economic Perspectives*, Vol. 23(2), pp. 143-168.

ILO (2015)

Jobs and skills for youth: Review of policies for youth employment of Kazakhstan.

G. Kertesi and G. Kézdi (2011)

“The Roma/Non-Roma Test Score Gap in Hungary”, *American Economic Review*, Vol. 101, pp. 519-525.

G.A. Marrero and J.G. Rodríguez (2013)

“Inequality of Opportunity and Growth”, *Journal of Development Economics*, Vol. 104, pp. 107-122.

M. McGowan and D. Andrews (2015)

“Labour Market Mismatch and Labour Productivity: Evidence from PIAAC Data”, OECD Economics Department Working Paper No. 1209.

D. Münich, J. Svejnar and K. Terrell (2005)

“Returns to human capital under the communist wage grid and during the transition to a market economy”, *The Review of Economics and Statistics*, Vol. 87, pp. 100-123.

K.M. Murphy and R.H. Topel (2016)

“Human capital investment, inequality and economic growth”, NBER Working Paper No. 21841.

G.R. Neyer (2006)

“Family policies and fertility in Europe: Fertility policies at the intersection of gender policies, employment policies and care policies”, Max Planck Institute for Demographic Research Working Paper No. 2006-010.

R. Paes de Barros, F.H.G. Ferreira, J.R. Molinas Vega and J. Saavedra Chanduvi (2009)

“Measuring inequality of opportunities in Latin America and the Caribbean”, Latin American Development Forum, World Bank.

N. Pistolesi (2009)

“Inequality of opportunity in the land of opportunities, 1968-2001”, *Journal of Economic Inequality*, Vol. 7, pp. 411-433.

J. Rawls (1971)

A Theory of Justice, Harvard University Press, Cambridge, MA.

J.E. Roemer (1998)

Theories of Distributive Justice, Harvard University Press, Cambridge, MA.

J.E. Roemer and A. Trannoy (2015)

“Chapter 4 – Equality of Opportunity”, in A.B. Atkinson and F. Bourguignon (eds.), *Handbook of Income Distribution*, Vol. 2, pp. 217-300.

K. Saito (2013)

“Social preferences under risk: Equality of opportunity versus equality of outcome”, *American Economic Review*, Vol. 103, pp. 3084-3101.

A.F. Shorrocks (2013)

“Decomposition procedures for distributional analysis: a unified framework based on the Shapley value”, *Journal of Economic Inequality*, pp. 99-126.

A. Tversky and D. Kahneman (1991)

“Loss aversion in riskless choice: A reference-dependent model”, *The Quarterly Journal of Economics*, Vol. 106, pp. 1039-1061.