



Economic inclusion is essential for development. This chapter analyses the inclusiveness of economic systems in the transition region, and finds large differences both across countries and across dimensions of inclusion. Inequality of opportunity is highest in the Western Balkans and some eastern European and Central Asian countries. This partly reflects a failure to provide young people with relevant education and job opportunities. Inclusion gaps also exist with regard to gender, particularly in the SEMED region.

FACTS AT A GLANCE

OVER
35%
of variation in wealth in some transition countries is explained by circumstances at birth.

PLACE OF BIRTH
is the main driver of inequality with regard to wealth.

PARENTAL EDUCATION
is the main driver of inequality of opportunity with regard to tertiary education.

GENDER GAPS
are greatest in the areas of employment, firm ownership and management across most countries observed.

RIGID LABOUR MARKET STRUCTURES
and weak education systems restrict opportunities for young people.

Economic inclusion in transition

Economic inclusion, defined as broad access to economic opportunity, has come to be regarded as integral to economic development. Besides the intrinsic appeal of spreading opportunities and benefits widely, inclusion generates good incentives: if people are given a chance to succeed, they are more likely to pursue education, participate in the workforce and invest or engage in activities that lead to economic growth and prosperity.¹

A related argument focuses on the sustainability of reform. Market reforms that fail to benefit the population as a whole will not enjoy public support for long. Popular demand for subsidies and state employment to make up for a lack of opportunities has, in several instances, prevented governments from pushing reforms further. For example, reforms pursued by previous administrations in Egypt and Tunisia failed to broaden economic opportunity sufficiently. This contributed initially to resistance to those reforms, which were viewed as mainly benefiting the elite, and ultimately to the popular uprisings of 2011.²

Economic inclusion is important in the context of this *Transition Report* for two reasons. First, as in the case of Egypt, a lack of inclusion might help to explain why populations turn against market-oriented reform and why countries can become “stuck” in transition. Second, inclusion is a specific and critical dimension of the quality of economic and social systems and institutions. The analysis in the previous three chapters touches on this dimension, but does not fully capture it.

- In market-based systems economic inclusion is usually associated with democratic forms of government. Democracies generally look at the welfare of the majority, while autocratic regimes tend to favour politically powerful elites. That said, even in democracies it may be difficult for minorities (and in some cases even for poor majorities) to access high-quality education and employment; and some countries without pluralistic political systems may well provide economic opportunities to large segments of the population as long as there is no challenge to the existing political order.
- The measures of economic institutions used in Chapter 3 are closely related to economic inclusion. Law and order, government effectiveness and a lack of corruption should all impact positively on economic opportunity. However, they may not benefit all groups in the same way. This may reflect discrimination, lack of education or regional variation in the quality of institutions. The excellent economic institutions in the United States, for example, did not prevent the US economy from providing only limited and inferior opportunities to women and African Americans, even through most of the 20th century.

- Good education is a key condition for broad access to opportunity. Countries with stronger publicly funded education systems are more likely to even out disadvantages linked to social backgrounds. Variations in the quality and quantity of human capital described in Chapter 4 are therefore likely to be correlated with differences in economic inclusion. Nevertheless, the correlation will be far from perfect. Chapter 4 considered quality and quantity, rather than access to education, and disregarded differences within countries in terms of educational quality.

The purpose of this last chapter is to supplement the analysis in previous chapters by providing direct evidence of the state of economic inclusion in the transition region. Equality of opportunity – where a person’s social background, place of birth, gender and other factors (other than innate talent) are not predictors of individual economic success – is the benchmark against which countries are measured.³

Two complementary approaches are employed, which we can broadly describe as *bottom-up* and *top-down*.

The *bottom-up* approach focuses on the individual or household level. Building on a new body of research on equality of opportunity,⁴ it measures the extent to which differences in wealth or education across households are attributable to circumstances at birth. The stronger the relationship between circumstances and outcomes, the further a country is from the ideal of equality of opportunity.

The *top-down* approach attempts to rate the institutions, markets and education systems of most countries in the transition region in terms of their capacity to extend economic opportunity to individuals regardless of people’s specific circumstances or attributes. The analysis focuses on gender, place of birth and the situation of young adults. Although the last of those does not reflect a circumstance at birth, it is used to show the opportunities for people from non-privileged social backgrounds at a critical stage of their lives.

Because these approaches focus on equality of opportunity across various groups in society (as opposed to the level or quantity of opportunities on offer to members of these groups), economic inclusion as defined in this chapter is a relative concept. In principle, a society can be poor and lacking in opportunities, but still be fair in how it distributes those opportunities between the various groups. Hence, the measures presented in the following analysis do not cover prosperity. They are intended to complement standard measures of human and institutional development, capturing a dimension that is usually overlooked. ◉

¹ See Acemoğlu and Robinson (2012) and Marrero and Rodríguez (2013).

² See Galal and Selim (2012) and Diwan (2012).

³ This concept follows the approach adopted in Roemer (1998) and Rawls (1971).

⁴ See Bourguignon et al. (2007), Checchi et al. (2010), Belhaj Hassine (2012), Salehi-Isfahani et al. (2011) and Ferreira et al. (2011).

INEQUALITY OF OPPORTUNITY AT THE HOUSEHOLD LEVEL

To what extent do circumstances at birth explain household wealth and individual educational attainment in the transition region?

To answer this question consistently for as many countries as possible, the analysis in this chapter is based on the 2010 round of the *Life in Transition Survey* (LiTS). This contains data for 38,864 households from 35 countries – 29 transition countries in Europe and Central Asia (but excluding Turkmenistan), as well as Turkey and the five western European comparator countries.⁵ The data were collected by interviewing randomly selected household members, of whom about 39 per cent (15,106 individuals) identified themselves as the head of the household.

For each outcome variable – either an index of household wealth⁶ or a variable indicating whether the respondent had obtained a tertiary degree⁷ – an econometric model is estimated that establishes the extent to which circumstances at birth contribute to the variation in outcomes (see Annex 5.1 for details). This contribution, which in the case of the wealth index is simply the “fit” of the regression, is referred to as the (estimated) inequality of opportunity (IOP) with regard to either household assets (IOP^{wealth}) or educational attainment (IOP^{edu}).

A complication arises from the fact that the LiTS contains only information about the circumstances of the respondent member of the household, not those of other household members. By contrast, the asset index refers to the household as a whole. This is addressed by conducting the analysis of IOP^{wealth} using a subsample of households for which the respondent was the head of the household. Consequently, this analysis looks at whether the circumstances of the head of the household explain inequality in household wealth. Because spouses, domestic partners and other adult household members are often from similar backgrounds⁸, IOP^{wealth} should be a good proxy for overall inequality of opportunity with regard to household assets and adequate for the purposes of cross-country comparison.

One important limitation applies: because spouses or domestic partners are usually of a different gender, it makes no sense to measure the influence of gender on household wealth. While gender is always a characteristic, or “circumstance”, of the head of the household, it is rarely a circumstance of the household. Hence, it is not considered in the statistical analysis estimating IOP^{wealth}.

Gender is, however, considered in the estimates of IOP^{edu}, because these address a different question – whether an individual’s circumstances or characteristics explain inequality in his or her educational attainment at tertiary level. In this context, gender is a potentially relevant circumstance. In addition, the

analysis of IOP^{wealth} is undertaken separately for male and female-headed households to see if this affects the results.

Besides gender (for IOP^{edu} only), the analysis also considers the following circumstances.

- *Whether a person was born in an urban or rural area:* This investigates a possible source of inequality of opportunity due, for example, to geographically-determined differences in the quality of schooling or – since a person’s place of birth and place of residence as an adult are highly correlated⁹ – differences in job opportunities. It can also reflect access to basic services, such as roads, waste removal, indoor plumbing and electricity, which can directly and indirectly impact an individual’s economic opportunity.
- *The level of educational attainment of the respondent’s father and mother:* This may capture the influence of parental education on the quality and extent of a child’s education and act as a proxy for the individual’s social background and/or parental networks, which can provide opportunities for a child later on.
- *Whether the individual’s parents were members of the communist party:* In former communist countries party membership was often required for admission to specific schools and professions. In many cases, people serving in such professions received payment in assets in addition to income, which may have had an impact on the distribution of assets for the older generation.¹⁰ In addition, a parent’s membership of the communist party may act as a proxy for parental networks.

Other circumstances and characteristics, such as ethnicity, mother tongue, sexual orientation, religious background or physical disability, were not considered, either because of data constraints or because the categories in which these variables would have to be expressed vary greatly across countries. For example, most of the transition and Western countries studied in this chapter have no single ethnicity or mother tongue.

To illustrate how the circumstances considered affect the two outcome variables (household assets and tertiary education) in transition and comparator economies, Charts 5.1 to 5.4 plot a set of intra-country correlations. In Charts 5.1 to 5.3 the length of the left-hand bar (or axis) in each pairing represents the effect of a specific circumstance – being born in an urban (rather than rural) area, being born to parents with a level of educational attainment that is one notch higher,¹¹ or having a parent who was a communist party member – on the household asset index.¹² The right-hand bar denotes the impact of each circumstance on the probability of having completed tertiary education.¹³ Chart 5.4 shows how being male affects that probability.

As expected, the impact of parental education on the assets

⁵ Unfortunately, such data are not yet available for the SEMED countries, although a few studies have looked at inequality of opportunity in the SEMED region: see El Enbaby (2012), Belhaj Hassine (2012) and Salehi-Isfahani et al. (2011).

⁶ The analysis focuses on household wealth because the LiTS lacks reliable income data. An asset index was constructed using principal components analysis, which yields a weighted average of the assets owned by a household. The technique is used extensively in the literature to capture “wealth”; see Filmer and Pritchett (2001), McKenzie (2005), Sahn and Stifel (2003), Vyas and Kumaranayake (2006) and Ferreira et al. (2011). LiTS-based inequality is correlated positively, although far from perfectly, with measures of income inequality (the coefficient of cross-country correlation with Gini coefficients taken from the Standardized World Income Inequality Database is about 0.25).

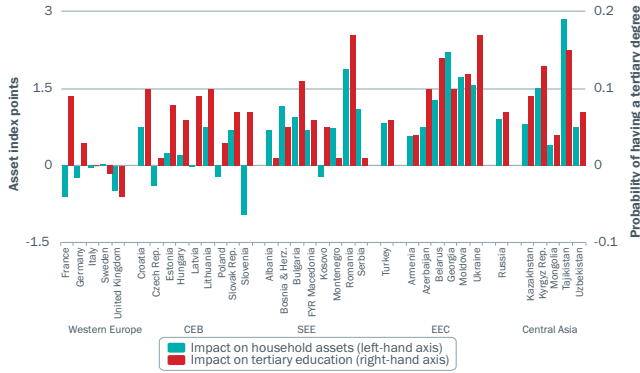
⁷ Consistent with Chapter 4 of this *Transition Report*, this refers to university education only. Note that although studies in other regions use educational attainment at secondary level as a measure of economic advantage, this is not as meaningful in the transition region because virtually every transition country has achieved high rates of secondary school completion, comparable to rates achieved in advanced economies. In contrast, the completion rates for tertiary education in the LiTS range from 5.4 per cent in Kosovo to 38.5 per cent in Belarus. The median completion rate is 18.2 per cent.

⁸ In particular, parental wealth is highly correlated within households. This relationship holds when parental wealth is instrumented using parental education. See Charles et al. (2013).

⁹ The correlation in our dataset is 0.63, which is significant at the 1 per cent level.

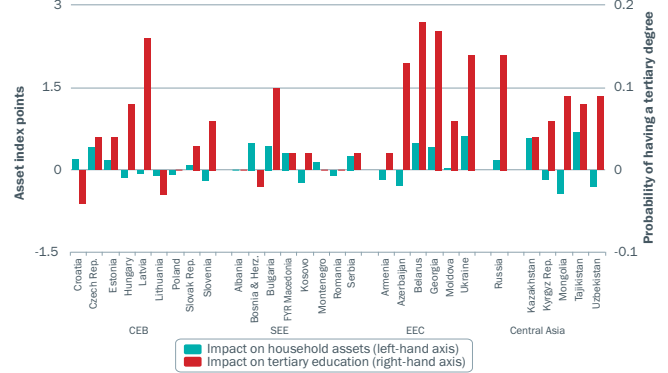
¹⁰ See Heyns (2005).

Chart 5.1. The effect of being born in an urban area is most positive in less advanced transition economies



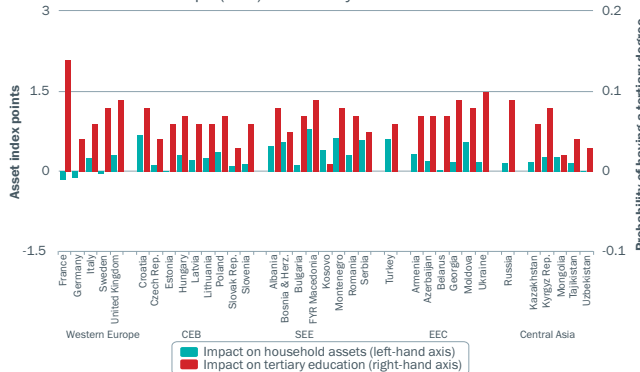
Source: LITS (2010).
Note: The chart shows coefficients for an urban birthplace, based on household-level regressions of either an asset index or an indicator of tertiary education on individual circumstances (see Annex 5.1).

Chart 5.3. The effects of a parent's communist party membership are still being felt¹⁴



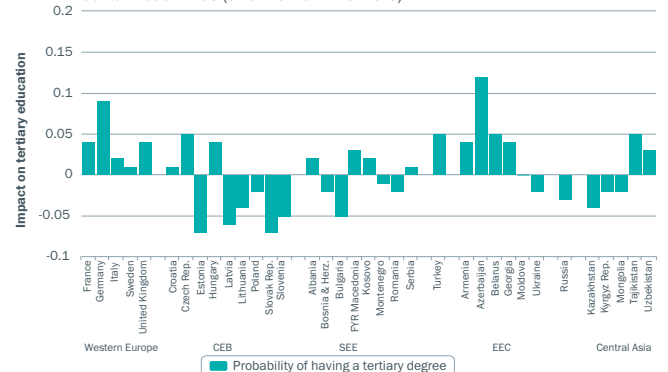
Source: LITS (2010).
Note: The chart shows coefficients for an indicator of parental membership of the communist party, based on household-level regressions of either an asset index or an indicator of tertiary education on individual circumstances (see Annex 5.1).

Chart 5.2. Parental education matters, particularly in southern and eastern Europe (SEE) and Turkey



Source: LITS (2010).
Note: The chart shows coefficients for an indicator of parental education (one variable capturing the highest degree achieved between both parents), based on household-level regressions of either an asset index or an indicator of tertiary education on individual circumstances (see Annex 5.1).

Chart 5.4. Men are more likely to have a tertiary degree in certain countries (and women in others)



Source: LITS (2010).
Note: The chart shows coefficients for a variable indicating male gender, based on household-level regressions of an indicator of tertiary education on individual circumstances (see Annex 5.1). The vertical height of the bar shows how much more likely a man is to have a tertiary degree than a woman. If the bar goes below the axis, it shows how much less likely a man is to have the degree than a woman.

and tertiary education of children is positive almost everywhere, with particularly large impacts on the asset index in south-eastern Europe. The effect of an individual's birthplace is more heterogeneous: being born in an urban area is generally a predictor of superior wealth and education. There are exceptions, however, particularly with regard to wealth; in France, Slovenia and the United Kingdom a rural birthplace is a statistically significant predictor of *higher* levels of household assets.

Having a parent who was a communist party member generally puts individuals in transition economies at an advantage. In regard to household assets, the effect is small and generally statistically insignificant, but for tertiary education it can be

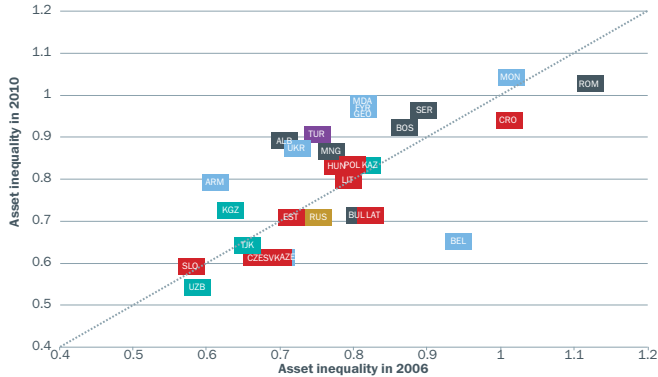
¹⁴ Parents' educational attainment is measured as a discrete, ordered variable. A mother or father with no degree is given a value of 1 for this variable, and one who has completed primary education is given a value of 2. Secondary and post-secondary degrees are counted separately. Postgraduate tertiary education is measured a value of 6.

¹² The asset index is centred on 0. Its distribution varies from country to country, but it typically runs from about -4 to +4, with a standard deviation of about 2.

¹³ The impact on assets is based on country-by-country ordinary least squares (OLS) regressions of the asset index on circumstances; the impact on tertiary education is based on an analogous set of probit regressions. The impact on assets is measured in terms of index points, whereas educational impact is measured in terms of the probability of having completed a tertiary degree. For example, a coefficient

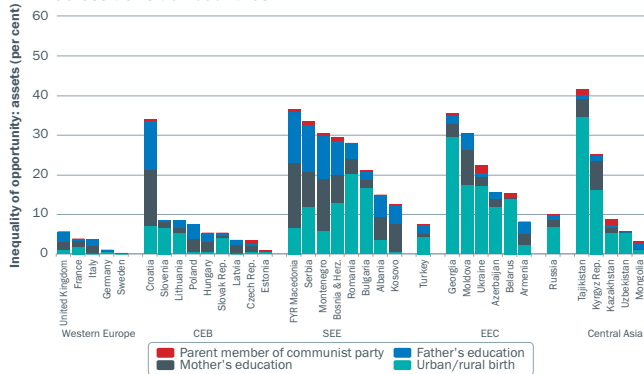
estimate of 0.6 on the urban/rural variable in the asset regressions means that a person born in an urban area will, on average, have an asset index 0.6 points higher than someone born in a rural area. In the education regressions, the 0.6 coefficient on urban/rural means that a person born in an urban area is 60 per cent more likely to have completed tertiary education. Note that since the impacts on assets and education are measured in different units, they should not be directly compared with each other. However, impacts on assets and education can be compared (separately) across countries within each chart and across charts. (In light of possible omitted variable bias, the bar heights should only be taken as a rough guide.)

¹⁴ This variable was omitted for regressions involving the western European comparator countries and Turkey. Including it for Germany does not make a qualitative difference to the results.

Chart 5.5. Inequality of household wealth was fairly stable between 2006 and 2010


Source: LITS (2006 and 2010).

Note: The chart shows the standard deviation of the household asset index values for each country relative to variance in the distribution of household assets across all countries (see McKenzie, 2005), for 2006 and 2010.

Chart 5.6. Inequality of opportunity with respect to wealth varies greatly across transition countries


Source: LITS (2010).

Note: The chart indicates the percentage of the variation in each country's household asset index that is explained by the place of birth, parental education and parental membership of the communist party. For each country, the total height of each bar is calculated as the R^2 of an ordinary least squares regression of the asset index on the four variables indicated in the chart's legend (see Annex 5.1). The variation explained by each circumstance is calculated as a Shapley decomposition. The authors used the Stata command "iop" for the calculations.

quite large (comparable to that of an urban birthplace) and is often statistically significant. In addition, men are more likely than women to have a tertiary degree in western Europe and most countries in eastern Europe and the Caucasus (EEC), while the reverse is true in most central European and Baltic (CEB) countries.

Having described country-level correlations between individual circumstances and outcomes, the next step in the analysis is to examine the extent to which circumstances at birth explain variations in household assets and tertiary education in transition countries.

INEQUALITY OF OPPORTUNITY WITH REGARD TO HOUSEHOLD WEALTH

Chart 5.5 shows actual inequality of household wealth for each country, using a measure of inequality that is comparable across countries and over time.¹⁵ The measure is shown for two rounds of the LITS – 2006 and 2010 – to give a sense of its stability. With a few exceptions (such as Belarus, where inequality declined, and Albania, where it increased) asset inequality appears to be very stable – that is, there is a high correlation between country-level asset inequality in 2006 and 2010. In both years, Romania turns out to be the most unequal transition country with respect to household assets, while inequality is lowest in Uzbekistan, Tajikistan and the Kyrgyz Republic.¹⁶

To what extent is asset inequality in each country attributable to inequality of opportunity based on the circumstances identified above, rather than individual effort or luck? Chart 5.6 gives the answer. For each country the height of the bar shows IOp^{wealth} – the extent to which the four circumstance-related variables explain total variation in the asset index across households – while the subdivisions in each bar indicate the contributions of each individual circumstance to IOp^{wealth} . Like the previous charts, the chart is organised in terms of geographical groups of countries; within each group, countries are shown in declining order of IOp^{wealth} .

Inequality of opportunity with regard to wealth varies substantially across and within most regions. Circumstances at birth explain less than 1 per cent of total variation in the LITS-based household asset index in some countries (Estonia, Germany and Sweden), but over 35 per cent in others (FYR Macedonia, Georgia and Tajikistan). On average, IOp^{wealth} is lowest in western Europe, but is almost as low in CEB countries (except Croatia) and Turkey. Most Central Asian, EEC and SEE countries have much higher IOp^{wealth} , although with significant variation. For example, IOp^{wealth} levels in Armenia, Mongolia and Uzbekistan are no higher than in CEB countries.

The relative contributions made by circumstances to IOp^{wealth} also vary greatly across regions and countries. In most Central Asian and EEC countries, together with Bulgaria, Lithuania, Romania, the Slovak Republic, Slovenia and Turkey, the most important driver of IOp^{wealth} is the place of birth.

¹⁵ Namely, the standard deviation of the index for each country divided by variance in the index for households across all countries; see McKenzie (2005). This measure is used because Gini coefficients cannot be calculated for the asset index as it contains negative values.

¹⁶ Based on the correlation between LITS-based inequality of household assets for 2010 and the most recent Gini coefficients of income inequality (source: SWIID).

In western European countries, the place of birth does not noticeably contribute to IOP^{wealth} , except in France (where a rural birthplace tends to increase household wealth). By contrast, in Hungary, Latvia and Poland, and particularly in the Western Balkans, IOP^{wealth} seems to be driven predominantly by parental education.

Chart 5.7(a) and (b) shows IOP^{wealth} for male and female-headed households respectively.¹⁷ Although there are some differences across countries, the regional ranking (and that of most countries within each region) is the same as in Chart 5.6. However, IOP^{wealth} is higher in the male-headed sample than the female-headed sample – that is to say, circumstances are better able to explain variation in outcomes among men than among women. In Bulgaria, FYR Macedonia, Romania and Tajikistan the difference exceeds 10 percentage points.

In addition, the two samples differ somewhat in terms of the circumstances that tend to account for inequality of opportunity, particularly in Central Asian, EEC and SEE countries, where IOP^{wealth} is highest. Compared with male-headed households, IOP^{wealth} in female-headed households appears to depend less on whether a birthplace is urban or rural and more on parental education. This may reflect the fact that differences in wealth between urban and rural households tend to be greater in these regions when the households are headed by men, rather than women. A possible explanatory factor may be remittances, which are significant in many of these countries and may have the effect of narrowing the asset gap between urban and rural households headed by females.

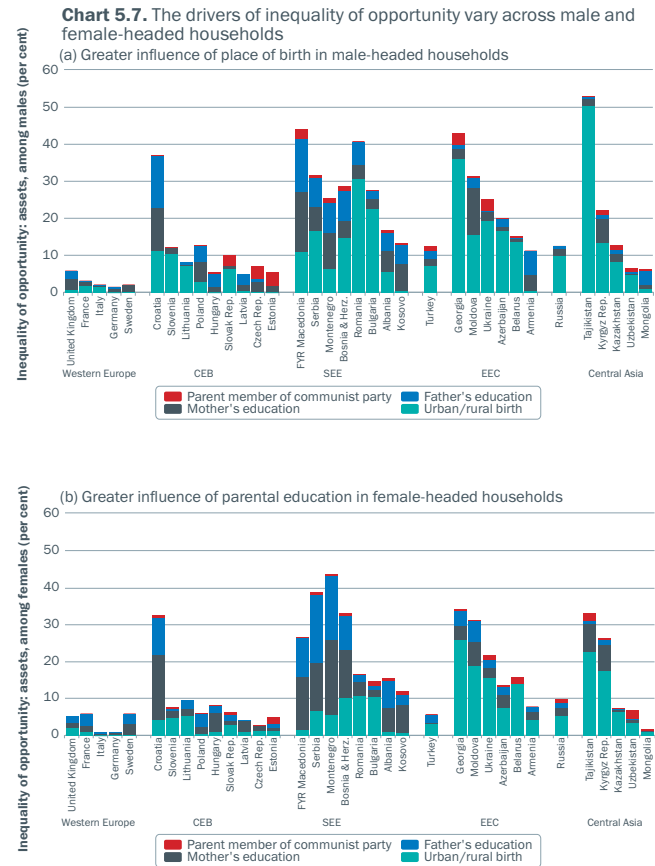
INEQUALITY OF OPPORTUNITY WITH REGARD TO TERTIARY EDUCATION

Chart 5.8 shows inequality of opportunity across countries with regard to tertiary education and breaks it down into the contributions of individual circumstances. Unlike Chart 5.6, gender is included as a circumstance, and the measure of inequality is different.

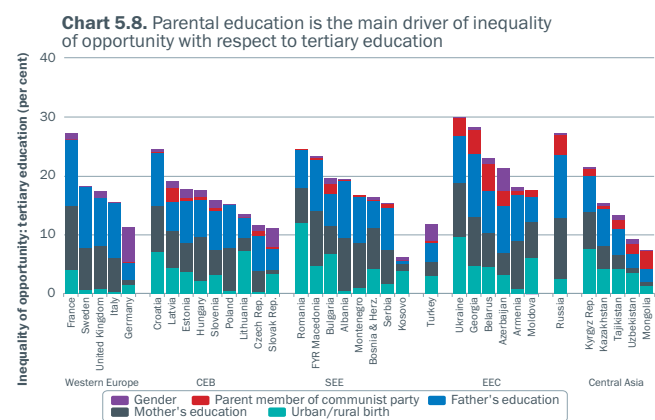
Reflecting the binary outcome variable, a “dissimilarity index” (D-index) is used. This is calculated as the average distance (the average absolute value of the difference) between the country mean and the circumstance-based prediction of whether an individual is likely to obtain a tertiary education, multiplied by 2 in order to fit it to the 0-1 scale. For example, a 10 per cent D-index indicates that, on average, the predicted propensity of individuals to obtain a tertiary education is just 5 per cent away from the average in that country.

IOP^{edu} turns out to be fairly similar across regions. The EEC region and France have the highest IOP^{edu} (but it exceeds 25 per cent in only three transition countries – Georgia, Russia and Ukraine).

The chart also shows that – unlike IOP^{wealth} – IOP^{edu} appears to be driven far more by parental education than by the place of birth. In addition, gender seems to play a role in Azerbaijan, Germany, the Slovak Republic and Turkey.



Source: LITS (2010).
Note: The chart indicates the percentage of the variation in each country's household asset index that is explained by the place of birth, parental education and parental membership of the communist party. See also the note on Chart 5.6.



Source: LITS (2010).
Note: The chart indicates, for each country, the average distance between tertiary education as predicted by circumstances (the place of birth, parental education, parental membership of the communist party and gender) and the mean. For each country, each bar is calculated as a D-index, based on a probit regression of the variable indicating the completion of tertiary education on the four variables indicated in the chart's legend (see Annex 5.1).

¹⁷ Overall, 53 per cent of the heads of households in the 2010 LITS are female and 47 per cent are male. The male share falls between 40 and 60 per cent in 21 of the 35 countries.

◉ (reflecting a significantly greater likelihood that men will obtain tertiary degrees, except in the Slovak Republic). In Azerbaijan, Belarus, Georgia, Mongolia, Russia and Ukraine – and, to a lesser extent, Bulgaria – parental membership of the communist party is a significant contributor (both statistically and in a qualitative sense).

Separate analysis was also undertaken for younger (37 and under) and older (38 and over) sections of the population. The cohorts were defined in that way so that the older group would have reached adulthood by the time the Soviet Union was dissolved in 1991. The question is whether inequality of opportunity with regard to tertiary education is lower in the group that was raised under the (generally) more egalitarian communist system than in the younger generation. The analysis finds some support for this: in 21 of the 29 transition countries, IOP^{edu} is higher in the younger group. However, the differences are generally small and are statistically significant in only eight cases.

RATING THE INCLUSIVENESS OF ECONOMIC SYSTEMS AND INSTITUTIONS

In the previous section, equality of opportunity was inferred by comparing individual outcomes, in terms of wealth and education, with characteristics of those individuals that should ideally be unrelated to such outcomes, but in fact are not. While this can represent an objective, data-based gauge of the “inclusiveness” of economic, political and social systems, it suffers from two drawbacks.

- Because all the data were based on a survey of the adult population, some of the conditions that created the observed inequality of opportunity may be 10, 20 or even 30 years old. Economic and political systems may have changed in the meantime – for example, by providing better and more widespread primary and secondary education opportunities, or by treating young entrants to the labour market differently. It may take another generation for these improvements to be reflected in data about economic outcomes.
- The results of the analysis presented in the previous section give few hints as to what policy-makers can do to make societies more inclusive. For example, the fact that inequality is high in Western Balkan countries and this relates to parental education points to the importance of the education system in evening out opportunity, but provides no further clues. Similarly, the finding that in most of EEC, Central Asia and some SEE countries a rural birthplace puts individuals at a critical disadvantage suggests a need to examine the quality of institutions, access to services, infrastructure and education in rural areas, but offers no further help in identifying what is amiss.

This section attempts to rate the existing (or recent) institutional environment in transition countries in terms of its propensity to create or impede equality of opportunity. This is done from the perspective of three “target groups”, namely women, residents of regions that are lagging behind economically and young people (15 to 24-year-olds).¹⁸ While the last group obviously does not reflect a circumstance at birth, it is used here as shorthand for a combination of circumstances and outcomes at a particular stage in life – namely, a non-privileged social background and access to education and initial job opportunities – that is of particular importance for society. Research has shown that young people who do not have sufficient access to education or work experience have substantially lower lifetime earnings and career opportunities.¹⁹

For each target group, the objective is to define “inclusion gaps” analogous to the EBRD’s sector-level assessments, which describe transition gaps for each sector and country of operations (see the section of this report entitled “Progress in transition: structural reform”). This involves the following four steps.

- First, we need to identify dimensions of the economic system that are essential for reducing the inequality of opportunity suffered by members of particular groups. These generally include access to education, labour markets, finance and public services – which are important for any individual, almost regardless of circumstances. The aspect within each of these dimensions that is the most relevant will depend on the target group.
- Second, we need to collect data on each of the dimensions. The extent of the available data is sometimes the limiting factor, particularly when trying to establish inclusion gaps across regions within countries.
- Third, a benchmark needs to be set that defines what an inclusive structure should look like, and there needs to be a rule on how to rate distance from the benchmark. In the case of gender gaps, the benchmark is economic parity between men and women. In other cases – for example, when comparing the opportunities of young entrants to the labour market with those of experienced workers – the benchmark can be defined by best practices in advanced economies. The distance from the benchmark is expressed on the 10-point scale – from 1 (indicating the largest possible gap) through 2-, 2+, 3-, 3+, 4- and 4+ (indicating a negligible gap) – used for the EBRD’s transition indicators.
- Lastly, we need to average ratings based on individual data series to arrive at an inclusion gap for each dimension, target group and country (a gender gap for access to finance in Romania, for instance). When data series with overlapping content are used, a “principal components” approach is employed that in effect weights each series according to how much new information it contributes. In most cases simple averages are used, occasionally giving a series that is deemed to be more important a higher weighting.

¹⁸This analysis could be extended to include other groups defined by ethnicity, disability or sexual orientation.

¹⁹See Gregg and Tominey (2005). Macmillan (2012) calculates that a year of youth unemployment reduces earnings 10 years on by an average of about 6 per cent and means that, on average, individuals spend an extra month unemployed every year up to their mid-30s.

Table 5.1
Gender inclusion gaps – dimensions and indicators

Dimension	Indicators	Sources
Legal and social regulations	Addressing violence against women	Economist Intelligence Unit –Women’s Economic Opportunity (EIU-WEO) Index, based on International Labour Organization (ILO), 2010 or latest
	Property ownership rights	
	Inheritance laws in favour of male heirs	OECD Social Institutions and Gender Index 2009
Access to health services	Sex at birth; female-to-male (f/m) ratio	World Bank World Development Indicators (WDI), 2010
	Contraceptive prevalence (percentage of women aged 15-49)	
	Maternal mortality ratio (maternal deaths per 100,000 live births)	UNICEF, 2010
Education and training	Literacy rate; f/m ratio	UN Social Indicators, UNICEF, census, 2010 or latest
	Primary school completion rate; f/m ratio	
	Gender parity index for net enrolment rate in secondary education	World Bank Education Statistics, 2010 or latest
	Percentage of female graduates in tertiary education	
	Gender parity index for enrolment in tertiary education	
Labour policy	Equal pay policy	EIU-WEO based on ILO, 2010 or latest
	Non-discrimination policy	
	Policy on maternity and paternity leave and its provision	
	Policy on legal restrictions on types of job for women	
	Differential retirement age policy	
	CEDAW (Convention on the Ratification of all forms of Discrimination Against Women) ratification	
Assessment of labour practices	Equal pay	EIU-WEO based on ILO, 2010 or latest
	Non-discrimination	
	Access to childcare	BEEPS, 2009
	Female top managers	
	Gender pay gap	
Employment and firm ownership	Female participation in firm ownership	BEEPS, 2009
	Share of women in non-agricultural employment	World Bank WDI, 2010 or latest
	Labour force participation rate; f/m ratio (age 15+)	World Bank Gender Indicators, UNICEF, census, 2010 or latest
	Unemployment with tertiary education; f/m ratio	
	Unemployment rate; f/m ratio	Key Indicators of the Labour Market-ILO, 2010 or latest
Access to finance	Account at a formal financial institution; f/m ratio (age 15+)	Global Financial Inclusion (Global Findex) Database, 2011
	Account used for business purposes; f/m ratio (age 15+)	
	Credit card; f/m ratio (age 15+)	
	Debit card; f/m ratio (age 15+)	
	Mobile phone used to receive money; f/m ratio (age 15+)	
	Mobile phone used to send money; f/m ratio (age 15+)	
	Saved at a financial institution in the past year; f/m ratio (age 15+)	
	Loans rejected for firms with female versus male ownership	BEEPS, 2009

Note that under this approach, inclusion gaps measure differences in opportunities – across regions, between women and men, or between 15 to 24-year-olds and older workers – rather than opportunity levels. If both men and women, or all regions within a country, do poorly, there is no inclusion gap, even though there may be large gaps in terms of transition or development. For example, a small gap in access to finance does not necessarily mean that women have easy access, only that they do not have significantly greater difficulties than men.

The remainder of this section summarises the dimensions and data used to calculate the inclusion gaps and presents the main results for each target group. Methodological details on the third and fourth steps above – particularly the question of how gaps were defined for each data series – are available in Annex 5.2.

GENDER GAPS

Gender inclusion gaps aim to capture the extent to which economic systems favour men over women. Seven dimensions are examined here (see Table 5.1):

- legal and social regulations, such as inheritance laws and ownership rights;
- health indicators that relate to female participation in economic life or reflect gender bias;
- labour policies regulating pay and access to certain professions;
- labour practices, such as non-discrimination and equal pay;
- educational attainment comparisons;
- female participation in employment, management and firm ownership;
- access to finance. ▶

Table 5.2
Inclusion gaps for gender

Country	Legal regulations	Health services	Education	Labour policy	Labour practices	Employment and firm ownership	Access to finance
Central Europe and the Baltic states							
Croatia	Negligible	Small	Negligible	Medium	Large	Medium	Small
Estonia	Negligible	Small	Negligible	Small	Large	Medium	Medium
Hungary	Negligible	Small	Negligible	Negligible	Large	Medium	Large
Latvia	Small	Medium	Negligible	Small	Large	Medium	Small
Lithuania	Negligible	Small	Negligible	Small	Medium	Medium	Medium
Poland	Small	Small	Negligible	Small	Large	Medium	Medium
Slovak Republic	Negligible	Small	Negligible	Small	Large	Large	Medium
Slovenia	Negligible	Small	Negligible	Small	Large	Medium	Medium
South-eastern Europe							
Albania	Negligible	Medium	Small	Small	Large	Large	Large
Bosnia and Herzegovina	Negligible	Medium	Negligible	Medium	Large	Large	Large
Bulgaria	Negligible	Small	Negligible	Small	Large	Medium	Medium
FYR Macedonia	Small	Medium	Small	Small	Large	Medium	Medium
Kosovo	not available	not available	not available	not available	not available	not available	Large
Montenegro	Small	Medium	Negligible	Medium	Large	Medium	Medium
Romania	Negligible	Medium	Negligible	Small	Large	Medium	Medium
Serbia	Small	Medium	Negligible	Medium	Large	Large	Small
Turkey	Small	Small	Medium	Small	Large	Large	Large
Eastern Europe and the Caucasus							
Armenia	Medium	Medium	Negligible	Small	Large	Large	Small
Azerbaijan	Negligible	Medium	Small	Medium	Large	Medium	Large
Belarus	Small	Small	Small	Medium	Large	Small	Medium
Georgia	Small	Large	Negligible	Small	Large	Medium	Small
Moldova	Small	Medium	Negligible	Small	Large	Negligible	Medium
Ukraine	Negligible	Medium	Negligible	Small	Large	Medium	Large
Russia	Small	Medium	Negligible	Medium	Large	Medium	Medium
Central Asia							
Kazakhstan	Small	Large	Negligible	Medium	Large	Large	Medium
Kyrgyz Republic	Medium	Large	Negligible	Medium	Large	Medium	Small
Mongolia	Small	Large	Negligible	Medium	Large	Negligible	Small
Tajikistan	Medium	Large	Medium	Small	Large	Medium	Large
Turkmenistan	Large	Large	Small	Medium	Large	Large	Large
Uzbekistan	Medium	Medium	Medium	Medium	Large	Large	Large
Southern and eastern Mediterranean							
Egypt	Medium	Large	Medium	Medium	Large	Large	Large
Jordan	Medium	Large	Negligible	Medium	Large	Large	Large
Morocco	Medium	Large	Medium	Medium	Large	Large	Large
Tunisia	Small	Medium	Small	Small	Large	Large	Large
Comparator countries							
France	Negligible	Small	Negligible	Small	Medium	Medium	Medium
Germany	Negligible	Small	Negligible	Negligible	Medium	Medium	Medium
Italy	Negligible	Small	Negligible	Small	Medium	Medium	Large
Sweden	Negligible	Negligible	Negligible	Negligible	Medium	Small	Medium
United Kingdom	Negligible	Small	Negligible	Small	Medium	Medium	Medium

Source: See Table 5.1.

Note: See Annex 5.2 for methodology.

Table 5.3
Youth inclusion gaps – dimensions and indicators

Dimension	Indicators	Sources
Labour market structure	Hiring and firing flexibility	Global Competitiveness Index, World Economic Forum 2012-13
	Redundancy costs	
	Wage-setting flexibility	
Productive opportunities for young people	Difference between unemployment rate at age 15-24 and age 25-65	ILO, World Bank, 2010 or latest
	Percentage of youths who are “not in education, employment or training” (NEET)	Eurostat 2012, Silatech 2009
Quantity of education	Average years of education of 25 to 29-year-olds	Barro-Lee (2010), Human Development Index 2012
	Percentage of 15 to 24-year-olds with no schooling	
Quality of education	Test performance relative to highest possible score	Programme for International Student Assessment (PISA) 2009 or Trends in International Mathematics and Science Study (TIMSS) 2011
	Schools’ accountability (achievement data tracked over time)	
	Teacher/instruction material shortages	
	Employers’ perception of quality of education system	World Economic Forum 2012-13
	Households’ perception of quality of education system	LITS 2010
	Universities in top 500 (cumulatively over ten years)	Academic Ranking of World Universities (ARWU) 2003-12
Financial inclusion	Percentage of youths (15 to 24-year-olds) with bank accounts compared to adults	Global Findex 2011
	Percentage of youths (15 to 24-year-olds) with debit cards compared to adults	

Two main types of indicator were collected to rate these dimensions: policy indices constructed by other organisations, such as the International Labour Organization (ILO) and the World Bank,²⁰ and female-to-male ratios (for example, female-to-male labour force participation rates).

Data on female-to-male ratios were translated into percentage gaps and converted to the 1 to 4+ transition scale. An average score for each category was then calculated and transformed into the four-point gap scale. Gaps classified as “large”, “medium”, “small” and “negligible” correspond to percentage differences in gender indicators of more than 20 per cent, from 6 to 20 per cent, from 1 to 6 per cent and less than 1 per cent respectively (see Annex 5.2).

Table 5.2 suggests that there is considerable variation in gender gaps – not just across countries, but also across institutional dimensions. Gaps are generally “small” as regards education and legal regulations.²¹ With the exception of some SEMED countries, laws that overtly put women at a disadvantage in terms of property and inheritance laws are rare.

Primary and secondary school participation and completion rates are similar for males and females. With a few exceptions (most notably Tajikistan), recent tertiary enrolment rates actually tend to be higher for females in most countries. Significant gaps (visible in about a dozen countries) exist only with regard to literacy rates, which are a much more backward-looking indicator.

Gaps tend to be larger in dimensions related to employment, firm ownership and management – and particularly labour practices. As regards anti-discrimination practices, access to childcare, women in senior management and gender pay differentials, there are “large” gaps in most countries, and even “medium” gaps in Western comparator countries.

Table 5.2 also confirms expectations that gender gaps are often “negligible” or “small” in CEB countries – although not in employment-related areas – while “large” and “medium” gaps tend to be most apparent in the SEMED region (although less so in Tunisia) and some Central Asian countries (such as Tajikistan, Turkmenistan and Uzbekistan). Kazakhstan and Turkey are not far behind.

In the SEMED region decades of investment in social sectors have improved women’s access to health care and education, reduced illiteracy and brought down fertility rates. However, this has not (yet) translated into higher female labour force participation rates or female empowerment. This is partly due to persistent institutional barriers that limit women’s access to economic opportunities.²²

²⁰ For example, indices using a scale of 1 to 5, with 5 indicating full compliance with the ideal of gender equality and 1 showing a large gap.

²¹ The former reflects the fact that the series used in the analysis of the education gap mostly represents the current state of education systems, as measured by female-to-male ratios for primary, secondary and tertiary completion rates.

²² See World Bank (2012a).

YOUTH GAPS

The assessment of youth inclusion gaps used indicators of labour market flexibility (since labour market rigidity particularly harms new entrants),²³ youth unemployment and idleness rates, as well as measures of education and financial inclusion.

The quality and length of education are considered separate dimensions: while quality is essential, there is also evidence that extending the length of secondary education affects careers and lifetime earnings.²⁴ Financial inclusion focuses on the use of bank accounts and debit cards (rather than access to credit), reflecting research that suggests that the early use of financial products and the early establishment of savings habits increase the quality of financial decision-making in later life.²⁵ Table 5.3 lists the indicators and data sources used.

As in the case of the gender gaps, some of the underlying data consist of indices compiled by other institutions (such as the World Economic Forum's indicators of labour market flexibility and the quality of education as perceived by employers), as well as comparative information on the reference group, which in this case consists of adults aged 25 and over. The latter is used to rate financial inclusion, as well as youth unemployment. Unlike gender gaps, however, youth and adult rates are compared in terms of absolute differences (expressed in percentage points), rather than as ratios or percentage differences.²⁶ Furthermore, the benchmark for calibrating a "negligible" gap is not zero (that is to say, parity between youth and adults), but a positive difference that is sufficiently low to be viewed as "normal" even in a very inclusive economic structure. For youth unemployment this is set at 6 percentage points, based on the low end of globally observed differences between youth and adult unemployment rates between 1991 and 2012, while a difference of 10 percentage points or less is still considered a "small" gap.²⁷

In several cases – including the percentage of youths who are not in education, employment or training (NEET) and all data series related to the quality and quantity of education – gaps were assessed without a direct comparison with the adult reference group. There are no series that would correspond to the NEET category among adults, and the quality and quantity of education are no longer relevant for most adult workers.²⁸ Hence, gaps for these data series are calibrated on the basis of international best practices (see Annex 5.2).

Table 5.4 shows interesting variation, both across dimensions (columns) and countries (rows). The quantity of education in most countries in the transition region compares well with international standards (11 years of schooling being the OECD average). SEMED countries, particularly Morocco, are an exception.

However, opportunities for young people – reflecting youth unemployment relative to adult unemployment, as well as the NEET category – are unsatisfactory in most countries, including most Western comparators. There are exceptions, though: the Baltic states, Germany, Slovenia and, thanks to a surprisingly low NEET rating, Ukraine. With the exception of Hungary and Slovenia,

available data also suggest that quality gaps in education remain "medium" or "large" in the transition region and in SEMED countries.

The chart also shows that there is a degree of correlation between the level of rigidity in labour market structures, the quality of education and the availability of opportunities for young people. Most countries that experience "medium" or "large" gaps in the first two categories also have at least a "medium" gap in the third.

The best-performing country in the transition region appears to be Slovenia, with mainly "small" or "negligible" gaps. However, eight countries – Albania, Azerbaijan, Montenegro, Serbia and the four SEMED countries – have "large" gaps in opportunities for young people and one or both educational dimensions.

Between these extremes, common patterns across countries can be observed within the CEB and, to a lesser extent, EEC regions. In the latter region the typical pattern involves "medium" gaps for labour market structure, "medium" or "large" gaps for opportunities for young people and the quality of education, and "small" or "negligible" gaps for the quantity of education. CEB countries do better on quality of education and opportunities for the young. ◀

²³ See Lindbeck and Snower (1989) and, for SEMED countries, World Bank (2013).

²⁴ See Meghir and Palme (2005).

²⁵ See Reinsch (2012).

²⁶ This reflects the judgement that, at low rates of overall unemployment, a given ratio between youth and adult unemployment indicates a smaller inclusion problem than when overall unemployment is high. For example, a 10 per cent youth unemployment rate might be acceptable if adult unemployment is just 5 per cent, but a 30 per cent youth unemployment rate with adult unemployment at 15 per cent is far less acceptable.

²⁷ Youth unemployment rates are almost always higher than unemployment rates for older cohorts (see International Labour Organization, 2012), partly for undesirable reasons such as insufficient numbers of entry-level jobs and labour market rigidities, but also for efficient reasons such as job-switching among the young. Young people are also more likely to be idle (see O'Higgins, 2003 and World Bank, 2012b).

Table 5.4
 Inclusion gaps for youth

Country	Labour market structure	Opportunities for youth	Quantity of education	Quality of education	Financial inclusion
Central Europe and the Baltic states					
Croatia	Medium	Large	Small	Medium	Medium
Estonia	Medium	Small	Negligible	Medium	Negligible
Hungary	Large	Medium	Negligible	Small	Large
Latvia	Small	Small	Small	Medium	Large
Lithuania	Medium	Small	Small	Medium	Small
Poland	Medium	Medium	Small	Medium	Large
Slovak Republic	Medium	Medium	Small	Large	Large
Slovenia	Medium	Small	Small	Small	Negligible
South-eastern Europe					
Albania	Medium	Large	Small	Large	Negligible
Bosnia and Herzegovina	Small	Medium	Medium	not available	Small
Bulgaria	Small	Medium	Small	Medium	Small
FYR Macedonia	not available	Medium	not available	Large	Medium
Kosovo	not available	not available	not available	not available	not available
Montenegro	Medium	Large	Small	Large	Large
Romania	Negligible	Medium	Small	Medium	not available
Serbia	Small	Large	Large	Medium	Large
Turkey	Medium	Medium	Large	Medium	Large
Eastern Europe and the Caucasus					
Armenia	Medium	Large	Small	Medium	Negligible
Azerbaijan	Medium	Large	Negligible	Large	Medium
Belarus	not available	not available	Negligible	not available	Large
Georgia	Negligible	Large	Negligible	Medium	Negligible
Moldova	Medium	Medium	Small	Large	Negligible
Ukraine	Medium	Small	Small	Large	Negligible
Russia	Medium	Medium	Negligible	Medium	Medium
Central Asia					
Kazakhstan	Small	Medium	Small	Large	not available
Kyrgyz Republic	Medium	Medium	Medium	Large	Small
Mongolia	Small	Medium	Medium	not available	Negligible
Tajikistan	Medium	Large	Small	not available	Negligible
Turkmenistan	not available	not available	Small	not available	Negligible
Uzbekistan	not available	not available	Small	not available	Small
Southern and eastern Mediterranean					
Egypt	Medium	Large	Large	not available	Negligible
Jordan	Negligible	Large	Large	Medium	Large
Morocco	Medium	Large	Large	Large	Medium
Tunisia	not available	Large	Large	Large	Small
Comparator countries					
France	Medium	Large	Negligible	Small	Medium
Germany	Medium	Negligible	Small	Small	Negligible
Italy	Small	Large	Negligible	Medium	Large
Sweden	Large	Medium	Small	Small	Negligible
United Kingdom	Small	Medium	Small	Small	Negligible

Source: See Table 5.3.

Note: See Annex 5.2 for methodology.

²⁸ While current education indicators could be compared with past indicators that would have been relevant for the current adult population, this would amount to comparing opportunities afforded to young people at two points in time, rather than comparing the opportunities of those who are currently young with those who are currently adults.

REGIONAL GAPS

The final stage of the analysis attempts to measure regional inequality in terms of institutions, education and services, which probably reflects inequality of opportunity linked to people's place of birth and place of residence within a country. This involves addressing the following two complications.

- First, internationally comparable data on institutions, education and services are rarely available at the regional level.
- Second, where such data exist, indices of intra-country inequality will depend on the definition of administrative regions, which may differ widely across countries. Consider two countries with identical intra-country inequality at the level of local institutions. These will appear to have very different levels of internal inequality if one country is divided into 10 regions, while the other is divided into just three. The level of inequality measured in the latter will be lower, because inequality within a region is not recorded.

To circumvent these problems, the next analysis is based primarily on LiTS (2010) data at the level of primary sampling units (PSUs). Imagine PSUs as micro-regions, each numbering about 20 respondent households, which are spread across a country to give a representative impression of the country as a whole. The fact that the PSUs are collectively representative and of equal size solves the problem that comparing administrative regions of different sizes may create spurious differences in inequality.

In addition, the LiTS contains plenty of information on households' perceptions of local institutions and services, which is internationally comparable. The main disadvantage, though, is that it does not contain data for the SEMED countries.

The analysis focuses on four dimensions: differences in the quality of local institutions; access to, and quality of, services (such as utilities or health care); labour markets (local unemployment and the extent of informal employment); and education (quantity and perceived quality). With the exception of the quantity of education, which is drawn from an extensive regional-level dataset – see Gennaioli et al. (2013) – all data are drawn from the 2010 LiTS (see Table 5.5).

Regional inequality is measured in two ways: a Gini coefficient based on means for PSU (regional-level) data; and the difference between the mean of the top quintile of regions (that is to say, the 20 per cent at the top of the regional distribution for an indicator) and that of the bottom quintile. For the LiTS data, which comprise 50 PSUs in most countries, this means comparing the top ten PSUs (ranked according to a specific indicator) with the bottom ten. For the Gennaioli et al. (2013) data, the top and bottom regions were combined in artificial regions representing about 20 per cent of the population at both ends; means were then calculated and compared for these combined regions.

Although conceptually the benchmark against which inequality

Table 5.5
Regional inclusion gaps – dimensions and indicators

Dimension	Indicators	Source
Quality of, and trust in, local institutions	Corruption in administrative, health and education systems	LiTS (2010)
	Quality of administrative, health and education systems	
	Trust in local government	
	Satisfaction with local government	
Access to services	Access to water	LiTS (2010)
	Access to heating	
	Perception of quality of health care system	
Labour markets	Unemployment	LiTS (2010)
	Formal or informal job?	
Education	Years of education	Gennaioli et al. (2013)
	Perception of quality of education system	LiTS (2010)

is measured is perfect equality, regions may be different as a result, for example, of geography and resource endowments. Therefore, the benchmarks against which gaps are measured are set empirically, based on the lower end of the observed distributions for the top-to-bottom difference and the Gini coefficient of each indicator (see Annex 5.2). The two resulting gap measures per indicator are subsequently averaged.

Table 5.6 shows the results. Across institutional dimensions regional gaps are largest in relation to labour markets, particularly in SEE countries, the Caucasus, Tajikistan and Uzbekistan. Gaps for access to local services are “medium” to “large” across most EBRD countries of operations – except for Belarus and Slovenia, where they are “negligible”. Regional gaps with regard to the quality of local institutions are mostly “medium” – with the exception of Bosnia and Herzegovina, Serbia and Uzbekistan, where they are “large”.

There are “small” education gaps in most CEB countries and about half of the SEE region, but Egypt, FYR Macedonia, Georgia, Moldova, Morocco, Serbia, Turkey and Uzbekistan all have “large” gaps. ◻

Table 5.6
 Inclusion gaps for regions

Country	Institutions	Access for services	Labour markets	Education
Central Europe and the Baltic states				
Croatia	Medium	Medium	Small	Medium
Estonia	Small	Medium	Negligible	Small
Hungary	Medium	Small	Large	Small
Latvia	Small	Medium	Small	Medium
Lithuania	Medium	Large	Small	Small
Poland	Medium	Medium	Medium	Small
Slovak Republic	Medium	Small	Medium	Small
Slovenia	Small	Negligible	Small	Small
South-eastern Europe				
Albania	Medium	Medium	Large	Small
Bosnia and Herzegovina	Large	Large	Large	Small
Bulgaria	Medium	Medium	Medium	Medium
FYR Macedonia	Small	Medium	Large	Large
Kosovo	Medium	Large	Large	Small
Montenegro	Medium	Medium	Large	Small
Romania	Medium	Large	Medium	Medium
Serbia	Large	Medium	Large	Large
Turkey	Medium	Medium	Medium	Large
Eastern Europe and the Caucasus				
Armenia	Medium	Medium	Large	Medium
Azerbaijan	Medium	Small	Large	Small
Belarus	Medium	Negligible	Small	Negligible
Georgia	Negligible	Large	Large	Medium
Moldova	Medium	Large	Large	Large
Ukraine	Medium	Medium	Medium	Small
Russia	Medium	Small	Small	Medium
Central Asia				
Kazakhstan	Small	Small	Medium	Medium
Kyrgyz Republic	Medium	Large	Medium	Small
Mongolia	Negligible	Medium	Medium	Medium
Tajikistan	Medium	Large	Large	Small
Turkmenistan	not available	not available	not available	not available
Uzbekistan	Large	Medium	Large	Large
Southern and eastern Mediterranean				
Egypt	not available	not available	not available	Large
Jordan	not available	not available	not available	Small
Morocco	not available	not available	not available	Large
Tunisia	not available	not available	not available	not available
Comparator countries				
France	Small	Medium	Medium	Medium
Germany	Negligible	Large	Negligible	Medium
Italy	Large	Medium	Negligible	Small
Sweden	Medium	Small	Small	Small
United Kingdom	Medium	Small	Small	Large

Source: See Table 5.5.

Note: See Annex 5.2 for methodology.

CONCLUSION

This chapter has assessed inequality of opportunity in the transition region using two complementary approaches. First, “bottom-up” econometric analysis established the extent to which differences in household assets and tertiary education within countries can be attributed to different circumstances at birth, such as parental education and place of birth. Second, a combination of policy indices and data on outcomes was used to assess the capacity of the economic system in each country to create opportunities regardless of gender and place of birth and to equip young people with skills and jobs regardless of their social background (“top-down” analysis).

The analysis has significant limitations, due mostly to gaps in the data. Inequality of opportunity was assessed with respect to household assets, rather than income or earnings. A number of potential determinants of inequality of opportunity – including ethnicity, sexual orientation and physical disability – were not considered. The bottom-up analysis of gender is incomplete, focusing only on its effect on tertiary education. In addition, the SEMED countries were covered only in the top-down analysis (primarily for gender and youth-related gaps). Subject to these caveats, several conclusions emerge.

First, according to the bottom-up analysis, there is significant inequality of opportunity with regard to economic success – proxied by household assets – in a number of transition countries. The drivers of these are place of birth (with birth in rural areas putting individuals at a disadvantage) and parental education. Inequality of opportunity with regard to these circumstances is particularly high in the Western Balkans and some eastern European and Central Asian countries.

Second, according to the top-down analysis, the same group of countries also tend to have less inclusive institutions and economic systems. High inequality of opportunity in these countries could be due to regional variation in the quality of local institutions, employment opportunities and public services. It could also reflect a failure to provide young people with relevant education and job opportunities, which implies that disadvantages at birth persist in later life. Similar inclusion gaps, particularly in relation to youth, seem to be present in the SEMED countries (which are not included in the bottom-up analysis).

Third, an analysis of labour policies and practices, education, access to finance and related aspects of the economic system suggests that “large” inclusion gaps with regard to gender exist in most Central Asian and SEMED countries, and also in Turkey. In addition, there are “large” gender gaps in specific dimensions – particularly labour practices, and female participation in management and business ownership – in virtually all transition countries.

Lastly, with the exception of Egypt, Morocco, Tajikistan, Turkey and Uzbekistan, education is not a major factor in the inequality of opportunity suffered by women. At the same time, in most countries gender does not seem to play a role in explaining

differences in tertiary education. That said, the analysis also confirms the existence of “large” gaps in terms of the quality and relevance of education in many transition countries. The SEMED region also has “large” gaps in relation to the typical length of education. Therefore, education – and particularly its quality – is likely to be an important factor contributing to inequality of opportunity as regards people’s social or geographical origins.

The analysis in this chapter raises warning flags about the presence of inclusion gaps and household-level inequality of opportunity in some of the countries that are in greatest need of continued market-oriented reform. It also points to the aspects of the economic system that appear to be the most problematic in those countries. However, this is only a first step. Additional analysis will be needed to explore how reform and economic performance are influenced by country-level inclusion gaps and household-level inequality of opportunity as identified in this chapter. Key to this will be a better understanding of how actual inequality, inequality of opportunity and the inclusiveness of economic systems influence beliefs about markets and democracy in the transition region.

Annex 5.1

ESTIMATING AND DECOMPOSING INEQUALITY OF OPPORTUNITY

IOP^{wealth} and IOP^{edu} measure the degree to which variations in wealth and tertiary education respectively can be attributed to the four circumstances at birth that are the focus of analysis. The vehicle for estimating IOP^{wealth} and IOP^{edu} is a reduced form regression of the type:²⁹

$$y_i = C_i\psi + \varepsilon_i \quad (*)$$

where y_i denotes an outcome variable (that is to say, a household wealth index or an indicator variable that takes the value 1 if individual i has a university degree and 0 if not) and C_i is a vector of circumstances that includes parental education, the person's place of birth, parental membership of the communist party and (in the case of the education regression) gender.

The coefficient vector ψ captures both direct and indirect effects of circumstances on economic outcomes. For example, parental education may influence an individual's skills and effort, which affect household assets – but it may also influence future earnings for given levels of skill and effort through, for instance, social connections or inherited assets. Coefficient estimates for ψ , based on running one wealth index regression and one education regression for each country, are reported graphically in Charts 5.1 to 5.4.

Because the wealth outcome variable (the asset index) is continuous, while the university education indicator is a binary variable (0 or 1), IOP^{wealth} and IOP^{edu} each require a different inequality index. IOP^{wealth} is simply the R^2 from the regression outlined above – that is to say, the percentage of the variation in the outcome variable which is explained by the variables on the right-hand side (in this case, the circumstances in question).

$$R^2 = \frac{\sum_{i=1}^N (\hat{y}_i - \bar{y})^2}{\sum_{i=1}^N (y_i - \bar{y})^2}$$

For the regression with the university-level education indicator as the dependent variable (IOP^{edu}), the appropriate analogous measure is a dissimilarity index (D-index) – broadly, 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 predicted outcomes that are much lower than the mean (due to unfavourable circumstances). The larger the distance between predicted values and the mean, the more dissimilarity there is in how different sets of circumstances contribute to outcomes in the sample. A modified version of the D-index is used:³⁰

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

Note that estimates from the regressions are probably biased, owing to circumstances missing from the analysis (for example, people's mother tongue). Because the aim is not to interpret the coefficients for individual circumstances, but rather to see how well the set of circumstances considered accounts for inequality in wealth accumulation and university-level educational attainment, this bias is not a first-order concern, as long as omitted circumstances either have similar effects across countries or are not correlated with the circumstances included.

However, omitted variables will undermine the comparability of country-specific estimates of IOP^{wealth} and IOP^{edu} if they affect some countries differently (by explaining more or less variation in outcome) or if their correlation with the circumstances included varies by country.

Aside from presenting levels of inequality of opportunity, this chapter reports on the extent to which individual circumstances at birth contribute to IOP^{edu} and IOP^{wealth} respectively. For such estimations, a "Shapley decomposition technique" is employed. This approach, which is adapted from cooperative game theory, decomposes an outcome that reflects the contributions of several factors into shares attributable to each (in the present context, individuals' specific circumstances), such that these shares sum to one.³¹ Charts 5.6 to 5.8 present these decompositions graphically for each country.

The effect of these circumstances on economic and educational outcomes will depend on the characteristics of the economy and the education system, which change slowly over time. For this reason analysis of the type described above would ideally be undertaken by age cohort, that is to say, running regression (*) shown at the start of this annex and calculating IOP^{edu} and IOP^{wealth} separately for groups of individuals within an age bracket – for example, 15 to 24-year-olds, 25 to 34-year-olds, and so on.

Unfortunately, the limited sample sizes preclude this approach, with the exception of the education regressions (where the analysis was conducted separately for cohorts of workers aged 37 and under and 38 and over). As a robustness check on results, however, age and age² were added to the regression (*) as controls. While these controls tend to be significant, they do not explain much additional variation in outcomes, and the R^2 and D-indices are essentially unchanged.

²⁹The methodology described in this annex draws on Bourguignon et al. (2007), Paes de Barros et al. (2009) and Ferreira et al. (2011).

³⁰See Chávez Juárez and Soloaga (2013).

³¹See Shorrocks (2013). The Shapley decomposition was implemented in Stata using the "Iop" command written by Chávez Juárez and Soloaga (2013).

Annex 5.2

ASSUMPTIONS UNDERLYING INCLUSION GAP CALCULATIONS

This annex provides further background information on how the indicators described in Tables 5.1, 5.3 and 5.5 were translated into gender, youth and regional inclusion gaps. Full details and the underlying data are available online in downloadable Excel files.

For the **gender and youth gaps**, the data took three forms:

policy indices constructed by organisations such as the EIU, the World Bank, the International Labour Organization and the World Economic Forum;

plain data – for example, test score data from PISA (the Programme for International Student Assessment) or, for countries where PISA data are not available, TIMSS (the Trends in International Mathematics and Science Study);³²

data expressing a ratio, percentage difference or absolute difference (in percentage points) between the target group (women or 15 to 24-year-olds) and a comparator group (men or 25 to 64-year-olds respectively).

Policy indices incorporate a normative interpretation, typically running from a worst value of n to a best value of N in integer steps. The data analysis underlying the gap calculations generally sought to maintain that interpretation. Hence, the only manipulation of these data was their mapping to the transition indicator scale, which starts with a jump from 1 (the lowest possible value, equivalent to a country before the beginning of transition) to 2- ($1\frac{2}{3}$) and subsequently increases linearly until it reaches 4+ ($4\frac{1}{3}$). If k denotes the index value, assumed to be an integer, $n \leq k \leq N$, and x denotes the transformed index on the transition indicator scale, the following formulas were used:³³

$$x = 3\frac{1}{3} \cdot \frac{k-n}{N-n} + 1, \quad \text{for } N-n \leq 5$$

$$x = 2\frac{2}{3} \cdot \frac{k-n-1}{N-n-1} + 1\frac{2}{3}, \quad \text{for } N-n > 5$$

These formulas ensure that the transition indicator value assigned to the lowest index value is always 1 and that the next value is at least 2-. The remainder of the index values are mapped proportionally to the interval between 2- and 4+.

Plain data and data expressing differences were mapped into the transition indicator scale in discrete ($\frac{1}{3}$) steps, using the cut-offs defined in Table A.5.2.1. The cut-offs were set either in relation to international best and worst practices, or using some combination of best or worst practices and a normative judgement – as in the case of gender gaps, where only parity between males and females was good enough to earn the highest possible score of 4+ on the transition indicator scale, a situation that exists internationally for some indicators (for example, access to education), but not for many others at present for example, gender pay gaps continue to exist everywhere.

After expressing all data on the 1 to 4+ transition scale, the transformed data were averaged within each category. In the gender gap analysis, which in some categories involved a large number of series with overlapping information content, this was done using a principal components methodology that assigns weights in relation to the new information carried by each series. In the youth gap analysis, simple averages were used – except in the case of the quality of education dimension, where a weighted average was applied.³⁴

The **regional gap** analysis was based on two measures: Gini coefficients based on means of PSU (regional-level) data, and the percentage difference between the top and bottom quintiles of regions. Hence, both measures are defined as continuous indices between 0 and 1. For each of these indices, a lower (n) and upper cut-off (N) were chosen, based on international comparisons. Between these extremes, the following formula was used:

$$x = 3\frac{1}{3} \cdot \frac{N-l}{N-n} + 1$$

The lower and upper bounds are defined in Table A.5.2.2.

³² Gaps in the PISA scores were filled by running a linear regression of PISA scores on TIMSS scores using data from countries where both are available, and using the estimated regression coefficients to fit PISA scores for countries where only TIMSS data were available.

³³ An exception was made in the case of three indices (for labour market flexibility and perceptions of educational quality) produced by the World Economic Forum (see Table 5.2). Those indices run from 1 to 7, but no country was rated higher than a 6. In this case, the scale was truncated from 7 to 6 to allow a more generous definition of a "negligible" gap.

³⁴ First, a combined "school reliability" score was calculated as a simple average of the teacher shortage, material shortage and school accountability scores. Second, a weighted average was calculated with weights in the following proportions: test scores 1, school reliability 1, business executives' perception of quality World Economic Forum (WEF) 1.5, households' perception of quality (LITS) 0.5, and university rankings 1.5.

Table A.5.2.1
Translating percentage gaps into transition scores and qualitative gaps

Concept/indicator	Gap and transition scores									
	Negligible	Small			Medium			Large		
	4.33	4.00	3.67	3.33	3.00	2.67	2.33	2.00	1.67	1.00
Gender gap (percentage difference)	0	1 to >0	3 to >1	6 to >3	10 to >6	15 to >10	20 to >15	25 to >20	35 to > 25	>35
Unemployment (youth rate in per cent minus adult rate in per cent)	≤6.0	6.0-7.5	7.5-9.0	9.0-10.5	10.5-12.5	12.5-14.5	14.5-16.5	16.5-18.5	18.5-20.5	>20.5
NEET (per cent)	<10.0	10.0-12.5	12.5-15.0	15.0-17.5	17.5-20.0	20.0-22.5	22.5-25.0	25.0-27.5	27.5-30.0	>30
Years of education	≥11.0 years	10.5-11.0	10.0-10.5	9.5-10.0	9.0-9.5	8.5-9.0	8.0-8.5	7.5-8.0	7.0-7.5	6.5-7.0
No education (per cent)	0	0-0.5	0.5-1.0	1.0-1.5	1.5-2.0	2.0-2.5	2.5-3.0	3.0-3.5	3.5-4.0	>5.0
Quality of education (PISA/TIMSS score (normalised between 0 and 1) minus highest possible score (-1))	≥-0.24	[-0.26,-0.24]	[-0.28,-0.26]	[-0.30,-0.28]	[-0.32,-0.30]	[-0.34,-0.32]	[-0.36,-0.34]	[-0.38,-0.36]	[-0.40,-0.38]	[-0.42,-0.40]
Teacher shortage (average country response; 0 is best, 1 is worst)	<0.10	0.14	0.18	0.22	0.26	0.30	0.34	0.38	0.42	>0.46
Material shortage (average country response; 0 is best, 1 is worst)	<0.25	0.25	0.333	0.416	0.5	0.58	0.66	0.75	0.83	>0.91
School accountability (average country response; 1 is best, 0 is worst)	1	0.95-0.99	0.90-0.95	0.85-0.90	0.80-0.85	0.75-0.80	0.70-0.75	0.65-0.70	0.60-0.65	<0.60
Quality of education (LITS average country response; 0 is best, 1 is worst)	<0.050	0.050-0.075	0.075-0.100	0.100-0.125	0.125-0.150	0.150-0.175	0.175-0.200	0.200-0.225	0.225-0.250	>0.250
Top universities (cumulative number of country's universities mentioned in top 500 during 2003-12 per million of population)	>2.00	1.66-2.00	1.34-1.66	1.00-1.33	0.66-1.00	0.34-0.66	0.00-0.33	0	0	0
Youths with bank accounts (youth rate in per cent minus adult rate in per cent)	≤6.0	6.0-7.5	7.5-9.0	9.0-10.5	10.5-12.0	12.0-13.5	13.5-15.0	15.0-16.5	16.5-18.0	>18.0
Youths with debit cards (youth rate in per cent minus adult rate in per cent)	≤10.0	10.0-12.0	12.0-14.0	14.0-16.0	16.0-18.0	18.0-20.0	20.0-22.0	22.0-24.0	24.0-26.0	>26.0

Table A.5.2.2
Upper (worst) and lower (best) bounds (N, n) for regional indices

Dimension		n	N
Institutions	Top/bottom	0.2	0.467
	Gini	0.14	0.22
Access to services	Top/bottom	0.2	0.467
	Gini	0.2	0.33
Formality of labour	Top/bottom	0.35	0.7
	Gini	0.1	0.233
Unemployment	Top/bottom	0.3	0.45
	Gini	0.25	0.35
Years of education	Top/bottom	1	3.67
	Gini	0.01	0.09
Perception of education	Top/bottom	0.2	0.467
	Gini	0.35	0.43

Note: For each dimension, the resulting two indices were subsequently averaged and translated into "negligible", "small", "medium" or "large" gaps.

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