Life in Transition IV

Household resilience in a turbulent world

European Bank
for Reconstruction and Development

About this report

The EBRD is committed to furthering the transition to market economics and promoting the development of the private sector and entrepreneurial initiative. These have been its guiding principles since its creation at the beginning of the 1990s, when the EBRD was heavily involved in areas such as banking-sector reform, price liberalisation, the privatisation of state-owned companies and the creation of proper legal frameworks.

While the Bank remains as committed to fulfilling its original mandate as ever, its understanding of what the transition to market economics actually entails has evolved in recent years. At the beginning of 2017, for example, the EBRD began applying a new transition concept, which defines a "well functioning market economy" as more than just competitive; it should also be inclusive, well governed, green, resilient and integrated.

Every few years, the EBRD conducts the Life in Transition Survey (LiTS) – a major survey of households and individuals in the economies where it invests – in collaboration with the World Bank in order to inform its operations. This publication summarises the main results of the fourth round of that survey, which was carried out in the EBRD regions and several comparator economies in 2022 and 2023, following previous rounds in 2006, 2010 and 2016.

Notes

- In this report, the term “EBRD regions” refers to the 33 EBRD economies of operation where the fourth round of the Life in Transition Survey (LiTS IV) was conducted in the second half of 2022 and the first half of 2023: Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Croatia, Czechia, Estonia, Georgia, Greece, Hungary, Jordan, Kazakhstan, Kosovo, the Kyrgyz Republic, Latvia, Lebanon, Lithuania, Moldova, Mongolia, Montenegro, Morocco, North Macedonia, Poland, Romania, Serbia, the Slovak Republic, Slovenia, Tajikistan, Tunisia, Türkiye, Uzbekistan and the West Bank and Gaza.
- Egypt, Turkmenistan and Ukraine were not covered by LiTS IV. Consequently, they are not included in this report, either.
- Germany was included in the survey as a comparator to allow us to benchmark the EBRD regions against an advanced market economy, thereby giving us a clearer perspective on the remaining challenges facing the EBRD’s economies of operation.
- Algeria, Belarus and Russia were included as additional comparators, but are not included in any regional aggregates. On 4 April 2022 the EBRD announced that, following the invasion of Ukraine, its Board of Governors had formally suspended Belarus’s and Russia’s access to EBRD funding for projects and technical cooperation.
- More recently, the survey has also been carried out in Benin, Côte d’Ivoire, Ghana, Iraq, Kenya, Nigeria and Senegal. Note, however, that none of the references to the survey or its results in this report include those seven countries.
- All charts based on LiTS data use survey-weighted observations. Regional averages are calculated as simple averages across the economies in the relevant region. Chart notes provide further information about the variables and datasets used in the analysis.

Abbreviations

Albania	ALB
Algeria	DZA
Armenia	ARM
Azerbaijan	AZE
Belarus	BLR
Bosnia and Herzegovina	BIH
Bulgaria	BGR
Croatia	HRV
Czechia	CZE
Estonia	EST
Georgia	GEO
Germany	DEU
Greece	GRC
Hungary	HUN
Jordan	JOR
Kazakhstan	KAZ
Kosovo	KOS
Kyrgyz Republic	KGZ
Latvia	LVA
Lebanon	LBN
Lithuania	LTU
Moldova	MDA
Mongolia	MNG
Montenegro	MNE
Morocco	MAR
North Macedonia	MKD
Poland	POL
Romania	ROU
Russia	RUS
Serbia	SRB
Slovak Republic	SVK
Slovenia	SVN
Tajikistan	TJK
Tunisia	TUN
Türkiye	TUR
Uzbekistan	UZB
West Bank and Gaza	PSE

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Executive summary

In the second half of 2022 and the first half of 2023, the fourth round of the Life in Transition Survey (LiTS IV) was carried out in 37 economies – 33 economies in the EBRD regions, plus Algeria, Belarus, Germany and Russia. The survey was conducted face to face, with 1,000 randomly selected individuals in each economy answering questions about their income, employment, education, attitudes, beliefs and recent experiences. This report discusses the major themes that have emerged from the analysis of those data so far.

An important first finding from LiTS IV is that inequality of opportunity – which is typically regarded as the unfair part of inequality – has increased across much of the EBRD regions since 2016, despite generally being expected to decline in higher-income economies as per capita income grows. Mirroring this trend, intergenerational mobility (captured by the percentage of people who achieve a level of education higher than that of their parents) has fallen sharply for people born in the 1980s and 1990s relative to those born between the 1940s and the 1960s. Similarly, most survey respondents feel that they have fared worse than the median person in their country since 2016. This, in turn, weighs on support for reforms as people question beliefs such as faith in the value of hard work.

A second core finding is that numbers of informal jobs – that is to say, jobs that are not governed by written contracts – remain high in the EBRD regions, while many jobs do not provide access to benefits such as pensions, social security, annual leave and sick leave. These non-pecuniary attributes of jobs matter for mental health and satisfaction with life. While such informality can be expected to decline as economies develop, the current tightness of labour markets could be an opportunity to accelerate this transition in ageing economies. At the same time, economies with rapidly growing labour forces will need to strike a difficult balance between creating jobs for new entrants to the labour market and improving the conditions of existing jobs.

Third, LiTS IV data show that while access to the internet at home (excluding 3G/4G mobile internet) and ownership of laptops and tablets are strongly correlated with countries' development and households' income, access to mobile internet and smartphones is much more consistent across countries and across the income distribution, providing alternative ways of accessing digital services. At the same time, however, investment in digital skills will be crucial to allow technological gains to be shared widely; otherwise, digitalisation risks exacerbating existing socioeconomic divides.

The last chapter of the report examines attitudes towards climate change and people's willingness to pay more tax in order to protect the environment, drawing on the results of deep dive surveys conducted by the World Bank in five economies as an add-on to LiTS IV. These results show the importance not only of increasing people's incomes, but also of building trust in institutions and informing the public about achievements to date. It also suggests that public support for green subsidies (where the costs in terms of higher taxes are less salient) tends to be stronger than support for environmental taxes.

Chapter 1. Unequal opportunities

Inequality of opportunity occurs when opportunities in life are limited on the basis of a person's gender, their place of birth, their parental background or other circumstances outside their control (typically circumstances at birth). Inequality of opportunity is thus widely regarded as the unfair part of inequality that cannot be explained by differences in skills or effort. Inequality of opportunity is also inefficient, because it prevents people from making the best use of their skills or realising their entrepreneurial ideas.

Unequal access to opportunities may also lead to a loss of faith in economic and political institutions. It may undermine the belief that hard work – as opposed to, say, political connections – is key to determining success in life. It can also influence voting patterns and reduce popular support for democracy, market economics and structural reforms.

This chapter estimates inequality of opportunity in the EBRD regions, which is measured as the percentage share of income inequality that stems from circumstances beyond people's control. Generally speaking, inequality of opportunity appears to first rise and then fall as gross domestic product (GDP) per capita increases. However, in most economies in the EBRD regions (including higher-income economies) inequality of opportunity has increased since 2016 despite significant growth in income per capita. Perhaps reflecting those increases in inequality of opportunity, most survey respondents feel that they have done worse than the median person (that is to say, a typical individual) in their country since 2016.

As parents' background plays a particularly important role in determining children's education, employment and income, educational reforms can be effective in improving economic opportunities for all. Access to tertiary education can be broadened through targeted and competitive scholarship programmes. Improving the quality of public primary and secondary education benefits everyone, but it disproportionately benefits weaker and poorer students who are not able to compensate for the weaknesses of the state system. Meanwhile, better physical and digital infrastructure linking urban and rural areas and different regions of the country can help to ensure that there is no "wrong place" to be born. Reforms that make it easier to start a business, improve the business environment for small firms and improve access to finance across the board can also help to reduce the importance of family connections for achieving economic success.

Chapter 2. Informal jobs

Most people spend a substantial amount of time at work and work for a significant percentage of their lives. Consequently, various characteristics of the jobs they do – besides the pay – are important determinants of their wellbeing. Annual leave, sick leave, pension benefits, unemployment insurance, medical insurance and other benefits are all important for a person's wellbeing, productivity and participation in the labour force, as are formal and stable contractual arrangements and decent working conditions.

However, many jobs remain informal and insecure. A total of 14 per cent of all jobs in the EBRD regions are not governed by a written contract, while 25 per cent do not afford access to annual leave and 30 per cent do not involve sick leave. Over a third of all jobs do not provide access to pensions or social security. At the same time, working conditions can pose physical health risks or entail excessive working hours, resulting in undue physical and mental strain.

While informality tends to be greater in poorer economies, the levels of informality in the southern and eastern Mediterranean region stand out even when accounting for economies' GDP per capita. In the EBRD regions, informality is also concentrated in the agriculture, construction, services and sales sectors, whereas in Germany those jobs are just as formal as jobs in other sectors.

Lower-paid jobs in EBRD economies tend to offer less access to benefits than higher-paying jobs. At the same time, there may be trade-offs between pay and other attributes of jobs. For instance, in the EBRD regions, women tend to have lower-paid jobs than men, but more generous benefits and lower incidence of long working hours.

In economies with rapidly growing labour forces, there may be trade-offs between the creation of new jobs (for young entrants to the labour market) and efforts to ensure that existing jobs afford certain protections and benefits (for those already in employment). There is a case for gradually shifting the focus of labour market institutions from employment protection legislation to unemployment insurance, as well as streamlining the regulation and taxation of firms of all sizes. Trade-offs between the quantity and quality of jobs may be less pronounced in economies with shrinking labour forces, where a greater focus on the attributes of jobs for young workers may be called for.

Chapter 3. Digitalisation: a generational divide

Digital skills are becoming increasingly important, not only for shopping online, enrolling on courses and interacting with the government, but also for accessing good jobs, as economies focus more on digital sectors and digital skills become more valuable within individual sectors. This chapter draws on a new module in LiTS IV, which included detailed questions about respondents' use of the internet, their assessment of their digital skills and their experiences with remote learning during the Covid-19 pandemic. The results of the survey suggest that jobs requiring digital skills carry an estimated wage premium of 12 to 33 per cent relative to jobs with no digital skill requirements. Those jobs also offer greater access to benefits such as pensions, social security, annual leave and sick leave.

Access to 3G/4G mobile data services is high across the EBRD regions, even in economies where a smaller proportion of households have access to non-mobile internet at home. Similarly, while only around a quarter of lower-income households in the EBRD regions own a computer or a laptop, around 70 per cent have a smartphone. This suggests that businesses and governments could broaden their reach by optimising their online services for mobile phones rather than computers.

While around 75 per cent of respondents in the EBRD regions use the internet for phone or video calls, only around 30 per cent report being able to send emails with attachments, copy files and install software. In EBRD economies in the European Union, the distribution of digital skills primarily reflects a generational divide. Among younger cohorts, nearly everyone makes payments online and uptake of e-government services is strong. In other EBRD economies, however, only around 40 per cent of respondents below the age of 30 report being able to send emails with attachments, copy files and install software. Thus, generational change may not, on its own, be sufficient to deliver near-universal digital literacy in the foreseeable future in those economies.

E-learning has the potential to personalise education and improve learning opportunities outside big cities. However, people's experience with remote learning during the Covid-19 pandemic shows that the rise of online learning could exacerbate divides in society if online tools end up being used much more effectively by richer households. Policies to mitigate such inequalities could include the distribution of devices to students, efforts to ensure that students have effective access to learning materials via their mobile phones, and measures aimed at enhancing digital literacy in schools.

Chapter 4. Support for the green transition

This chapter looks at attitudes towards climate change and willingness to pay for policies that mitigate it, drawing in part on the deep dive surveys that the World Bank conducted in Albania, Armenia, Georgia, the Kyrgyz Republic and Tajikistan as an add-on to LiTS IV.

Most survey respondents are concerned about climate change and damage to the environment. However, such concerns do not necessarily translate into a willingness to pay more tax or forgo economic growth and job creation in order to prioritise environmental policies.

Respondents in higher-income households generally express greater willingness to pay in order to protect the environment. People who are more patient (valuing future income more highly relative to funds available today) are also more willing to pay for environmental policies, as are those who trust the government more.

Only a small percentage of participants in the deep dive surveys believe that all proceeds from a carbon tax or an increase in electricity tariffs that was aimed at addressing climate change would end up being spent on the transition to a green economy. At the same time, participants in those surveys tend to underestimate the percentage of their country's energy production that currently comes from renewable sources.

These results underscore the critical importance of effectively communicating green policies and building awareness of the progress made to date. Efforts to build trust in government, reduce corruption and increase the efficiency and transparency of government spending can also help to boost support for climate-change policies in emerging markets.

The results suggest that environmental subsidies receive greater support than taxes (as the eventual costs of subsidies in terms of higher taxes are less salient). Policies targeting particularly visible aspects of climate change and environmental damage (such as measures aimed at adapting to the changing climate and mitigating the impact of natural disasters) are also more likely to receive broad support. Highlighting the local environmental benefits of green policies (such as improved air quality, health benefits and potential job creation) can also help to leverage popular support for such measures.

Foreword

The mission of the EBRD is to foster a transition to open market economics in the economies where it invests, helping to make them not only competitive, integrated and well governed, but also inclusive, green and resilient.

With repeated crises affecting lives and livelihoods across the EBRD regions, politics in many economies has become more polarised, and much-needed reforms – including those required to support the transition to a green economy – now enjoy less than universal support.

In order to understand how peoples' lives and opinions have been shaped by the changes and upheavals seen since the 1990s, the EBRD and the World Bank launched the Life in Transition Survey (LiTS) – a comprehensive large-scale survey looking not only at living standards, but also at the beliefs, perceptions and attitudes of individuals and households in economies where the EBRD operates and comparator countries.

The first round of the survey was conducted in 2006, the second was carried out in 2010, and the third was conducted in 2016. Its reach grew significantly in this time: the first round featured interviews with 29,000 households in 29 economies; the second round covered more than 38,000 households in 34 economies; and the third round involved interviews with 51,000 households in 33 economies.

In the second half of 2022 and the first half of 2023, interviews were conducted with more than 37,000 households in 37 economies (33 economies in the EBRD regions, plus Algeria, Belarus, Germany and Russia) as part of the fourth round of the survey, with 50 localities being visited in each economy. In economies that had also featured in previous survey rounds, around a third of the localities chosen on this occasion had already participated in the second and third rounds. This allows researchers and policymakers to see how lives and attitudes have changed over time within the local communities in question. At the same time, the wording of many questions mirrored that used in other surveys, such as the Gallup World Poll and the World Values Survey, making it easier to combine LiTS information with those datasets.

The first two rounds of the LiTS survey provided insights into subjective wellbeing and attitudes towards reforms, as well as looking at the impact of the global financial crisis, while the third round included an extended module on corruption and governance, as well as a section on the impact that the economic crisis had had on households in Greece. The fourth round of the survey focuses on attitudes towards the green transition, experiences during the Covid-19 pandemic and digital skills. These rich data have helped to inform the EBRD's operations, as well as featuring heavily in our *Transition Reports* and many academic publications.

What are the most important findings from LiTS IV?

Before the transition process began, economies in the EBRD regions were characterised by low levels of inequality and exceptionally high job security. The transition years, in turn, have brought about dramatic changes in the structure of economies and labour markets – benefiting some, but not all. The findings of this report show that while overall levels of inequality remain low in many economies in the EBRD regions, much of where people stand in the income distribution is inherited – explained by where they were born and who their parents were. Furthermore, in many economies, the importance of such factors has increased over time. It is no surprise, then, that most respondents feel that they have fared worse than the median person in their economy since 2016.

This, in turn, weighs on support for reforms, democracy and market economics. It causes people to question the value of effort and hard work, wondering whether these are really the key to success in life.

Support for the green transition – and, crucially, the willingness to pay for it – hinges on people's expectations about the future and their faith in governments' ability to deliver on their promises. Support for green policies tends to be higher where people have greater faith in institutions, where individuals are more aware of what policies have achieved to date, and where the costs are less salient (as in the case of subsidies, which will eventually need to be financed through higher taxes).

Increasingly, people expect the state to be able to socialise risks (both health and economic risks), as highlighted during the Covid-19 crisis. At the same time, people are increasingly demanding more secure jobs. Despite the legacy of central planning, with its near-universal employment, many of today's jobs in the EBRD regions are informal, with one in seven jobs not being governed by a written contract. Similarly, many jobs do not afford access to pensions, social security or benefits such as annual leave or sick leave. People with lower-paid jobs, the young, those working for small firms and people working in the private sector are all less likely to have access to benefits and more likely to have temporary contracts or no written contract at all. In ageing economies with tight labour markets, formal contracts and the provision of benefits may prove to be a win-win solution for employees, employers and, ultimately, society in general. Meanwhile, economies with rapidly growing labour forces may need to strike a fine balance between improving the quality of existing jobs and creating new jobs for the numerous young entrants to the labour market.

Many people hoped that digitalisation would be a great social leveller, reducing the importance of geography and enabling people to learn – and work – across vast distances. However, the results of LiTS IV paint a more nuanced picture. In EBRD economies in the European Union, there is a strong generational divide, with more limited digital literacy among

older respondents and high levels of basic digital skills among the young. In other EBRD economies, by contrast, the young are lagging far behind their peers in Germany in terms of basic digital skills and the use of digital technologies. In these economies, generational change will not, on its own, be sufficient to deliver near-universal digital literacy in the near future.

As time passes and economies develop, the general tendency is for inequality of opportunity to fall, energy to become cleaner, jobs to become more formal and digital skills to improve. However, this report clearly shows that, in many cases, that change is not happening fast enough. And in some economies, it is not happening at all. There are no easy ways of speeding up that change, but a policy mix that combines many of the various options discussed in this report can eventually succeed in making societies more equal, more stable, more productive, greener, healthier and, ultimately, more satisfied with life.

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Chapter 1. Unequal opportunities

The share of inequality that is explained by circumstances beyond individuals' control, such as their place of birth or parental background, has increased on average since 2016 in the EBRD regions. This is a source of concern, as greater inequality of opportunity is associated with a stronger belief that political connections – rather than hard work and effort – determine success in life. It is also associated with weaker support for democracy, market economics and economic reforms.

Introduction

Inequality of opportunity occurs when opportunities in life are limited on the basis of a person's gender, their place of birth, their parental background or other circumstances outside their control (typically circumstances at birth). Higher levels of inequality of opportunity mean that people's circumstances at birth do more to determine their outcomes later in life, including the educational qualifications they obtain, the types of job they get and, ultimately, their income and consumption levels.

Inequality of opportunity is thus widely regarded as the unfair part of inequality (as opposed to the part that can be explained by differences in skills or effort). Greater inequality of opportunity is closely associated with lower intergenerational mobility. In this sense, the concept of equality of opportunity is rooted in a Rawlsian philosophical tradition whereby people can be expected to construct society in such a way that they would be happy for their place in society to be determined at random.[1]

Inequality of opportunity is also 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 with increasingly unequal distribution of income and wealth.[2] Inequality of opportunity may be especially damaging in times of fast technological change, as it means that significant parts of the population are limited in their ability to acquire the new skills needed to support technological innovation.[3] For instance, people with inferior digital skills are less likely to believe that they will have a higher position on the income ladder (that is to say, a higher relative income ranking) in four years' time when controlling for individual characteristics and country fixed effects (see also Chapter 3 on digitalisation).

Furthermore, unequal access to opportunities may also lead to a loss of faith in economic and political institutions. As a result, it may affect underlying beliefs which are critical for the functioning of society, such as the belief that hard work – as opposed to, say, political connections – is key to determining success in life. Unequal access to economic opportunities can also influence voting patterns and reduce popular support for democracy, market economics and structural reforms.

This chapter estimates inequality of opportunity in the EBRD regions – which is measured as the percentage share of income inequality that stems from circumstances beyond people's control – using the fourth round of the Life in Transition Survey (LiTS IV), which was conducted by the World Bank and the EBRD in the second half of 2022 and the first half of 2023. As part of that survey, 1,000 randomly selected individuals in each economy answered questions about their income, employment, education, attitudes, beliefs and recent experiences. Conducted face to face, the survey covered 33 economies in the EBRD regions, plus Algeria, Belarus, Germany and Russia.

The estimates obtained from that survey are contrasted with those obtained from the previous survey round (LiTS III), which was conducted in 2016.[4]

This analysis shows that parental background has a significant effect on outcomes later in life, with parental characteristics currently explaining around 75 per cent of total inequality of opportunity in the EBRD regions.

Generally speaking, inequality of opportunity appears to first rise and then fall as gross domestic product (GDP) per capita increases. However, in most economies in the EBRD regions (including higher-income economies) inequality of opportunity has increased since 2016 despite significant growth in income per capita. Perhaps reflecting those increases in inequality of opportunity, most survey respondents feel that they have done worse than the median person (that is to say, a typical individual) in their country since 2016.

This rise in inequality of opportunity raises broader questions about its potential impact on perceptions, expectations and beliefs. For instance, in economies with greater inequality of opportunity, fewer people expect to climb the income ladder and fewer people think that they have done better in life than their parents. Worryingly, in countries with greater inequality of opportunity, people across the income distribution are less likely to believe that effort and hard work – rather than political connections – are key to success in life. Support for democracy and market economics is also lower in economies with greater inequality of opportunity when controlling for individual characteristics.

[1] See Rawls (1971) and Dworkin (1981).
[2] See Marrero and Rodríguez (2013) and Ferreira et al. (2014).
[3] See Murphy and Topel (2016).
[4] See EBRD (2016) for a discussion.

This chapter begins by looking at overall inequality of opportunity across the EBRD regions, as well as the roles played by key components such as parental background, gender and place of birth. It then places those estimates in the broader context of inequality of opportunity around the world, looks at changes over time and considers the impact that inequality of opportunity may have on people's beliefs and perceptions.

Inequality of opportunity

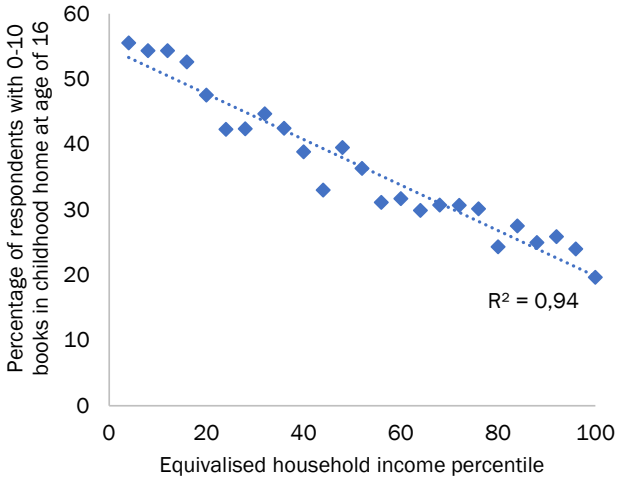
There is a large body of literature documenting the effects that parental characteristics and circumstances during childhood have on outcomes later in life.[5] For instance, the chances of becoming an inventor are strongly determined by an individual's characteristics at birth, even comparing people who had similar levels of cognitive ability (as measured by maths tests) during their school years.[6]

Intergenerational mobility varies greatly across countries, but also within them. For instance, despite the "American dream" being synonymous with intergenerational mobility, the United States of America has, overall, less intergenerational mobility than advanced economies such as Canada or Denmark. What is more, the lack of intergenerational mobility is even more pronounced in areas where segregation and inequality are high, primary schools are of worse quality and social capital is weaker.[7] Furthermore, "absolute mobility" in the United States (which roughly corresponds to the percentage of people who earn more than their parents did) has fallen from 90 per cent for people born in 1940 to 50 per cent for people born in the 1980s.[8] The neighbourhoods where people grow up also help to shape their earnings, university attendance rates, and fertility and marriage patterns (with boys' outcomes varying more across geographical areas than girls' outcomes). US counties with less concentrated poverty, less income inequality, better schools and lower crime rates tend to produce better outcomes for children in poor families.[9]

In line with those findings, LiTS IV data also suggest that parental background has a significant effect on outcomes later in life. For example, the number of books in a person's childhood home (which could, of course, be associated with many other factors, such as parents' education and household income) is closely correlated with economic success in adulthood. As part of the LiTS IV survey, respondents were asked how many books there were in their childhood home when they were 16 (not counting magazines, newspapers or schoolbooks), with five possible answers (0-10 books; 11-25 books; 26-100 books; 101-200 books; or 200+ books). Whether a person had (i) 0-10 books or (ii) 11 or more books in their childhood home at the age of 16 explains 94 per cent of total variation in household income percentiles later in life (see Chart 1.1).[10]

Furthermore, while the average employment rate among those who had more than 10 books at home is close to 60 per cent, it drops to 31 per cent for those who had 10 books or fewer. Levels of mental distress are also 8 per cent higher in the group that had 10 books or fewer relative to respondents who had at least 11 books (when controlling for the country of residence).

Chart 1.1. Having a larger number of books at home in childhood is strongly associated with higher incomes later in life



Source: LiTS IV and authors' calculations.
Note: Income percentiles are estimated for each economy and divided into 25 equally sized bins. For instance, the dot on the far right is an average across the 40 respondents with the highest incomes in each country. Household income is equivalised using the OECD-modified equivalence scale (whereby the size of the household is calculated by assigning a value of 1 for the first person over the age of 14, a value of 0.5 for each additional person over the age of 14, and 0.3 for each child under 14). This chart is based on data for the EBRD regions only.

Measuring inequality of opportunity

The analysis in this section looks more specifically at the relative importance of individual circumstances at birth for incomes later in life. It is based on equivalised household income, with income adjusted using the OECD-modified equivalence scale on the basis of the number of household members.[11]

A focus on equivalised household income (rather than individual earnings) is preferable, as this is the measure of income that best reflects consumption possibilities and general economic wellbeing, since it also accounts for income from other sources (such as capital income or transfers) and the pooling of resources within the household.[12] While personal earnings are an important source of individual status, self-esteem and bargaining power within the household, they are incomplete as a measure of individual

[5] See Solon (1999) and Black and Devereux (2011) for reviews of the extensive body of literature on intergenerational mobility.
[6] See Bell et al. (2019).
[7] See Chetty et al. (2014).
[8] See Chetty et al. (2017).
[9] See Chetty and Hendren (2018a, 2018b).
[10] See also Sikora et al. (2019).
[11] See Hagenaars et al. (1994).
[12] See Brunori et al. (2023b) and Ferreira and Gignoux (2011).

wellbeing (see also Box 1.1 on the links between individual circumstances and access to financial services). This measure also makes it easier to compare estimates derived from LiTS IV with those taken from other studies.

Income inequality is typically measured using a Gini coefficient. This measure ranges from 0 (where income levels are the same for everyone) to 100 (where all the income goes to one person). Gini coefficients can also be used to measure inequality of opportunity. In the analysis that follows, a machine learning approach is used to explain individual incomes in each country on the basis of a number of individual circumstances at birth: gender, place of birth (rural or urban) and parental characteristics (parents' levels of education and sectors of employment, plus the number of books at home during childhood). Predicted incomes based solely on these circumstances 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.

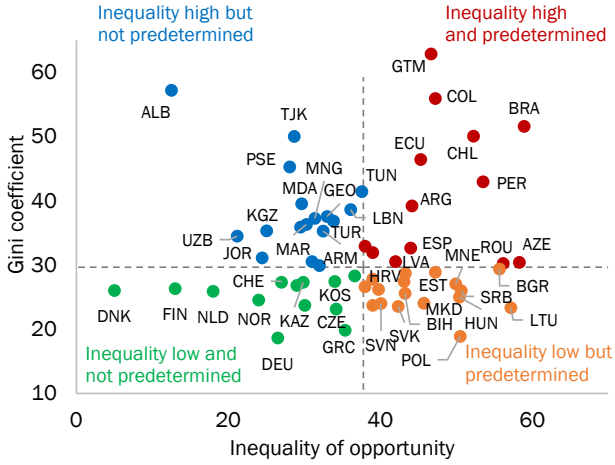
A Gini coefficient that is derived in this way will always be lower than a coefficient that is based on the observed distribution of income, since only part of income (and thus only part of income inequality) is explained by individual circumstances. The ratio of the Gini coefficient based on circumstances at birth to the Gini coefficient of observed income inequality indicates the share of overall income inequality that is explained by predetermined circumstances. The rest is explained by individual skills and efforts, as well as circumstances that are not captured in this analysis (see Box 1.2 for further details on the estimation of inequality of opportunity).

In some economies, such as Czechia, Germany and the Nordic countries, income inequality and inequality of opportunity are both fairly low – that is to say, income differences within the population are fairly small, and only a small percentage of those differences are due to circumstances at birth (see Chart 1.2, bottom left quadrant). Meanwhile, in Latin America and, to a lesser extent, a number of economies in the EBRD regions (including Azerbaijan and Romania), income inequality and inequality of opportunity are both fairly high (see top right quadrant of chart).

While income inequality remains fairly low in many economies in the EBRD regions by international standards, reflecting the legacies of centrally planned economies, in many of those economies (particularly in emerging Europe) inequality of opportunity is nonetheless fairly high (see bottom right quadrant of chart) – that is to say, circumstances such as gender, place of birth and parental characteristics play a significant role in explaining outcomes later in life, while the dispersion of those outcomes is not as high as in some other emerging markets (such as economies in Latin America, for example).

Lastly, in almost 40 per cent of all economies in the EBRD regions – including most economies in the Caucasus, Central Asia and the southern and eastern Mediterranean (SEMED) – income inequality is fairly high, but predetermined characteristics explain a fairly modest share of total variation in individual outcomes (see top left quadrant of chart).

Chart 1.2. Inequality can be high but not explained by circumstances at birth



Source: Escanciano and Terschuur (2023), Brunori et al. (2023a), LiTS IV and authors' calculations.
Note: For LiTS IV economies, Gini coefficients and inequality of opportunity are both estimated using LiTS IV data. Estimates of inequality of opportunity are derived using a conditional inference forest (CIF) model of equivalised household income for each country (or comparable machine learning methods). The estimates are computed by dividing a measure of inequality in predicted outcomes (either the Gini coefficient or a debiased variant thereof) by the Gini coefficient of the actual outcome. The dotted lines denote medians based on all economies. Selected economies are labelled.

Parental characteristics are an important driver of inequality of opportunity

This analysis suggests that a significant share of the income inequality observed can be attributed to circumstances at birth (including gender, place of birth and parental characteristics), with that share ranging from 10-20 per cent in Albania and Tajikistan to over half in Azerbaijan, Bulgaria, Lithuania and Romania. These shares are smaller than those seen in Latin American economies (which typically exceed 50 per cent), but larger than those observed in some advanced economies (such as Denmark and the Netherlands, where inequality of opportunity is estimated at 5 and 18 per cent respectively).[13]

[13] See Brunori et al. (2023a) and Escanciano and Terschuur (2023).

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 (see Chart 1.3, which provides a breakdown of the values presented in Chart 1.2 for inequality of opportunity using a Shapley decomposition). In Poland, for example, parental background (parents' levels of education, their sectors of employment and the number of books at home during childhood) accounts for 77 per cent of total inequality of opportunity, while place of birth (urban or rural) accounts for 18 per cent and gender accounts for the remaining 5 per cent.

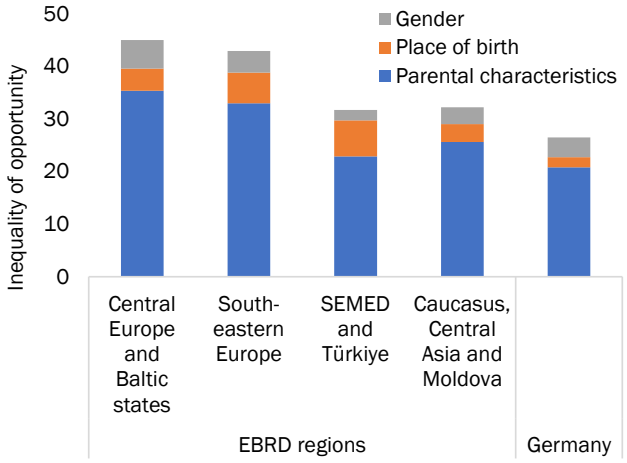
The results are broadly similar when focusing on individual wages instead (albeit the sample is much smaller, being based on people who are currently in employment). As expected, gender plays a larger role in explaining inequality of opportunity in respect of wages.

A large percentage of inequality of opportunity can be traced back to a person's parental background and is thus carried over across generations. Indeed, parental characteristics explain around 75 per cent of total inequality of opportunity in the EBRD regions (see Chart 1.3). This share has been broadly stable over time, based on comparable estimates from LiTS III, and it closely mirrors the developments that are typically observed in other emerging market economies.[14]

Place of birth tends to be the second most important factor, typically explaining between 7 and 30 per cent of total inequality of opportunity.

Gender explains between 1 and 8 per cent of total inequality of opportunity – although, as noted above, this partly reflects the fact that inequality of opportunity is measured here using equivalised household income.[15] In this analysis, therefore, the impact of gender can only be seen in single-person households (which account for around 12 per cent of all households in LiTS IV). Using estimates based on wages instead (but including the extensive margin – that is to say, zero-wage income for those not in employment) points to a significantly larger effect for gender, particularly in the SEMED region and Algeria. See also Box 1.3 for a discussion of the relationship between gender, sexual orientation and inequality.

Chart 1.3. Parental characteristics explain around 75 per cent of total inequality of opportunity



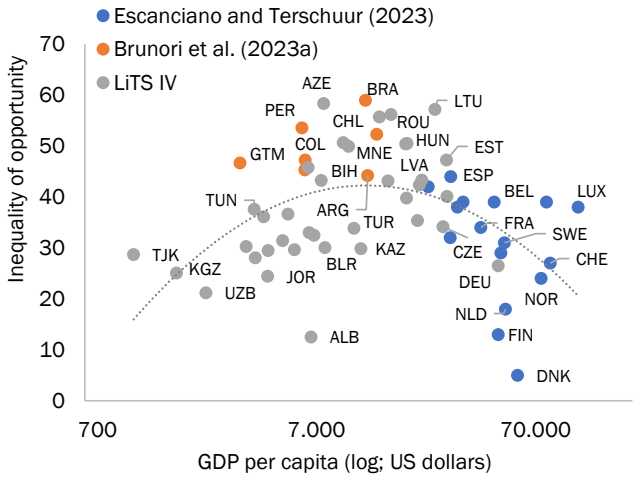
Source: LiTS IV and authors' calculations.
Note: Contributions are estimated using Shapley value decompositions.

In most economies in the EBRD regions, inequality of opportunity has increased

The way that inequality of opportunity varies with development points to the existence of a "Kuznets curve" across economies, with inequality of opportunity being low at low levels of GDP per capita, before rising and then eventually falling again as average income per capita increases (see Chart 1.4).[16] Returns to education tend to rise with the level of development as the matching of employees' skills and employers' job requirements improves, which can increase inequality of opportunity. In contrast, improvements to economic and political institutions help individuals to realise their potential regardless of their circumstances at birth (for example, by facilitating the establishment of businesses), and these improvements help to reduce inequality of opportunity.

[14] See Brunori et al. (2023a).
[15] See also Brunori et al. (2023a) and Hufe et al. (2022).
[16] See Brunori et al. (2013).

Chart 1.4. Inequality of opportunity tends to rise and then fall as economies develop



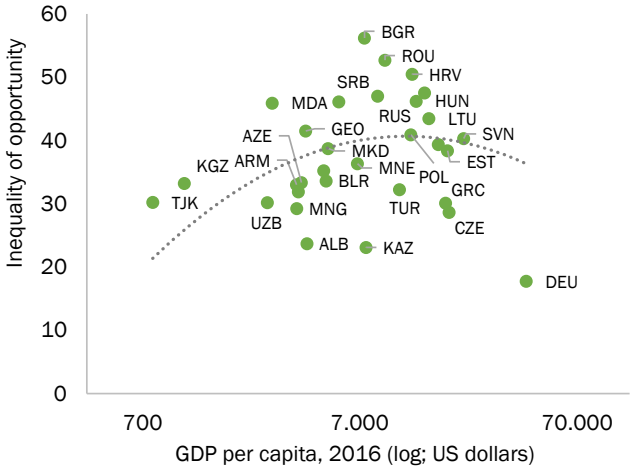
Source: Escanciano and Terschuur (2023), Brunori et al. (2023a), LiTS IV, World Bank World Development Indicators (WDIs) and authors' calculations.
Note: The horizontal axis shows the log of GDP per capita in US dollars at market exchange rates in the year for which inequality of opportunity is estimated. For Escanciano and Terschuur (2023), this is 2019; for Brunori et al. (2023a), this ranges from 2010 to 2015; and for LiTS IV estimates, it is 2022. The fitted quadratic line is based on all economies shown. Selected economies are labelled.

Despite this inverted U-shaped relationship between inequality of opportunity and GDP per capita, in most economies in the EBRD regions inequality of opportunity has increased since 2016 as per capita income has risen (see Chart 1.5, where the first panel plots inequality of opportunity against income per capita using LiTS III data gathered in 2016, while the second panel does the same thing using LiTS IV data collected in the period 2022-23). Most economies have moved up and to the right of the fitted curve, which is based on observations from both rounds of the survey. Notable exceptions include Germany and a number of economies in Central Asia (the Kyrgyz Republic, Tajikistan and Uzbekistan), where inequality of opportunity has fallen to even lower levels.

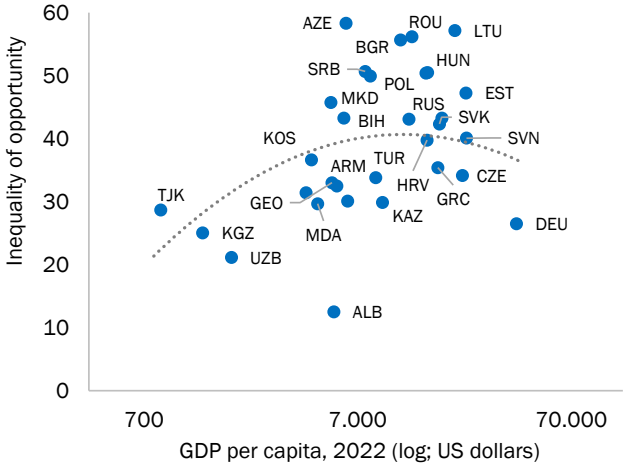
The relative contributions of parental characteristics, place of birth and gender have been broadly stable across the two survey rounds, with parental characteristics playing a slightly larger role in LiTS IV and place of birth playing a smaller role.

Chart 1.5. Inequality of opportunity has tended to increase in the EBRD regions since 2016

Panel 1. Inequality of opportunity based on LiTS III: An inverted U-shape



Panel 2. Inequality of opportunity based on LiTS IV: EBRD economies in the European Union (EU) further above the levels expected on the basis of their incomes

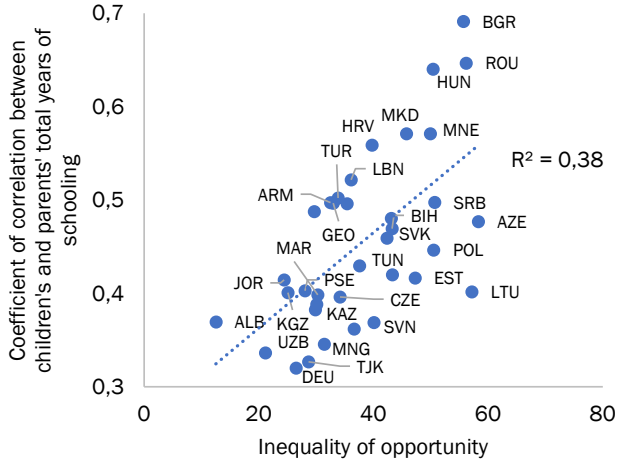


Source: LiTS III and LiTS IV, World Bank WDIs and authors' calculations.
Note: The horizontal axes show the log of GDP per capita in US dollars at market exchange rates, with the figures in Panel 2 being deflated using US inflation. The fitted quadratic lines are based on observations for all economies included in both LiTS III and LiTS IV.

In most EBRD economies, intergenerational mobility is low

As expected, estimates of inequality of opportunity are closely correlated with measures of intergenerational mobility. The latter can be captured, for instance, using the coefficient of the correlation between children's and parents' total years of schooling (see Chart 1.6). This relationship also holds when taking into account the logarithm of GDP per capita.

Chart 1.6. Greater inequality of opportunity is associated with lower intergenerational mobility



Source: World Bank Global Database on Intergenerational Mobility (GDIM), LiTS IV and authors' calculations.
Note: The fitted line is based on all economies included in LiTS IV except Algeria (which is not covered by the GDIM). The correlation coefficients are based on children born in the 1980s.

Other measures also point to low intergenerational mobility in large parts of the EBRD regions. For example, absolute mobility – measured as the percentage of respondents who have a higher level of education than their parents (conditional on the parents not having completed tertiary education) – is significantly lower in most EBRD economies than it is in Latin America and emerging Asia (as well as being lower than in advanced economies). This is especially pronounced in central Europe and the Baltic states, while absolute mobility is higher in Türkiye and the SEMED region.

Generally speaking, absolute mobility has an inverted U-shaped relationship with GDP per capita. The lowest rates of absolute mobility are observed in the very poorest countries (where the threshold for surpassing parents' level of education is low, but so is the capacity to educate children) and in the very richest countries (where the capacity to educate children is high, but so is the threshold for surpassing parents' level of education).[17]

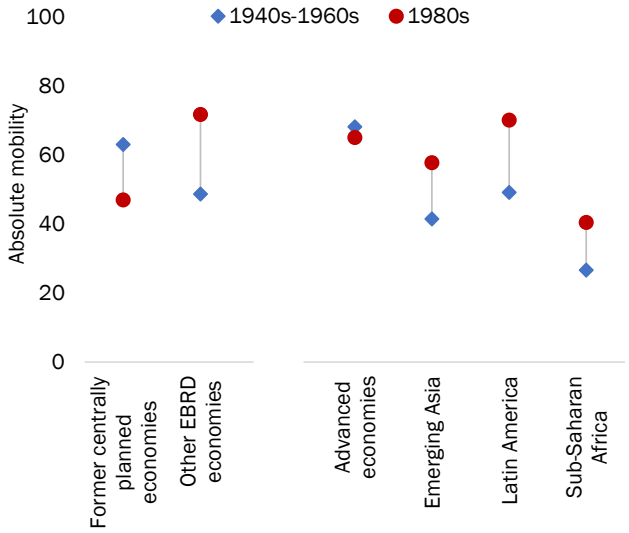
While absolute mobility in the EBRD regions is currently low relative to other economies (both advanced economies and emerging markets alike), this was not the case in the past. In EBRD economies that used to be subject to central planning (all economies bar Greece, Türkiye and the SEMED region), absolute mobility has declined sharply. In those economies, cohorts born between the 1940s and the 1960s enjoyed far higher levels of absolute mobility than peers in other emerging markets, whereas cohorts born in the 1980s and 1990s have experienced lower levels of mobility (see Chart 1.7, panel 1). While absolute mobility has also declined in advanced economies, that decline has been much smaller than the one seen in the former centrally planned economies of the EBRD regions. In the SEMED region and Türkiye, by contrast, absolute mobility has risen for younger cohorts relative to older cohorts, despite levels of tertiary education remaining lower than in emerging Europe.

Similar patterns can be observed for relative mobility (see Chart 1.7, panel 2). This measure is calculated as 1 minus the coefficient of the correlation between children's and parents' education.

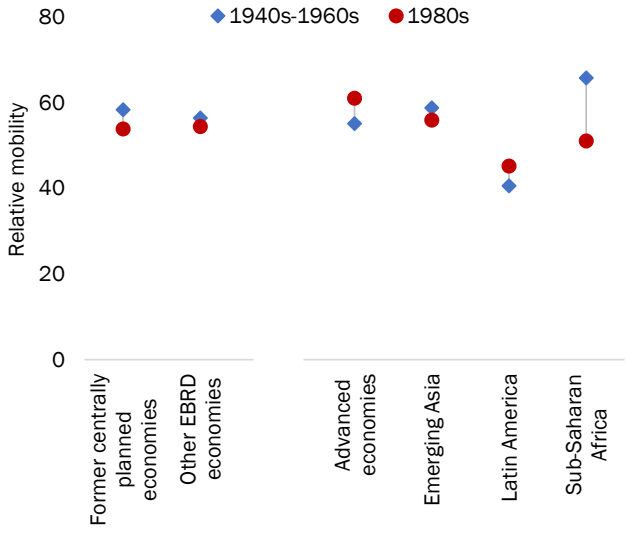
[17] See van der Weide et al. (2024).

Chart 1.7. In former centrally planned economies in the EBRD regions, younger cohorts have lower intergenerational mobility than older cohorts

Panel 1. In those economies, the absolute mobility of cohorts born in the 1980s has fallen below the levels seen in other emerging markets



Panel 2. Relative mobility has also declined in those economies



Source: GDIM, LiTS IV and authors' calculations.
Note: In the EBRD regions, very similar patterns can be observed for the cohort born in the 1990s, but such data are not available for other economies. "Other EBRD economies" comprises Greece, Türkiye and the SEMED region. The figures for comparators are simple averages across 27 advanced economies (based on the World Bank's definition of "high-income" economies), 8 economies in Latin America and the Caribbean, 25 economies in emerging Asia (based on the World Bank's "East Asia" and "Pacific and South Asia" groupings) and 41 economies in sub-Saharan Africa.

Inequality of opportunity matters for expectations and beliefs

The continued rise in inequality of opportunity may lead to concerns about its potential impact on people's attitudes, beliefs and expectations.

For instance, in economies with greater inequality of opportunity, fewer people expect to climb the income ladder in the future. This remains the case when controlling for the quality of countries' economic institutions using the World Bank's "Rule of Law" and "Government Effectiveness" indices (which are part of its World Governance Indicators).

Inequality of opportunity may also affect people's perceptions of their own position in the income distribution, resulting in an impact on outcomes. For instance, a recent study using a laboratory experiment showed that income rankings matter for investment choices when inequality is due to circumstances rather than effort.[18]

The LiTS IV survey asked respondents to estimate their own position in the income distribution for their economy, asking them whether they were, in their view, among the lowest earners, among the top earners or somewhere in the middle. Respondents were also asked to report their actual income, which was then used to determine their actual position in the income distribution for survey respondents in the relevant economy. Respondents' self-assessments were strongly biased towards the middle of the distribution: low earners and top earners both tended to place themselves closer to the middle of the income scale (a pattern which can also be seen – albeit in a less pronounced form – in other household surveys looking at advanced economies).[19]

Across the income scale, LiTS IV respondents tend to place themselves lower on the income distribution than LiTS III respondents did. The average decline in respondents' perceived income rankings – 3 percentage points – is statistically significant at the 1 per cent level when controlling for actual income decile fixed effects and clustering standard errors at the economy level. This implies that survey respondents feel they have done worse than the median person (that is to say, a typical individual) in their economy since 2016.

This could reflect the sharp spikes in inflation rates that were seen just before the survey was conducted: average inflation in the EBRD regions stood at 17.5 per cent in October 2022 (up from around 4 per cent pre-Covid), before dropping to around 6 per cent in the early months of 2024.[20] Individuals in economies with high inequality of opportunity were also less likely to report that they were faring better in life than their parents. (Respondents were asked whether they agreed with the statement "I have done better in life than my parents",

[18] See Brock and Bussolo (2023).
[19] See Hvidberg et al. (2023) for data on Denmark, for instance.
[20] See EBRD (2023a).

with five possible answers ranging from "strongly disagree" to "strongly agree".)

Such perceptions matter. The correlation between perceived income rankings and individuals' satisfaction with life (measured by asking respondents whether they agree with the statement "All things considered, I am satisfied with my life now", with five possible answers ranging from "strongly disagree" to "strongly agree") is three times stronger than the correlation between actual income rankings and satisfaction with life. Similarly, the correlation between perceived income rankings and mental health (measured using a composite index based on the frequency with which respondents feel anxious, nervous or worried, very sad or depressed or have little interest or pleasure in doing things)[21] is almost twice as strong as the correlation between actual income rankings and mental health.

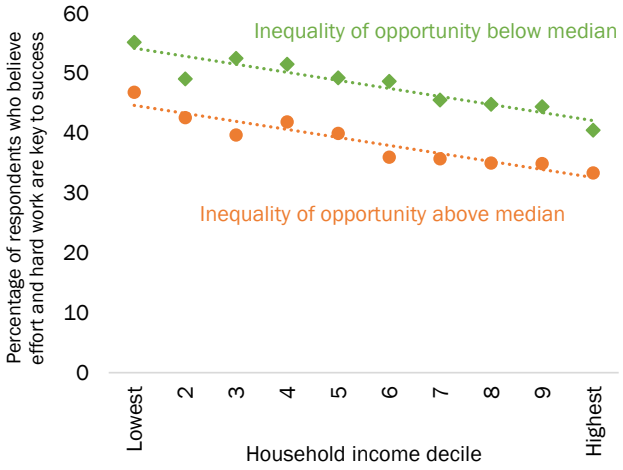
Inequality of opportunity also appears to be correlated with underlying beliefs. As part of the survey, respondents were asked which one of the following factors was the most important to succeed in life: "effort and hard work", "intelligence and skills", "political connections", "breaking the law" or "other". In general, people living in richer households tend to believe less in the value of effort and hard work and more in the role of political connections when it comes to success in life. However, these patterns vary across economies.

In countries with high inequality of opportunity, people across the income distribution are less likely to report that effort and hard work are key to success in life (see Chart 1.8). Instead, they are more likely to emphasise the importance of political connections. This is in line with the patterns seen in earlier survey rounds.[22]

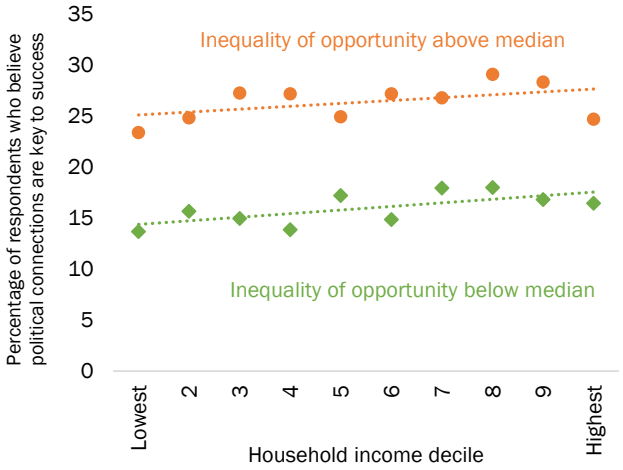
Individuals in countries with greater inequality of opportunity also show less support for democratic political systems (see Chart 1.9). As part of the survey, respondents were asked which one of the following statements they agreed with most: "Democracy is preferable to any other form of political system"; "Under some circumstances, an authoritarian government may be preferable to a democratic one"; or "For people like me, it does not matter whether a government is democratic or authoritarian". In countries where inequality of opportunity was above the 90th percentile, an average of 46 per cent of respondents supported democracy. Conversely, in countries in the lowest decile for inequality of opportunity, 63 per cent of respondents favoured a democratic system of government. The correlation between inequality of opportunity and support for democracy is statistically significant at the 5 per cent level when controlling for the logarithm of GDP per capita and the quality of economic institutions. A similar correlation between overall inequality and support for democracy is also statistically significant (again, controlling for the logarithm of GDP per capita and the quality of economic institutions). The relative magnitude of the effects suggests that if inequality increases and all of that increase is "unfair" (that is to say, it is driven entirely by rising inequality of opportunity), the associated decline in support for democracy will be 71 per cent larger than if inequality increases but the rise is not driven by inequality of opportunity (being caused, for example, by increasing returns to effort).

Chart 1.8. In countries with high inequality of opportunity, people across the income distribution …

Panel 1. … are less likely to believe in the value of effort and hard work …



Panel 2. … and more likely to emphasise the importance of political connections

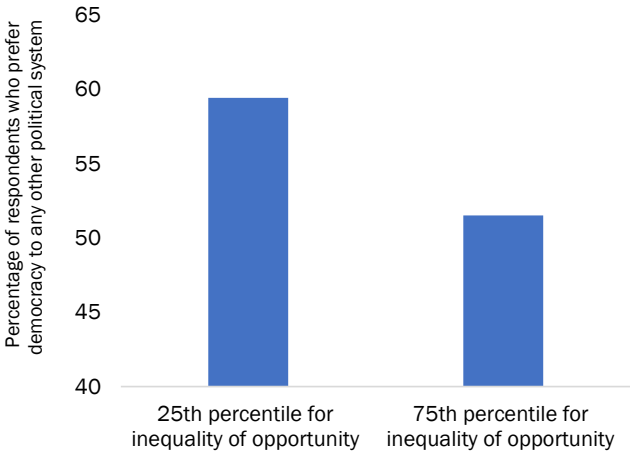


Source: LiTS IV and authors' calculations.
Note: This chart is based on data for the EBRD regions only.

[21] See EBRD (2023b).

[22] See Brock (2020).

Chart 1.9. Individuals in countries with greater inequality of opportunity show less support for democratic political systems

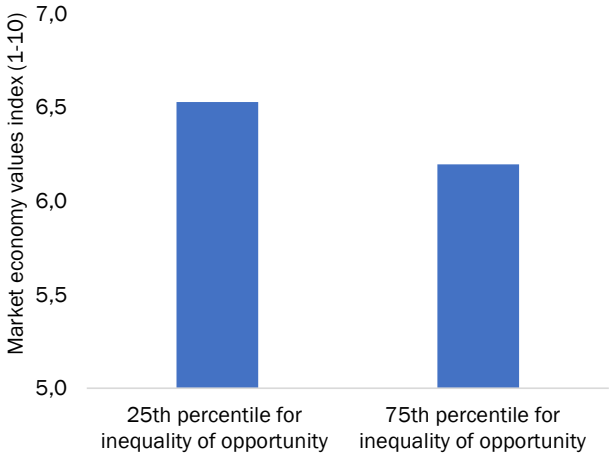


Source: LiTS IV and authors' calculations.
Note: This chart is based on regression at the individual level for all economies included in LiTS IV (except Belarus, where the question was not asked), controlling for the logarithm of GDP per capita, overall income inequality, institutional quality (using the World Bank's "Rule of Law" and "Government Effectiveness" indices, which are part of its World Governance Indicators) and individual characteristics.

Support for market economics and market-oriented reforms also tends to be significantly lower in economies with greater inequality of opportunity (see Chart 1.10). As part of the survey, respondents were asked whether (i) private ownership of business and industry should be increased, or (ii) government ownership of business and industry should be increased. They were also asked whether (i) competition was good, encouraging people to work hard and develop new ideas, or (ii) competition was harmful, bringing out the worst in people. In both cases, they were asked to indicate their opinion on a scale of 1 to 10, where 1 meant agreeing completely with the first statement and 10 meant agreeing completely with the second statement, and they could pick any number in between if their opinion fell somewhere between the two statements. Responses to these two questions were averaged and rescaled such that higher values indicated greater support for principles of market economics. The resulting index is strongly correlated with answers to a separate question on whether respondents prefer market or planned economies; however, this question was not asked in all economies in LiTS IV.

On average, 46 per cent of respondents in the EBRD regions agree that private ownership should be increased and competition is good (defined as an average score in excess of 5 across the two questions). At the same time, the difference between average support for market economics in the quartile of economies with the lowest inequality of opportunity and average support in the quartile of economies with the highest inequality of opportunity stands at 9 percentage points. This is a sizeable difference given how evenly balanced respondents' views on the benefits of expanding private and public ownership are on average.

Chart 1.10. Support for market economics also tends to be significantly lower in economies with greater inequality of opportunity



Source: LiTS IV and authors' calculations.
Note: This chart is based on regression at the individual level for all economies included in LiTS IV, controlling for the logarithm of GDP per capita, overall income inequality, institutional quality (using the World Bank's "Rule of Law" and "Government Effectiveness" indices) and individual characteristics.

These findings are in line with recent studies highlighting the links between (i) economic factors (such as increases in unemployment, the plight of less-skilled manufacturing workers in advanced economies and rising inequality) and (ii) growth in anti-establishment sentiment and support for populist politicians among impacted individuals.[23]

Conclusions

Inequality of opportunity is unfair and inefficient. And, as the results of LiTS IV show, it can also be fairly entrenched. As parents' level of education plays a particularly important role in determining children's level of education (and inequality of opportunity more broadly), educational reforms can be effective in improving economic opportunities for all.

Access to tertiary education can be broadened through targeted and competitive scholarship programmes.[24] At the same time, improving the quality of public primary and secondary education benefits everyone, but it disproportionately benefits weaker and poorer students who are not able to compensate for the weaknesses of the state system. In Estonia, for instance, educational reforms implemented in the 1990s were of particular benefit to weaker performers, and the results of those measures could be traced well into adulthood.[25]

[23] See Guriev (2018).
[24] See also Palmisano et al. (2022).
[25] See Byrne and Plekhanov (2021); see also Kóczán (2024) on the links between early educational experiences and labour market outcomes.

Meanwhile, better physical and digital infrastructure linking urban and rural areas and different regions of the country can help to ensure that there is no "wrong place" to be born.[26] Public policies may need to specifically target access to education and employment for the most disadvantaged groups and left-behind regions (see also Chapter 3 on digitalisation, which looks at access to the internet and digital technologies such as remote learning).[27]

Lastly, reforms that make it easier to start a business, improve the business environment for small firms and improve access to finance across the board can also play an important role, helping to reduce inequality of opportunity and the importance of family connections for achieving economic success.

[26] See also EBRD (2016).

[27] See McCann (2023) and EBRD (2023b) for a discussion of place-based policies.

Box 1.1. Financial inclusion and trust in financial institutions

Access to finance is critical for economic development, facilitating entrepreneurship and fostering inclusive growth, while ensuring equal access to economic opportunities for all segments of society. However, access to financial services remains low in the EBRD regions relative to advanced economies, and there are significant differences across groups of people within those economies.

Economies in the EBRD regions still lag behind advanced economies when it comes to ownership of bank accounts and engagement with financial institutions in general. According to data from LiTS IV, 97 per cent of people in Germany have an account with a bank or another formal financial institution, compared with just 57 per cent across the EBRD regions as a whole (with figures ranging from 8 per cent in Uzbekistan to 95 per cent in Slovenia). The gap is even more pronounced when it comes to borrowing, with people living in the EBRD regions being almost four times less likely to have borrowed from a financial institution than those living in advanced economies (which may reflect a combination of weaker demand for debt and restricted supply).

Women are clearly underserved when it comes to access to finance. The global gender gap between men and women in terms of account ownership stood at 7 per cent in 2022, while the financing gap for female-owned micro, small and medium-sized enterprises in emerging markets is estimated to stand at US$ 1.7 trillion.[28]

Analysis based on LiTS IV data confirms that women tend, on average, to face greater constraints than men when it comes to accessing formal financial services, reflecting both economic factors (such as lower incomes) and social norms. In the EBRD regions, women are, on average, 2.7 per cent less likely than men to have an account with a bank or another formal financial institution when controlling for age, level of education, household income, country of residence and other individual characteristics.

In LiTS IV, women in the EBRD regions were also 2.2 per cent less likely than men to have taken out a loan in the 12 months before the survey. This difference is unlikely to be purely demand-driven: female entrepreneurs in the EBRD regions face higher collateral requirements than their male counterparts when applying for loans, despite there being no statistically significant differences between the performance and profitability of male and female-led businesses when controlling for firm size, sector and capital intensity.[29] Recent research shows that gender biases in lending can be both subtle and firmly entrenched, demonstrating that women can face higher collateral requirements than men and that such biases are considerably stronger in younger and less experienced loan officers.[30]

Access to financial services is also unequal from a geographical perspective. Individuals living in rural areas in the EBRD regions are 6.2 per cent less likely to have an account with a financial institution than counterparts living in urban areas when controlling for individual characteristics and country of residence. Individuals living in rural areas are also less likely to borrow than their counterparts in urban areas, although such differences are not statistically significant. Women living in urban areas are more than 4 per cent more likely to have an account with a financial institution than women in rural areas.

A lack of trust in financial institutions may be one of the factors impeding financial inclusion. Analysis based on LiTS IV data suggests that individuals who trust banks are more likely to have an account than those who distrust them when controlling for other individual characteristics.

In turn, results based on LiTS IV suggest that individuals living in economies that were more severely affected by the global financial crisis and the eurozone sovereign debt crisis (defined as economies with above-median cumulative declines in GDP relative to before the global financial crisis) tend to trust banks less than those living in less affected economies when controlling for individual characteristics (age, level of education and household income) and local area fixed effects.

Increasing financial inclusion for women and rural populations may require a combination of government initiatives, the rolling-out of digital technologies, financial literacy schemes and capacity-building programmes for financial institutions.[31] Such interventions may potentially involve trade-offs. For instance, while an increase in the number of state-owned banks can help to improve access to financial services for underserved segments of the population, those banks tend to be run less efficiently and their lending may be more influenced by political considerations.[32]

[28] See IFC (2022).
[29] See We-Fi (2023).
[30] See Brock and De Haas (2023).
[31] See EBRD (2016).
[32] See EBRD (2020).

Box 1.2. Estimating inequality of opportunity

Inequality of opportunity is estimated here using the conceptual framework proposed by Roemer (1998). Specifically, the outcome of interest y is assumed to be a function of circumstances beyond the individual's control ($\boldsymbol{C}$) and individual efforts (e):

$$y_i = g(\boldsymbol{C}_i, e_i)$$

Those circumstances are defined as predetermined characteristics for which individuals cannot be held responsible (such as their gender or place of birth). Within this framework, interaction between circumstances partitions the population into a number of different types, and individuals can only belong to one type. The model also assumes that individual efforts are orthogonal to circumstances, and that individuals with identical circumstances who exert the same level of effort obtain the same outcomes. In this setting, the opportunities to exert effort that stem from one's circumstances at birth are seen as an inherent part of those circumstances. For example, an athlete who was born in a city with access to top training facilities might easily spend hours training. But athletes born in rural areas might have to travel a long way just to find a suitable place to train, making it harder to practise as much.

There are several trade-offs when estimating inequality of opportunity. Historically, researchers have often opted for fully parametric approaches.[33] However, such an approach imposes a rigid structure on the model, and a failure to include relevant sets of circumstances or a mis-specified functional relationship between circumstances and outcomes can lead to inaccurate estimates of inequality of opportunity.[34]

Recent literature suggests that machine learning can overcome some of these problems by balancing variance and bias in the predictions.[35] In this chapter, estimates of inequality of opportunity (the share of observed inequality that is explained by circumstances beyond the individual's control) are derived using conditional inference forests – a forest-based machine learning algorithm. The algorithm works by selecting a partition into types that maximises the variation in the outcome explained by inter-type inequality, commonly referred to as a "tree". This partition is preceded by a sequence of splits based on statistical tests, which ensures that the circumstance variables that have the strongest association with the outcome variable are chosen when splitting at each stage. To increase the accuracy of out-of-sample predictions, a "forest" is then obtained by estimating many trees across random subsamples and averaging them out.

Specifically, the estimates are obtained as follows. First, CIFs are used to estimate counterfactual country-specific distributions of the outcome that are conditional on the vector of circumstances, obtaining out-of-sample predictions using k-fold cross-fitting. Next, a novel debiased estimator, which is a variant of the Gini coefficient, is used to calculate absolute inequality of opportunity based on those predictions.[36] Finally, estimates of relative inequality of opportunity are obtained by dividing the result of that debiased estimator by the Gini coefficient of the actual outcome. The relative contributions made by the various circumstances are estimated using Shapley value decompositions.

[33] See Bourguignon et al. (2007) and Ferreira and Gignoux (2011).
[34] See Brunori et al. (2019).
[35] See Brunori and Neidhöfer (2021) and Brunori et al. (2023a, 2023b).
[36] See Escanciano and Terschuur (2023).

Box 1.3. Attitudes towards LGBTI individuals: evidence from LiTS IV

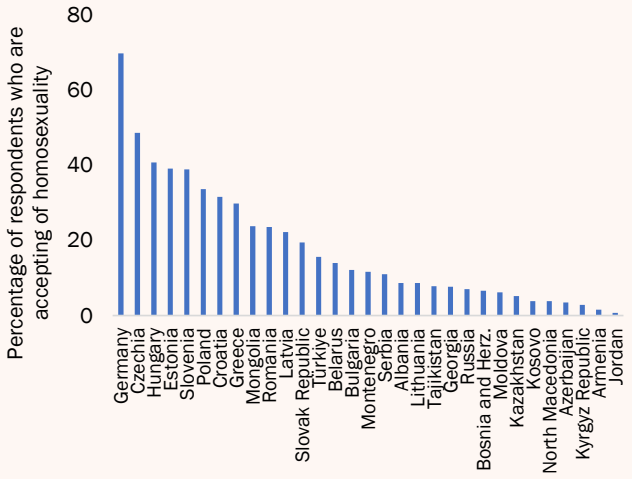
While traditional contributors to inequality of opportunity (such as gender, parental background and location) have been researched extensively, the impact of sexual orientation remains largely underexamined.[37] This factor can intersect with other aspects of inequality, potentially influencing access to opportunities in profound ways.

The advancement of rights for LGBTI (lesbian, gay, bisexual, transgender and intersex) individuals has been uneven at a global level. In the United States, significant progress has been made in recent years, with same-sex marriage being legalised in 2015 and nationwide protection against employment discrimination on grounds of sexual orientation being granted in 2020. However, in areas such as the SEMED region and eastern Europe, where the EBRD invests, progress has been minimal or non-existent, with strong anti-LGBTI attitudes continuing to persist.

Research shows that LGBTI individuals experience considerable discrimination across multiple domains. For example, same-sex couples often experience higher rejection rates and are given less favourable financing terms relative to different-sex couples when it comes to mortgage applications.[38] Meanwhile, other studies show that a significant proportion of LGBTI employees experience discrimination, leading to job insecurity and less favourable employment outcomes relative to their heterosexual counterparts.[39]

In many EBRD economies, LGBTI individuals tend to face grim socioeconomic conditions – as evidenced, for example, by the broadly negative attitudes towards sexual minorities in those economies. Chart 1.3.1 provides an overview of attitudes towards homosexuality in the EBRD regions, using a composite measure based on a series of LiTS IV questions about acceptance of same-sex couples.[40] Those questions cover issues such as whether same-sex couples should have the right to marry and adopt children, whether homosexual activity should be criminalised, and whether openly gay, lesbian and bisexual individuals should be allowed to serve in the military. The findings reveal a general lack of support for sexual minorities: even in Czechia – the most tolerant country in the EBRD regions in this regard – only 49 per cent of respondents express positive views about acceptance of homosexuality, compared with 70 per cent in Germany. Attitudes are much more negative in many other countries, with fewer than 5 per cent of respondents expressing support in Jordan, Armenia, the Kyrgyz Republic, Azerbaijan, North Macedonia, Kosovo and Kazakhstan.

Chart 1.3.1. Acceptance of homosexuality is generally low across the EBRD regions



Source: LiTS IV and authors' calculations.
Note: This measure of LiTS IV respondents' acceptance of homosexuality is derived from their responses to several statements about LGBTI rights. Those statements cover issues such as same-sex couples' right to marry and adopt children, the criminalisation of same-sex sexual activity, and the acceptability of having openly gay, lesbian and bisexual individuals serving in the military. Each statement is scored on a scale ranging from 1 (strong opposition) to 4 (strong support). The measure is calculated as the percentage of respondents whose average score across all statements is 3 or higher, indicating general support for LGBTI rights.

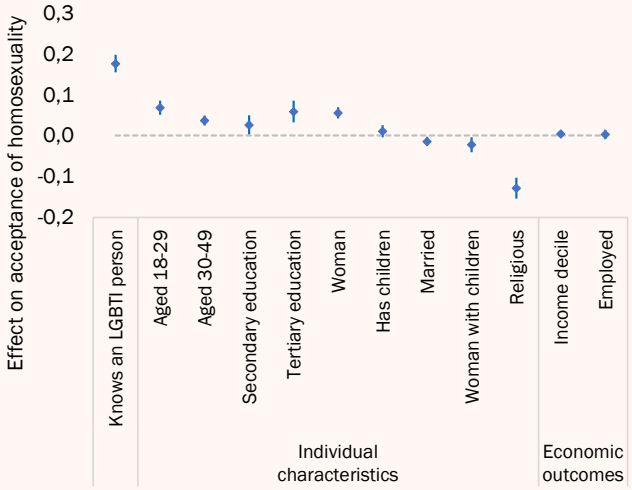
How can societies become more inclusive of LGBTI individuals?

Research shows that legal recognition of same-sex relationships can help to improve people's attitudes towards sexual minorities. Such changes tend to be observed in groups of people who are more likely to be conservative, such as religiously conservative individuals, older people and rural populations.[41] Providing people with objective information can also help to shape public attitudes towards sexual orientation. A study involving randomised experiments in Serbia, Türkiye and Ukraine – countries where anti-LGBTI sentiment is widespread – underscores this effect.[42] In that study, participants who had learned about the economic cost of discrimination based on sexual orientation were significantly more likely to support equal employment opportunities for LGBTI individuals than those who did not receive such information. Lastly, increasing the visibility of issues related to sexual orientation and fostering national discussions about the societal roles of LGBTI individuals can help to catalyse cultural shifts. Evidence suggests that areas with more exposure to and contact with the LGBTI community exhibit greater acceptance of same-sex relationships.[43]

[37] See, for example, Brunori et al. (2013).
[38] See Sun and Gao (2019).
[39] See Drydakis (2022) and Schraepen (2022).
[40] Questions on attitudes towards LGBTI individuals and same-sex couples could not be safely asked in Algeria, Lebanon, Morocco, Tunisia, Uzbekistan or the West Bank and Gaza.
[41] See Aksoy et al. (2020).
[42] See Aksoy et al. (2023).
[43] See Fernández et al. (2024).

Chart 1.3.2 presents details of a number of variables associated with acceptance of homosexuality in the EBRD regions. In line with previous research emphasising the value of personal contact, there is a strong correlation between knowing an LGBTI person and exhibiting more positive attitudes regarding LGBTI individuals. Younger individuals, women and those who have completed tertiary education also tend, on average, to show more support for LGBTI inclusion.

Chart 1.3.2. Younger individuals, women and those who have completed tertiary education tend, on average, to show more support for LGBTI inclusion



Source: LiTS IV and authors' calculations.
Note: This chart shows standardised coefficients derived from a linear probability model regressing acceptance of homosexuality on various individual characteristics and primary sampling unit (PSU) fixed effects. The bars denote 95 per cent confidence intervals, which are calculated on the basis of standard errors clustered at the level of the PSU.

In conclusion, LiTS IV data show that there is still a long way to go in terms of improving social acceptance of LGBTI individuals in the EBRD regions. That broader acceptance will be an important precondition for making meaningful improvements to the equality of opportunity of gay and lesbian people. Improving legal frameworks and raising awareness of LGBTI individuals can play a vital role in this regard, helping economies to take significant steps in the direction of inclusivity.

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Chapter 2. Informal jobs

Around one in seven jobs in the EBRD regions are still informal, lacking a written contract, while 25 per cent of jobs do not afford access to annual leave, 30 per cent do not involve sick leave, and over a third of jobs do not provide access to social security or pensions. Informality is particularly common in the southern and eastern Mediterranean (SEMED) and sectors such as agriculture, construction, services and sales. Younger people, those with lower-paid jobs, individuals working for smaller firms and people employed in the private sector also tend to have access to fewer benefits. Women tend to have lower-paid jobs than men, but more generous benefits and lower incidence of long working hours.

Introduction

Most people spend a substantial amount of time at work and work for a significant percentage of their lives. Consequently, various characteristics of the jobs they do – besides the pay – are important determinants of their wellbeing. Annual leave, sick leave, pension benefits, unemployment insurance, medical insurance and other benefits are all important for a person's wellbeing, productivity and participation in the labour force, as are formal and stable contractual arrangements and decent working conditions.

While data on pay are relatively abundant, consistent cross-country data on other characteristics of jobs tend to be more limited. With that in mind, this chapter builds on the responses to a special set of questions included in the fourth round of the Life in Transition Survey, hoping to contribute to a better understanding of the employment landscape in the EBRD regions.

Analysis of LiTS IV data suggests that greater access to benefits such as sick leave and increased job security based on formal contractual arrangements are both associated with better mental health and greater satisfaction with life (when controlling for individual characteristics, the characteristics of jobs and country of residence).

However, many jobs remain informal or insecure. A total of 14 per cent of all jobs in the EBRD regions are not governed by a written contract, while 25 per cent do not afford access to annual leave and 30 per cent do not involve sick leave. Over a third of all jobs do not provide access to pensions or social security. At the same time, working conditions can pose physical health risks or entail excessive working hours, resulting in undue physical and mental strain.[44]

Informality tends, in general, to be greater in poorer economies. However, the economies of the SEMED region stand out in this regard, with levels of informality that are high even when accounting for their GDP per capita. Across the EBRD regions, informality is also concentrated in particular sectors and occupations, with the highest levels being seen in the agriculture, construction, services and sales sectors and among workers in agricultural and elementary occupations. Jobs in those sectors are not automatically informal, though: in Germany, for instance, they are just as formal as jobs in other sectors.

Lower-paid jobs in the EBRD regions tend to offer less access to benefits (such as pensions, annual leave and sick leave) than higher-paying jobs. In Germany, by contrast, access to benefits (with the exception of parental leave) does not systematically increase or decrease with pay. At the same time, there may be trade-offs between pay and other attributes of jobs, such as access to benefits, stability and working conditions. For instance, in the EBRD regions, women tend to have lower-paid jobs than men, but more generous benefits and lower incidence of long working hours.

In the EBRD regions, younger people tend to have less secure jobs with fewer benefits, and – unlike in Germany – smaller firms are less likely to provide access to benefits such as pensions, social security and leave. Public-sector jobs have better access to benefits and greater stability than those in the private sector, while average pay is comparable.

In economies with rapidly growing labour forces, there may be trade-offs between the creation of new jobs (for young entrants to the labour market) and efforts to ensure that existing jobs afford certain protections and benefits (for those already in employment). There is a case for gradually shifting the focus of labour market institutions from employment protection legislation to unemployment insurance. This should be accompanied by complementary policies that help to reduce informality, such as the streamlining of regulatory and tax systems (including for small firms) and efforts to improve the efficiency of public revenue collection and enforcement.

Trade-offs between the quantity and quality of jobs may be less pronounced in economies with shrinking labour forces, where a greater focus on the attributes of jobs for young workers may be called for. Here, too, informality should be reduced, as pensions and social security coverage are even more important in rapidly ageing populations. While informality can be expected to decline as economies develop, tight labour markets may provide an opportunity to accelerate this process.

[44] See Fields (2012).

This chapter begins by looking at the importance of jobs' characteristics for mental health. It then provides an overview of the characteristics of jobs across countries, sectors and occupations, considers trade-offs between pay and benefits, and looks at how jobs' characteristics vary depending on the age of the respondent, the size of the firm and whether the person is employed in the public or the private sector.

Stability of jobs, access to benefits and working conditions matter

Workers in the EBRD regions spend an average of 38 hours a week at work, and they are spending an increasingly large share of their adult lives in paid work. Consequently, the precise nature of that work is important – both for individual workers and for the economy as a whole.

The quality of jobs matters when people are deciding whether or not to work (thus impacting labour force participation), as well as affecting people's productivity, so it has a clear impact on a country's economic performance.[45]

Interestingly, 54 per cent of LiTS IV respondents in the EBRD regions believe that the most important characteristic of a "good job" is sufficient income, while 23 per cent emphasise stability, 11 per cent focus on good working conditions and 5 per cent prioritise benefits.

The jobs that people do are also an important determinant of their wellbeing. There is a large body of literature documenting the role that work plays in mental health and satisfaction with life beyond the provision of income.[46] Indeed, discussions on the impact that specific characteristics of jobs have on mental health can be traced all the way back to early sociologists.[47]

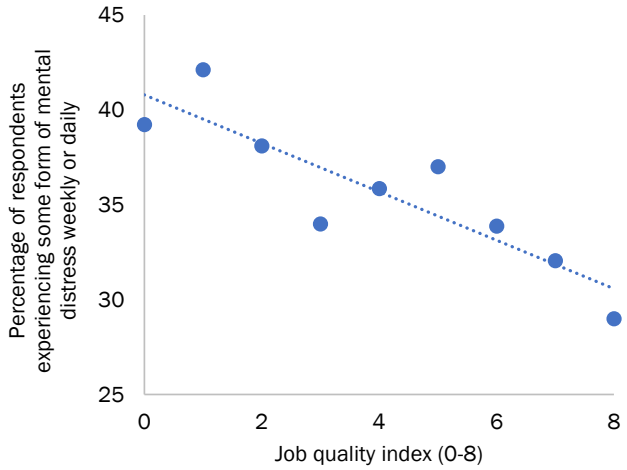
A number of recent empirical studies have confirmed that non-pecuniary attributes of jobs – including working conditions, job security and the type of contract, working hours and flexibility, the type of work and the degree of autonomy – are closely correlated with physical and mental health outcomes and satisfaction with life.[48]

Strikingly, studies have found that people with the lowest-quality jobs (jobs with low levels of autonomy, high demands, significant insecurity and low "job esteem") are similar to unemployed people in terms of the prevalence of common mental health disorders; what is more, transitioning to such a low-quality job is associated with an even stronger decline in mental health than transitioning to unemployment or remaining unemployed.[49]

Analysis of LiTS IV data confirms these patterns. Greater access to benefits (such as sick leave) and increased job security based on formal contractual arrangements are both associated with better mental health (see Chart 2.1), as well as greater satisfaction with life, when controlling for individual characteristics (including income) and country of residence.

Individuals with jobs that offer greater stability and access to more comprehensive benefits are also more likely to be able to save and weather unexpected financial shocks, even when controlling for income (see Box 2.1 on the economic impact of the Covid-19 crisis, which compares the pandemic with the global financial crisis).

Chart 2.1. Higher-quality jobs (in terms of stability and access to benefits) are associated with lower levels of mental distress when controlling for income



Source: LiTS IV and authors' calculations.
Note: The job quality index (which ranges from 0 to 8) is derived from a series of dummies indicating whether respondents have access to a pension, social security, annual leave, sick leave or parental leave, feel that they are unlikely or very unlikely to lose their job in the next six months, and have a written or permanent contract. This binned scatter plot shows the percentage of respondents within each job quality score who report experiencing at least one of depression, sadness, anxiety and apathy weekly or daily, based on an individual-level regression controlling for age, gender, level of education, children in the household, location (urban or rural), household income decile and country fixed effects.

However, consistent data enabling measurement of non-pecuniary attributes of jobs across economies (in terms of access to benefits, stability and working conditions) are limited. Global studies across countries have typically relied on a single indicator, such as the existence of formal contractual arrangements. A few multi-country studies have examined multiple characteristics of jobs, but they have usually focused on a single region (such as Latin America, Europe or Africa) because of the difficulty of harmonising microdata across countries.[50]

The analysis that follows seeks to contribute to our understanding of the various attributes of jobs in the EBRD

[45] See World Bank (2012).
[46] See, for instance, Braverman (1998), Thomas et al. (2005) and Ford et al. (2010).
[47] See Marx (1991) on the theory of alienation, Fryer (1986) on the agency restriction theory and Warr (1999) on the vitamin model.
[48] See Barnay (2016) for a review. See also Kalliath and Brough (2008), Butterworth et al. (2011), Cottini and Lucifora (2013), Bannai and Tamakoshi (2014), Angrave and Charlwood (2015), LaMontagne et al. (2016), Dinh et al. (2017), Cottini and Ghinetti (2017, 2018), Chandola and Zhang (2018), Henseke (2018), Inanc (2018) and Chandola et al. (2019).
[49] See Leach et al. (2010) and Butterworth et al. (2011, 2013).
[50] See Bocquier et al. (2010), Brummund et al. (2018), Leschke and Watt (2014) and Sehnbruch et al. (2020).

regions by examining aspects other than income: access to benefits (such as pensions, social security, annual leave and sick leave), stability (whether the job is governed by a written contract, whether the contract is permanent and the perceived risk of losing that job) and working conditions (such as excessive hours).[51]

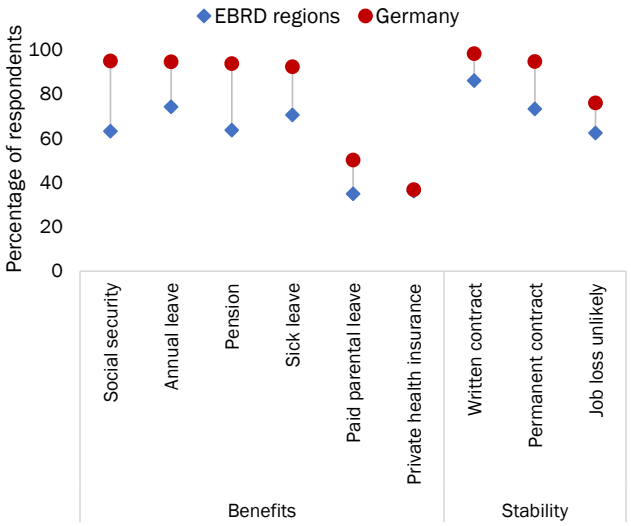
The approach adopted in this chapter follows international conventions as regards the selection of characteristics of jobs. For instance, the International Labour Organization (ILO) defines "decent work" as productive work that delivers a fair income with workplace security and social protection, prospects for development and social integration, freedom to organise and equality of opportunity (see also Chapter 1 as regards the last of those).[52]

Significant numbers of jobs in the EBRD regions remain informal

A considerable share of the jobs in the EBRD regions remain informal, and many offer limited access – if any – to benefits: 14 per cent of all jobs in the EBRD regions are not governed by a written contract, 25 per cent do not afford access to annual leave, 30 per cent do not involve sick leave, and over a third of jobs do not provide access to pensions or social security (see Chart 2.2).[53]

In general, the relatively low incidence of paid parental leave in the EBRD regions reflects generous maternity leave provisions, but limited paternity leave. In contrast, there is no gender gap in Germany. In the EBRD regions, the share of women with access to paid parental leave is about 14 percentage points higher than the equivalent share for men. Equal rights to paid parental leave for mothers and fathers are relatively rare in the EBRD regions: typically, the mother has many more weeks than the father (and in some countries, such as Azerbaijan, the Kyrgyz Republic and Lebanon, the father has zero entitlement).

Chart 2.2. A significant percentage of jobs in the EBRD regions remain informal or offer limited access to benefits



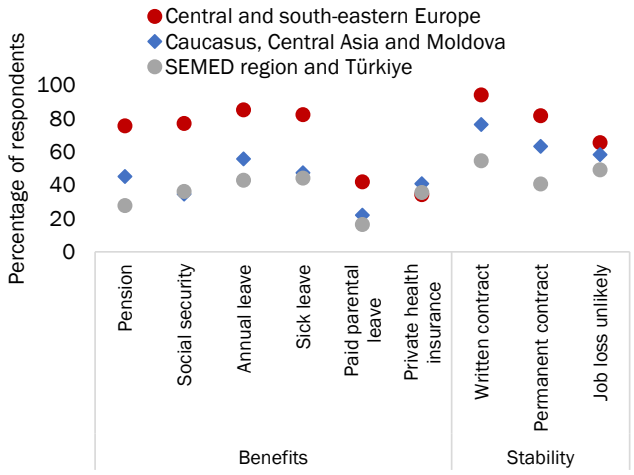
Source: LiTS IV and authors' calculations.
Note: This chart shows the percentages of respondents who have access to the various benefits indicated, have a written contract, have a permanent contract and report that they are unlikely or very unlikely to lose their job in the next six months.

Informality remains especially high in the SEMED region

Informality is more common in the SEMED region, and the stability of jobs is also lower in those economies (see Chart 2.3): 45 per cent of all respondents in that region report having jobs that are not governed by a written contract. Meanwhile, 64 and 72 per cent lack access to social security and pensions respectively, and 56 and 57 per cent do not have access to annual leave and sick leave respectively. Economies in the Caucasus and Central Asia are also lagging behind their peers in central and south-eastern Europe and advanced economies in terms of access to social security.

[51] See also Hovhannisyan et al. (2022) for similar analysis looking at other emerging markets and developing economies.
[52] See ILO (2020).
[53] Please note that the self-employed are not included in any of the analysis of jobs in this chapter.

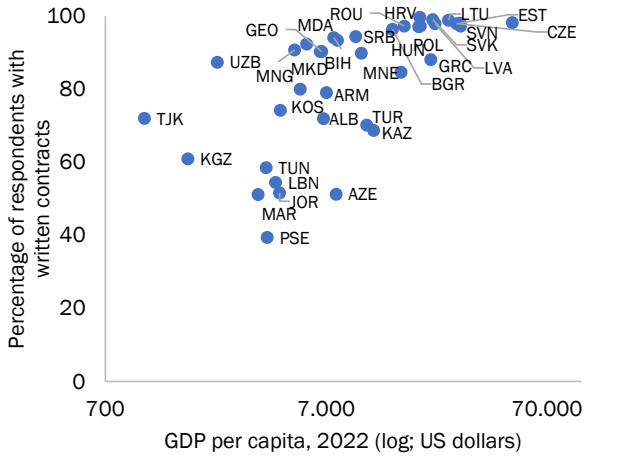
Chart 2.3. Informality remains especially high in the SEMED region



Source: LiTS IV and authors' calculations.
Note: This chart shows the percentages of respondents who have access to the various benefits indicated, have a written contract, have a permanent contract and report that they are unlikely or very unlikely to lose their job in the next six months.

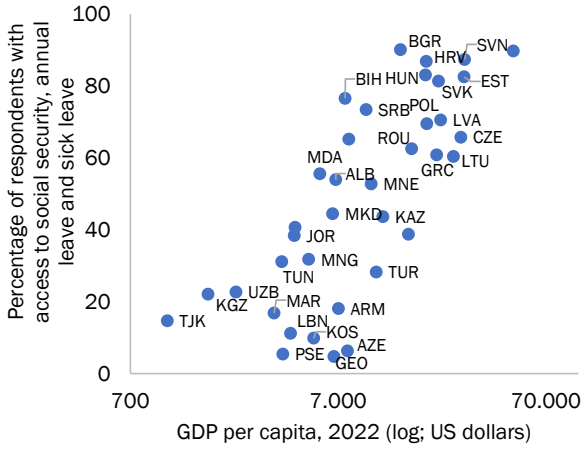
Informality tends, in general, to be greater in poorer economies (see Charts 2.4 and 2.5). However, the economies of the SEMED region stand out in this regard, with high levels of informality relative to their GDP per capita. For instance, while 91 per cent of jobs in Mongolia are governed by a written contract, the same is true of only 52 per cent of jobs in Jordan, despite those two economies having broadly comparable income per capita at market exchange rates (see Chart 2.4). At the same time, access to benefits in Central Asia and the Caucasus is lower than one would expect on the basis on those economies' GDP per capita (see Chart 2.5).

Chart 2.4. Jobs in poorer economies are less likely to be governed by written contracts



Source: World Bank WDIs, LiTS IV and authors' calculations.
Note: The horizontal axis shows the log of GDP per capita in 2022 in US dollars at market exchange rates.

Chart 2.5. Jobs in poorer economies are less likely to provide access to social security, annual leave and sick leave

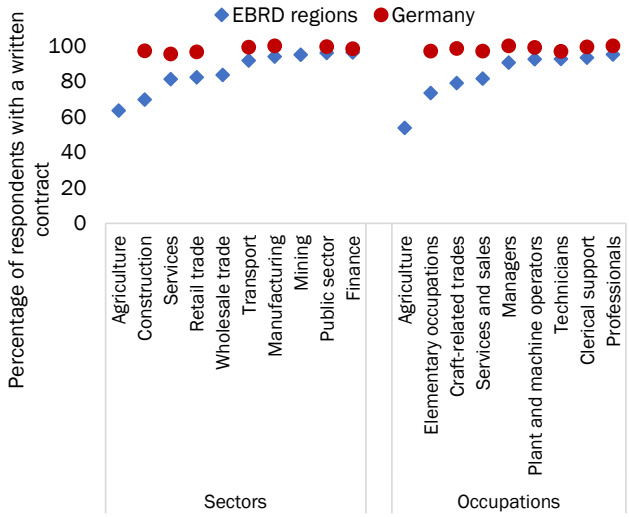


Source: World Bank WDIs, LiTS IV and authors' calculations.
Note: The horizontal axis shows the log of GDP per capita in 2022 in US dollars at market exchange rates.

Informality is highest in agriculture, construction, services and sales

Within individual economies in the EBRD regions, informality is heavily concentrated in certain occupations and sectors (see Chart 2.6): 37 per cent of all respondents working in agriculture, 30 per cent of those employed in construction and almost 20 per cent of those working in services and retail trade report not having a written contract. A similar picture emerges in terms of occupations: 46 per cent of respondents with agricultural occupations and 21 and 27 per cent of those with elementary occupations and craft-related trades respectively report not having written contracts. Such informality is not universal, however: in Germany, for instance, these sectors are just as formal as other sectors.

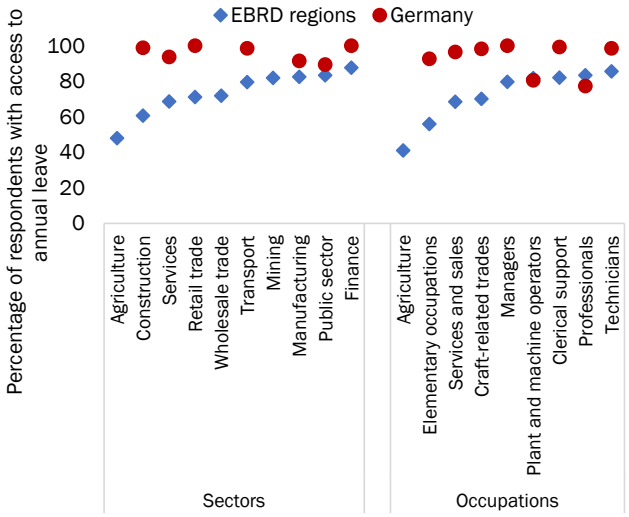
Chart 2.6. Jobs without written contracts are concentrated in agriculture, construction, services and sales



Source: LiTS IV and authors' calculations.
Note: "Agriculture" includes forestry and fishing. Sectors/occupations with fewer than 20 observations have been omitted, as have the armed forces.

Jobs in these sectors – agriculture, construction, services and sales – also provide more limited access to other benefits, such as annual leave (see Chart 2.7). Between 31 and 52 per cent of respondents working in agriculture, construction, services and sales in the EBRD regions do not have access to annual leave. Again, similar patterns can be seen when looking at occupations: for instance, 59 per cent of respondents with agricultural occupations and 44 per cent of those with elementary occupations do not have access to annual leave. A similar picture can be observed for other benefits, such as sick leave.

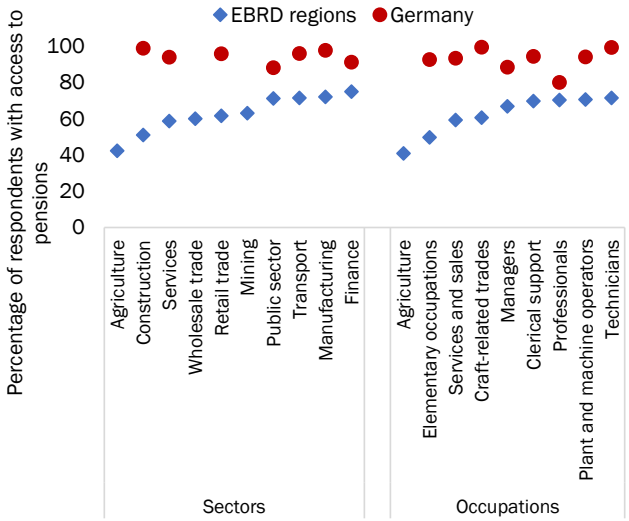
Chart 2.7. Jobs in agriculture, construction, services and sales also provide more limited access to annual leave



Source: LiTS IV and authors' calculations.
Note: "Agriculture" includes forestry and fishing. Sectors/occupations with fewer than 20 observations have been omitted, as have the armed forces.

Furthermore, these sectors are also characterised by limited access to pensions and social security (see Chart 2.8). This is of particular concern in economies in emerging Europe, where populations are ageing rapidly.

Chart 2.8. Jobs in agriculture, construction, services and sales also provide more limited access to pensions



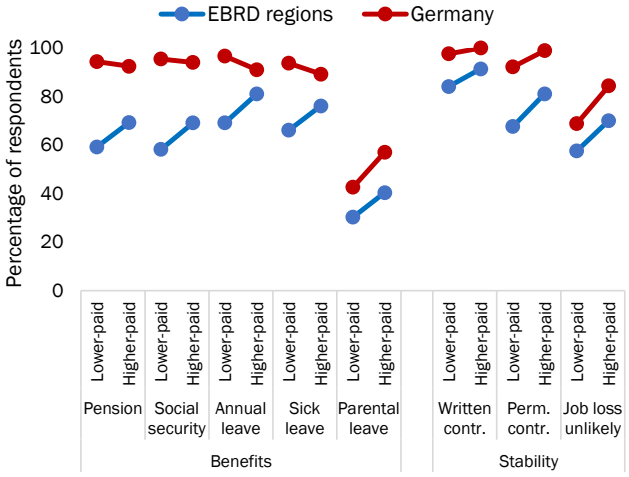
Source: LiTS IV and authors' calculations.
Note: "Agriculture" includes forestry and fishing. Sectors/occupations with fewer than 20 observations have been omitted, as have the armed forces.

Lower-paid jobs offer more limited access to benefits and are less secure

Generally speaking, lower-paid jobs in the EBRD regions tend to offer less access to benefits than higher-paying jobs (see Chart 2.9). In Germany, by contrast, access to benefits such as pensions, annual leave and sick leave does not systematically increase or decrease with pay (with the exception of parental leave). In the EBRD regions, lower-paid jobs are also less likely to be governed by a written or permanent contract. In both the EBRD regions and Germany, lower-paid jobs tend to be regarded as less secure (which is measured here by asking respondents how likely it is that they will lose their job in the next six months).

These findings are in line with the results of recent studies on advanced economies such as the United Kingdom.[54] Those studies show that higher and lower-paid jobs tend to differ from each other when it comes to flexible working (which is defined there as a working arrangement where the timing of work is not fixed in the contract and has to be agreed at a later date between the employer and the employee). With higher-paid jobs and more skilled occupations, that flexibility is typically a positive feature that reflects workers' demand for work-life balance (the flexibility to work when they want to, allowing more freedom to arrange work around business needs or family commitments, but without any associated uncertainty regarding earnings). With lower-paid jobs and lower-skilled occupations, by contrast, flexible working often reflects employers' desire to cut costs by shifting risk onto employees (as in the case of zero-hour contracts, where people do not know how much they will be working from one day to the next), resulting in uncertainty over earnings.

Chart 2.9. In the EBRD regions, lower-paid jobs tend, on average, to offer less comprehensive benefits



Source: LiTS IV and authors' calculations.
Note: "Lower-paid" and "higher-paid" denote pay that is below and above the median respectively. This chart shows the percentages of respondents who have access to the various benefits indicated, have a written contract, have a permanent contract and report that they are unlikely or very unlikely to lose their job in the next six months.

However, there may be trade-offs between pay and benefits

Notwithstanding the strong association between pay and benefits, there may, for some workers, be trade-offs between pay and non-pecuniary attributes of jobs, such as access to benefits, stability and working conditions. For instance, in the EBRD regions, women tend to have lower-paid jobs than men, but more generous benefits and lower incidence of long working hours (see Chart 2.10), benefiting from non-pecuniary attributes of jobs in exchange for lower pay. Indeed, 16 per cent of male respondents in full-time employment in the EBRD regions work more than 50 hours a week, compared with 9 per cent of female respondents. Long hours are concentrated in the agriculture, construction, services and sales sectors – which, as indicated above, also tend to be characterised by more limited access to benefits and higher degrees of informality. (The survey did not ask respondents whether the long hours were their own choice.)

On average, the gender pay gap in the EBRD regions amounts to about 12 percentage points of the distribution of wages in a given economy. It is smaller for women under 30 relative to women over 30, reflecting the "motherhood penalty" – the fact that wage gaps start to widen around the time that women have their first child. This estimated differential is not driven by women working part time: a similar gender pay gap can be observed when the sample is restricted to full-time employees.

Gender pay gaps persist in most industrialised countries despite convergence in the education levels of men and

[54] See, for instance, Adams-Prassl et al. (2020).

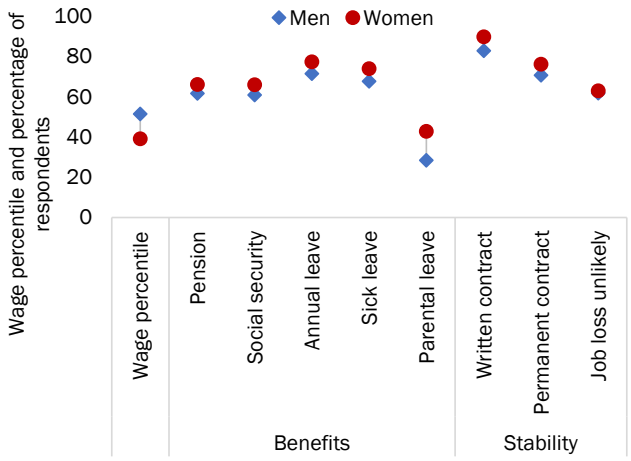
women. At lower levels of the skill distribution, gaps have been closed; however, in highly skilled work, large gaps remain, strongly related to disparities in promotions.

Recent work has, for instance, used detailed long-term data from an international financial institution to show that appointments to project team leadership positions (a "promotable" task) are crucial in explaining disparities in promotions and affect long-term career trajectories.[55]

Furthermore, recent research on the United States shows that, in many professions, women work for firms or institutions that are less demanding of their time, enjoying various benefits, but earning less.[56] Thus, "greedy professions" – which pay disproportionately more for long hours and weekend work – perpetuate disparities between the earnings of women and men.

A recent study based on Danish data on job applications also showed that women systematically target non-pecuniary characteristics of jobs, being more likely to apply for jobs that are part time, require a shorter commute and involve working for family-friendly firms.[57] These jobs also tend to pay lower wages.

Chart 2.10. Women tend to have lower-paid jobs than men, but more generous benefits



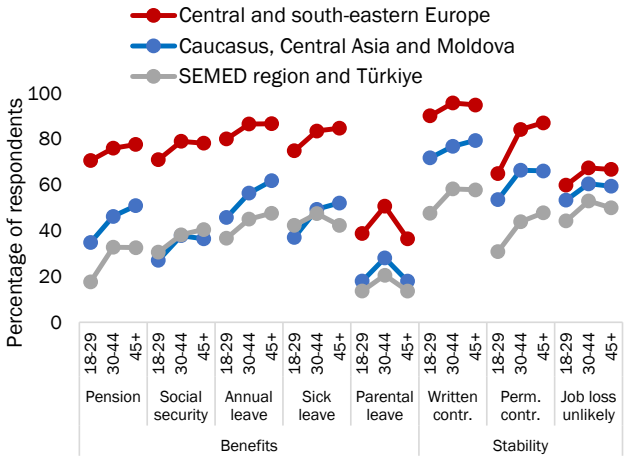
Source: LiTS IV and authors' calculations.
Note: This chart shows average wage percentiles and the percentages of respondents who have access to the various benefits indicated, have a written contract, have a permanent contract and report that they are unlikely or very unlikely to lose their job in the next six months.

Younger people have less secure jobs with fewer benefits

Younger people in the EBRD regions tend to have less secure jobs with fewer benefits. Such age-based disparities are especially pronounced in the SEMED region and Türkiye (see Chart 2.11).

In economies with rapidly growing labour forces, there may be trade-offs between the creation of new jobs (for young entrants to the labour market) and efforts to improve job protection and access to benefits for those already in employment. Such trade-offs may be less pronounced in economies with shrinking labour forces, where a greater focus on the attributes of jobs for young workers may be called for.

Chart 2.11. Younger people tend to have less secure jobs with fewer benefits, particularly in the SEMED region and Türkiye



Source: LiTS IV and authors' calculations.
Note: This chart shows, for each of the three age groups, the percentages of respondents who have access to the various benefits indicated, have a written contract, have a permanent contract and report that they are unlikely or very unlikely to lose their job in the next six months.

Small firms provide more limited access to benefits

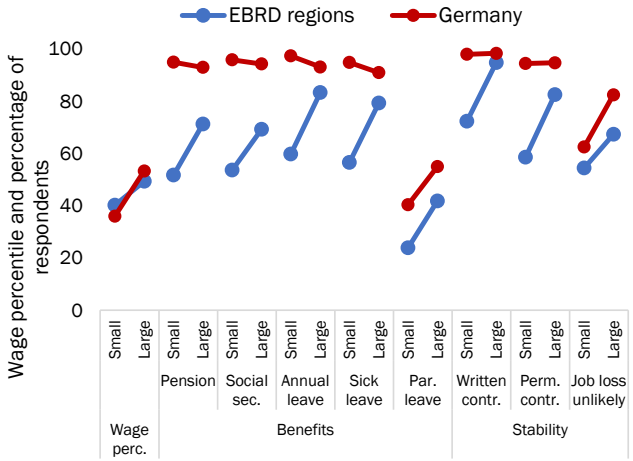
In contrast with Germany, people working for small firms in the EBRD regions (defined as those with fewer than 20 employees) are less likely to have access to benefits such as pensions, social security and leave, and less likely to have a written or permanent contract (see Chart 2.12). In both the EBRD regions and Germany, people working for small firms feel that they are more likely to lose their job.

In the EBRD regions, the difference between large and small firms tends, overall, to be greater in terms of benefits than it is in terms of pay. In Germany, the opposite is true: the pay gap tends to be more significant than the difference in access to

[55] See Bircan et al. (2024).
[56] See Goldin (2021).
[57] See Fluchtmann et al. (2024).

benefits. The similarity between small and large German firms in terms of access to benefits could be explained by a combination of two factors: (i) the fact that such access is regulated and provided through country-wide social safety nets; and (ii) the fact that Germany has much lower levels of informality among small firms.

Chart 2.12. In the EBRD regions, people working for small firms tend to have more limited access to benefits

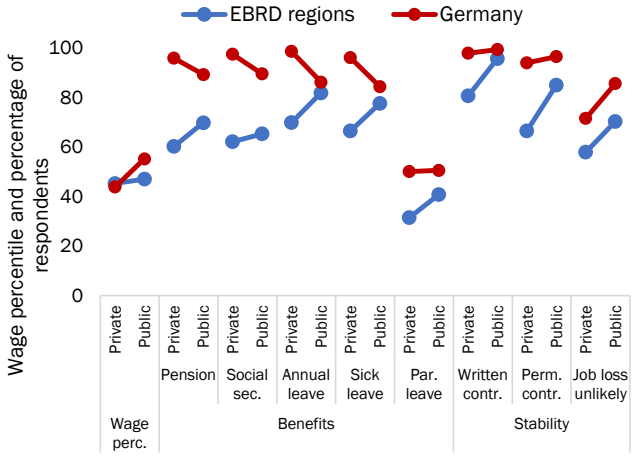


Source: LiTS IV and authors' calculations.
Note: This chart shows average wage percentiles and the percentages of respondents who have access to the various benefits indicated, have a written contract, have a permanent contract and report that they are unlikely or very unlikely to lose their job in the next six months.

Public-sector jobs provide better access to benefits and are more secure

In the EBRD regions, respondents working in the public sector are more likely to have access to a pension, annual leave, sick leave and parental leave than respondents with private-sector jobs (see Chart 2.13). They are also more likely to have a written contract and a permanent contract, with no significant differences being observed between public and private-sector jobs in Germany in these two respects. In both the EBRD regions and Germany, jobs in the public sector are considered to be more secure, with public-sector workers feeling that they are less likely to lose their job in the next six months.

Chart 2.13. In the EBRD regions, public-sector workers have better access to benefits and more secure jobs



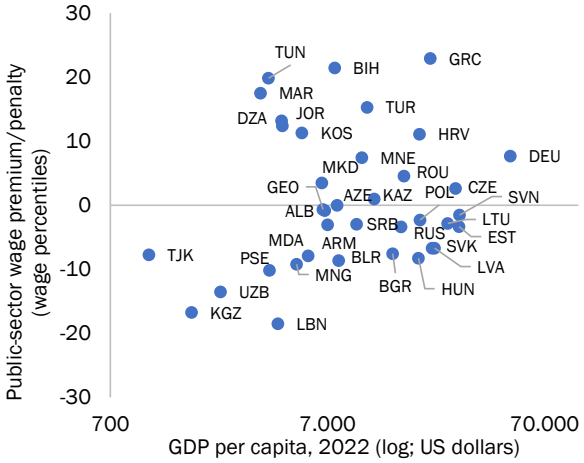
Source: LiTS IV and authors' calculations.
Note: This chart shows average wage percentiles and the percentages of respondents who have access to the various benefits indicated, have a written contract, have a permanent contract and report that they are unlikely or very unlikely to lose their job in the next six months.

In the EBRD regions, there are, on average, no significant differences between public and private-sector pay when it comes to wage employees (that is to say, when the self-employed are excluded). When the self-employed are included, the average wage percentile of respondents working for the public sector is 2.3 percentiles lower than the equivalent figure for the private sector.

These averages conceal substantial heterogeneity across countries. In some economies (including a number of economies in south-eastern Europe and the SEMED region), respondents working in the public sector report higher average pay than peers working in the private sector, but public-sector respondents in other economies (such as countries in Central Asia) report a combination of lower average pay and more comprehensive benefits.

As Chart 2.14 shows, there does not generally appear to be a strong relationship between public-sector wage premiums/penalties in the EBRD regions and economies' levels of development (unlike the positive correlation between the prevalence of formal jobs and per capita income). Furthermore, there are no significant differences between the various age groups in terms of the wages reported by public and private-sector employees. These results are in line with the findings of Gindling et al. (2020), who also show that low-skilled workers tend to earn public-sector wage premiums, while more highly skilled professionals are likely to accept public-sector wage penalties relative to similar jobs in the private sector.

Chart 2.14. Public-sector wage premiums/penalties vary across economies



Source: World Bank WDIs, LiTS IV and authors' calculations.
Note: The horizontal axis shows the log of GDP per capita in 2022 in US dollars at market exchange rates.

Conclusions

Policy discussions and empirical research on developing economies have tended to focus on job creation, the formality of employment and the level of wages, with much less attention being paid to other characteristics of jobs. However, non-pecuniary attributes of jobs (such as access to benefits, stability and working conditions) have important implications for workers' wellbeing, so understanding such aspects of "job quality" is crucial when designing and implementing policies that seek to promote inclusive growth.

Analysis based on LiTS IV data suggests that informal jobs (that is to say, jobs that are not governed by a written contract) are still prevalent in the SEMED region, while jobs in some parts of the Caucasus and Central Asia (particularly Azerbaijan, Georgia and Tajikistan) provide limited access to benefits such as social security, annual leave and sick leave. Meanwhile, access to pensions is more limited in the agriculture, construction and services sectors and among young people in general (particularly in the Caucasus and the SEMED region).

Policymakers face the challenge of affording greater social protection to workers – in line with shifts in the policy preferences of their citizens – while preserving economic efficiency and growth. Balancing efficiency and equity may become even more challenging in the context of slowing productivity growth.[58]

In this respect, advanced economies and emerging markets are increasingly facing similar challenges. However, as a result of their more limited administrative capacity, emerging markets and developing economies typically end up with a more restricted set of policy choices than advanced economies, often leading to more distortive and less protective labour market policies.[59]

In lower-income economies, insurance against income loss tends to rely more on overly stringent employment protection legislation (which protects only a fraction of formal regular workers), rather than on broad-based unemployment insurance. As economies develop and informality is reduced, there is a case for gradually rebalancing labour market institutions, shifting the focus from employment protection legislation to unemployment insurance – that is to say, expanding unemployment insurance while moving towards less stringent, simpler, more predictable employment protection legislation that applies more equally across sectors and across firms of different sizes.[60]

These shifts should be complemented by policies that help to reduce informality, such as the streamlining of regulatory and tax systems (including for small firms), efforts to improve the efficiency of public revenue collection and enforcement, and improvements to the delivery and governance of public services. While administrative capacity is being enhanced, well-designed cash transfers (which do not involve complex monitoring and enforcement of job search and work availability criteria) can be a cost-effective way of providing targeted income support for the poor.[61] Ensuring that pensions and social security have broad coverage is even more important when a population is ageing rapidly, as is the case in much of emerging Europe.[62]

People working for small firms in the EBRD regions are less likely to have access to benefits than those working for large firms. This stands in contrast to the patterns observed in Germany, for instance. The similarity between small and large German firms in terms of access to benefits could be explained by a combination of two factors: (i) the fact that such access is regulated and provided through country-wide social safety nets; and (ii) the fact that Germany has much lower levels of informality among small firms. Thus, the streamlining of regulatory and tax systems for small firms in the EBRD regions could help to reduce informality and ensure compliance with country-wide regulations.

Young people working in the EBRD regions are less likely to have a written contract or access to annual leave or sick leave, particularly in the SEMED region – economies with relatively young and growing labour forces. Policies should thus encourage the creation of formal employment opportunities for the young, for example through active labour market programmes (government programmes that seek to help with job searches) and education and training initiatives, potentially in collaboration with the private sector.

[58] See Adler et al. (2017) and World Bank (2016), as well as Chapter 1 of this report.
[59] See Blanchard et al. (2013) for details of the design of such institutions in advanced economies; and see Duval and Loungani (2019) for analysis of emerging markets and developing economies.
[60] See Duval and Loungani (2019).
[61] Ibid.
[62] See also EBRD (2018).

In economies with rapidly growing labour forces, there may be trade-offs between the improvement of existing jobs (for people who are already in employment) and the creation of new jobs (for young entrants to the labour market). Such trade-offs may be less pronounced in economies with shrinking labour forces, where a greater focus on the attributes of jobs for young workers may be called for. Tight labour markets could help to accelerate the process of reducing informality. In Serbia, for instance, there is evidence that the decline seen in the country's shadow economy has been supported not only by policy reforms (such as the digitalisation of audit authorities, changes to the policy on penalties for non-compliance with tax regulations, a rise in cashless payments and a reduction in labour taxes), but also by tight labour markets, which have improved workers' bargaining positions.[63]

Policies such as the expansion of childcare and parental leave could help to make the trade-offs around pay and benefits for mothers more of a choice and less of a necessity. Here, too, in economies with rapidly ageing populations and low fertility rates, there may be a stronger case for giving parents additional support, for example by extending paternal leave provisions.

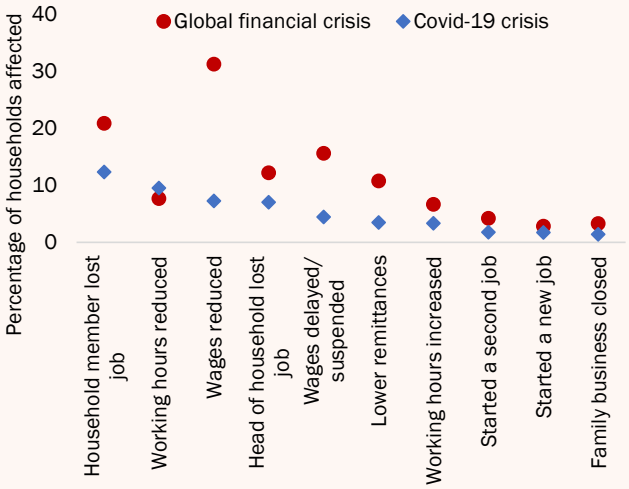
[63] See Ranđelović et al. (2024).

Box 2.1. The economic impact of the Covid-19 crisis

This box compares the economic impact of the Covid-19 crisis with that of the global financial crisis of 2008-09, drawing on the results of the second and fourth rounds of the Life in Transition Survey. LiTS II, which was conducted in 2010, included a number of detailed questions on households' experiences in the aftermath of the global financial crisis. Similar questions were asked again as part of LiTS IV, focusing on respondents' experiences during the Covid-19 crisis.

Across the EBRD regions, more than a fifth of all respondents in LiTS II reported that a member of their household had experienced job loss during the global financial crisis. This was only the case for around 12 per cent of households during the Covid-19 crisis. Similarly, while 31 per cent of respondents reported that a member of their household had seen a fall in wages during the global financial crisis, this was only the case for around 7 per cent of households during the Covid-19 crisis (see Chart 2.1.1).

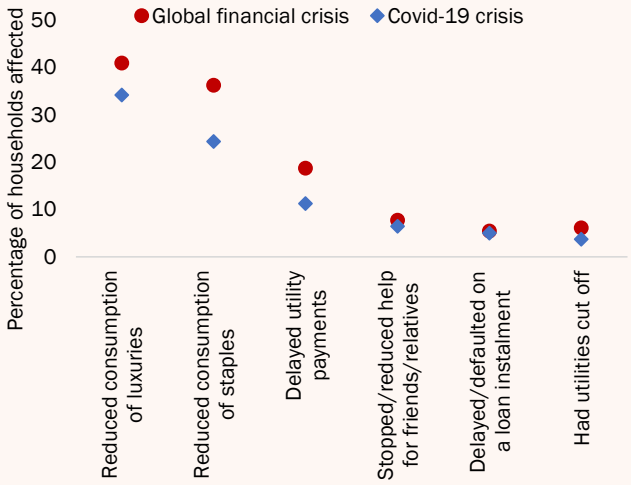
Chart 2.1.1. The Covid-19 crisis had a smaller impact on household finances than the global financial crisis



Source: LiTS II, LiTS IV and authors' calculations.
Note: The data in this chart are based on economies that were included in both LiTS II and LiTS IV.

Accordingly, the Covid-19 crisis also had a smaller impact on household consumption than the global financial crisis (see Chart 2.1.2). For instance, while 41 per cent of households reduced their consumption of luxury goods during the global financial crisis and 36 per cent reduced their consumption of staples, the equivalent figures for the Covid-19 crisis were 34 and 24 per cent respectively.

Chart 2.1.2. The Covid-19 crisis had a smaller impact on household consumption than the global financial crisis



Source: LiTS II, LiTS IV and authors' calculations.
Note: The data in this chart are based on economies that were included in both LiTS II and LiTS IV.

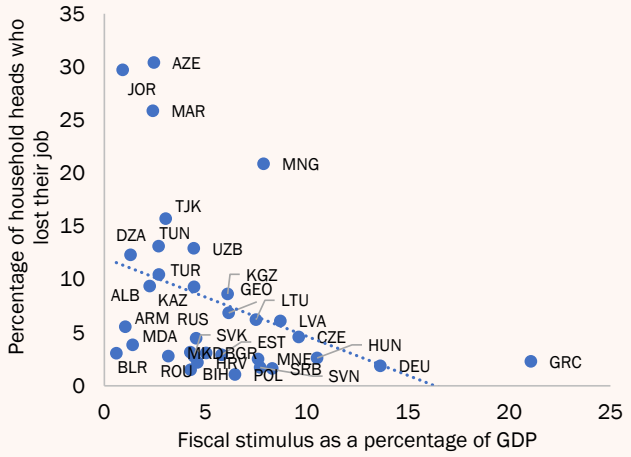
To a large extent, these differences between the two crises in terms of households' experiences reflect the generous government support that was provided during Covid-19 lockdowns. These measures, which included cash transfers, job retention schemes and tax incentives, helped to mitigate the economic impact on households and firms.[64] The Covid-19 crisis had less of an impact on household finances in economies where fiscal support packages were larger – that is to say, economies where additional public spending and forgone government revenue as a result of the pandemic were larger as a percentage of GDP (see Chart 2.1.3).

The response to the Covid-19 crisis highlighted citizens' growing expectations regarding the state's ability to reduce the health and economic risks that are faced by individuals.[65] Those high levels of demand for the socialisation of risks can, in part, be seen as a response to economic risks increasingly being shifted onto individuals with low earnings and less tolerance of risk. The crisis also revealed growing expectations regarding the services that the state should provide.

[64] See also EBRD (2020a).

[65] See EBRD (2020b).

Chart 2.1.3. The Covid-19 crisis had less of an impact in economies where fiscal support packages were larger



Source: IMF, LiTS IV and authors' calculations.
Note: Estimates of fiscal stimulus include cash transfers, job retention schemes and tax incentives, but exclude equity injections and loan guarantees.

That increase in demand for the socialisation of economic risks is a continuation of a longer-term trend. Since the middle of the 19th century, state spending has risen markedly as a share of GDP, reflecting the growing importance of providing education, healthcare and social safety nets.[66] The same is true of the state's share of total employment (although that peaked in the 1980s and has declined somewhat in recent decades).

Public support for state ownership of businesses and industry has also been growing, with surveys in post-communist economies suggesting that 45 per cent of people now favour an increase in public ownership. Similar trends can be observed in responses to the World Values Survey across a broad sample of advanced economies and emerging markets.[67]

Recent research shows that crises do not just boost support for a larger state by increasing demand for redistribution and social safety nets; they also strengthen demand for secure employment.[68] Respondents whose household experienced job or income loss during the global financial crisis are more likely to prefer a secure job (even if it offers a lower salary). Meanwhile, those whose household experienced job or income loss during the Covid-19 crisis are more likely to think that the public sector should be responsible for providing jobs.

[66] Ibid.
[67] See EBRD (2020a) and Kóczán and Plekhanov (2023).
[68] See Kóczán and Plekhanov (2023).

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Chapter 3. Digitalisation: a generational divide

In the EBRD regions, access to mobile internet is more common than access to the internet at home,[69] and ownership of smartphones is significantly more common than ownership of laptops or tablets. As a result, services provided by firms or governments through apps or websites designed for smartphones may reach a larger proportion of the population than services provided through websites designed for laptops. As digital infrastructure improves, digital skills are becoming increasingly important for accessing government services, good jobs and online learning materials. Across economies, there is a clear generational divide when it comes to digital skills, with greater digital literacy among the young. At the same time, in EBRD economies outside the EU, significant skills gaps also persist among younger cohorts, particularly in rural areas, so generational change may not, on its own, be sufficient to deliver near-universal digital literacy in the foreseeable future.

Introduction

Digital skills are becoming increasingly important, not only for shopping online, enrolling on courses and interacting with the government, but also for accessing good jobs as economies focus more on digital sectors and digital skills become more valuable within individual sectors.

This chapter draws on a new module in the fourth round of the Life in Transition Survey, which included detailed questions about respondents' use of the internet, their assessment of their digital skills and their experiences with remote learning during the Covid-19 pandemic.

The results of the LiTS IV survey suggest that, across the EBRD regions, access to the internet at home remains significantly higher in urban areas than in rural areas. Moreover, it is less common in a number of economies in Central Asia and the southern and eastern Mediterranean (SEMED), partly owing to the relatively high price of access. In some economies, such as Tajikistan, there is a clear need for further investment in digital infrastructure. Elsewhere, policymakers should ensure that there is competition in the sector and, if need be, provide subsidies to guarantee affordable access in rural areas.

Access to 3G/4G mobile data services is high across the EBRD regions, even in economies where a smaller proportion of households have access to the internet at home. Similarly, while only around a quarter of lower-income households in the EBRD regions own a computer or a laptop, around 70 per cent have a smartphone. This suggests that businesses and governments could broaden their reach by optimising their online services for mobile phones rather than computers.

The survey asked a number of questions about basic digital literacy – enquiring about respondents' ability to send emails with attachments, copy files and install software. Respondents were also asked whether their jobs required basic digital skills.

While around 75 per cent of respondents in the EBRD regions use the internet for phone or video calls, only around 30 per cent report being able to send emails with attachments, copy files and install software. Depending on the economy, between 10 and 70 per cent of respondents report shopping online, and between around 10 and 45 per cent engage in online learning.

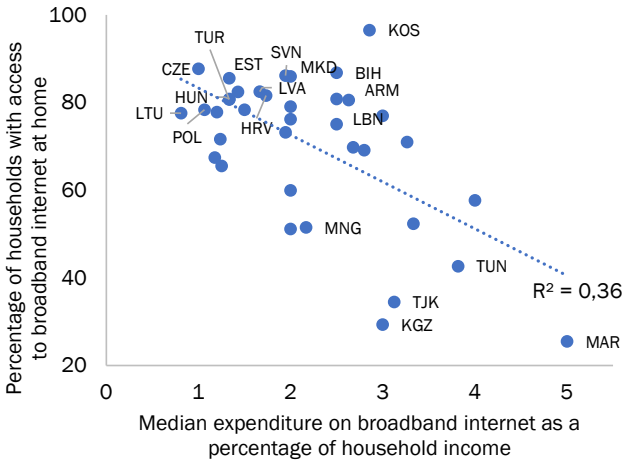
Jobs that require digital skills carry an estimated wage premium of 12 to 33 per cent relative to jobs with no digital skill requirements. Those jobs also offer greater access to benefits such as pensions, social security, annual leave and sick leave (see Chapter 2 for a detailed discussion of work-related benefits and working conditions).

In EBRD economies in the EU, the distribution of digital skills primarily reflects a generational divide. Among younger cohorts, nearly everyone makes payments online, and uptake of e-government services is strong – on a par with or in excess of the levels reported in Germany. In other EBRD economies, however, only around 40 per cent of respondents below the age of 30 report being able to send emails with attachments, copy files and install software. Thus, generational change may not, on its own, be sufficient to deliver near-universal digital literacy in the foreseeable future in those economies. In particular, female respondents and those living in rural areas tend to have weaker digital skills.

The Covid-19 pandemic led to a rapid increase in the uptake of online learning as schools closed during lockdowns. The LiTS IV survey asked a number of questions about households' experiences with remote learning during the pandemic. The impact on low-income households was disproportionately high, not only as a result of the costs incurred and the poor quality of their internet connections, but also because of the competing demands of work. Across economies, the overwhelming majority of the burden of home schooling fell on mothers, regardless of their place of residence or income level, calling for support for working

[69] The term "access to the internet at home" reflects the wording of the LiTS IV survey. Respondents were asked: "Do you have access to internet at home, excluding through smartphone/3G/4G?" Consequently, "access to the internet at home" includes fixed-line access (via broadband, fibre, dial-up modems and so on) and satellite-based access, for example, but excludes access via 3G/4G mobile networks.

Chart 3.1. Access to the internet at home is less common where it is more expensive relative to income



Source: LiTS IV and authors' calculations.
Note: This chart is based on median expenditure as reported by respondents to the survey. Selected economies have been labelled.

mothers with children in education in terms of more flexible working arrangements.

Digital technologies have the potential to increase equality of opportunity in education. E-learning could enhance accessibility and help to personalise education, as well as creating distance-learning opportunities. However, people's experience with remote learning during the Covid-19 pandemic serves as a reminder that the rise of online learning could exacerbate divides in society if online tools end up being used much more effectively by richer households.[70] Policies to mitigate such inequalities could include the distribution of devices to students, efforts to ensure that students have effective access to learning materials via their mobile phones, and measures aimed at enhancing digital literacy in schools.

This chapter begins by examining access to the internet at home, access to 3G/4G mobile internet and access to devices such as laptops and smartphones, before turning to digital skills, use of online technologies and experiences with remote learning during the Covid-19 pandemic.

Access to the internet

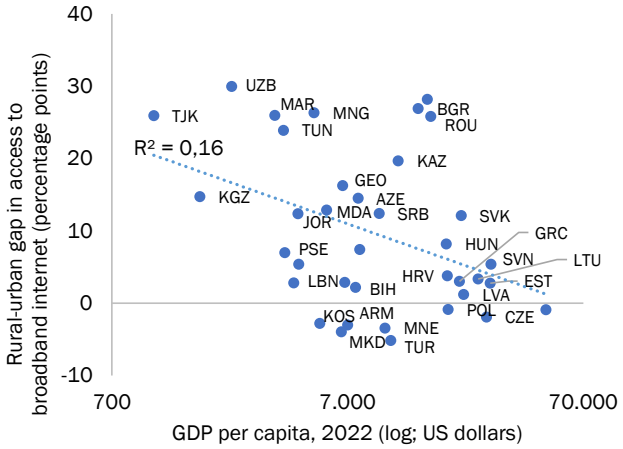
Across the EBRD regions, an average of 70 per cent of survey respondents have access to the internet at home (with figures ranging from more than 80 per cent in Armenia, Bosnia and Herzegovina, Croatia, Czechia, Estonia, Hungary, Kosovo, Latvia, Lebanon, North Macedonia, Slovenia and Türkiye to less than 40 per cent in the Kyrgyz Republic, Morocco and Tajikistan).

Differences in access to the internet at home may, in part, be explained by differences in the cost relative to household income. Indeed, analysis based on LiTS IV data shows that access to the internet at home is less common in economies where respondents report paying a larger percentage of their household income for that service (see Chart 3.1).

Economies in Central Asia and the SEMED region have some of the lowest levels of access and some of the highest reported costs relative to household income. In Morocco, for instance, the median household spends 5 per cent of its income on internet access at home and half of all households report that cost is the main reason for not having internet at home. In contrast, the median households in Lithuania, Czechia and Poland spend less than 1 per cent of their income on internet at home. A similar picture can be observed when the average cost of internet is based on alternative data sources.[71]

Overall, access to the internet at home remains significantly lower in rural areas than in urban areas, with urban-rural gaps being observed in most economies. Those gaps tend to be larger in poorer economies, with particularly large gaps being seen in Central Asia (see Chart 3.2). In Tajikistan, for instance, around 56 per cent of urban households have access to the internet at home, but the same is true of only 30 per cent of rural households.

Chart 3.2. Urban-rural gaps in access to the internet at home tend to be larger in poorer economies



Source: LiTS IV, World Bank WDIs and authors' calculations.
Note: The horizontal axis shows the log of GDP per capita in 2022 in US dollars at market exchange rates. EBRD economies are labelled.

[70] See also Gottschalk and Weise (2023).

[71] See EBRD (2021).

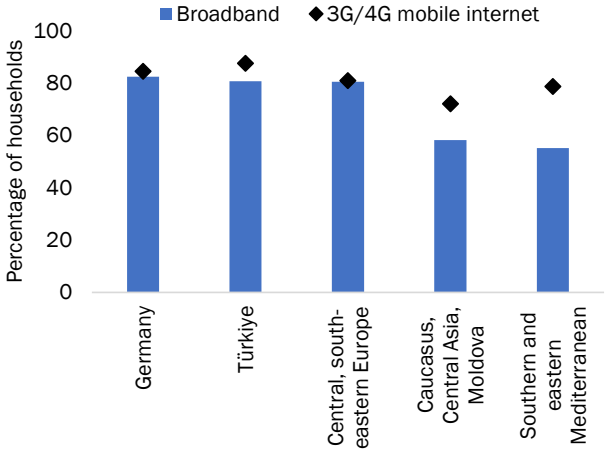
Table 3.1. Determinants of access to the internet at home

	(1)	(2)
Local population density (30 km x 30 km grid)	0.017*** (0.003)	
Local population density (5 km x 5 km grid)		0.004*** (0.001)
Average age of household members	-0.006*** (0.000)	-0.006*** (0.000)
Education level of household head: upper secondary	0.103*** (0.013)	0.104*** (0.013)
Education level of household head: tertiary	0.178*** (0.014)	0.179*** (0.015)
Equivalised household income percentile	0.003*** (0.000)	0.003*** (0.000)
R^2	0.269	0.267
Number of observations	31,322	31,322
Country fixed effects	Yes	Yes

Source: LiTS IV, Version 4 of the Gridded Population of the World dataset and authors' calculations.
Note: This table shows the results of linear regressions. The dependent variable is an access to internet dummy that is equal to 1 if the household has access to the internet at home and is 0 otherwise. Local population density is measured by matching the centre of the PSU where the household is located to gridded population density data. Local population density is defined as the number of people, in thousands, per square kilometre at the level of a 30 km x 30 km grid cell or a 5 km x 5 km grid cell.

Some of the differences between urban and rural areas can be explained by low population densities in rural locations, which mean that the fixed cost of providing access to the internet in those areas is high. Mongolia, for instance, has the lowest population density in the world. The relationship between population density and access to the internet at home also holds within individual economies. The location of households participating in LiTS IV can be matched to detailed local population data with 30 km x 30 km and 5 km x 5 km grid cells, which provide a measure of local population density.[72] When controlling for the average age of household members, the household head's education level, household income and country fixed effects, households that are located in more densely populated areas are, on average, more likely to have internet access at home (see Table 3.1). At the economy level, even after taking into account population density and the percentage of the population that live in rural areas, urban-rural gaps still tend to be larger in poorer economies.

Chart 3.3. Access to 3G/4G mobile internet is high even in economies where access to the internet at home is relatively low



Source: LiTS IV and authors' calculations.

Access to mobile data networks is generally high across the EBRD regions, being comparable to the levels reported by survey respondents in Germany. This is also the case in economies where access to the internet at home is relatively low. In Central Asia and the SEMED region, for instance, 70 to 80 per cent of respondents report having access to 3G/4G mobile internet, while only 50 to 60 per cent have access to the internet at home (see Chart 3.3). Tajikistan is a notable exception in this regard, with only a third of respondents reporting that they have access to 3G/4G mobile internet.

As with access to the internet at home, access to 3G/4G mobile internet is also significantly higher in urban areas than in rural areas. However, within rural areas, access to mobile internet is more widespread than access to the internet at home.

Access to smartphones is widespread, unlike access to computers

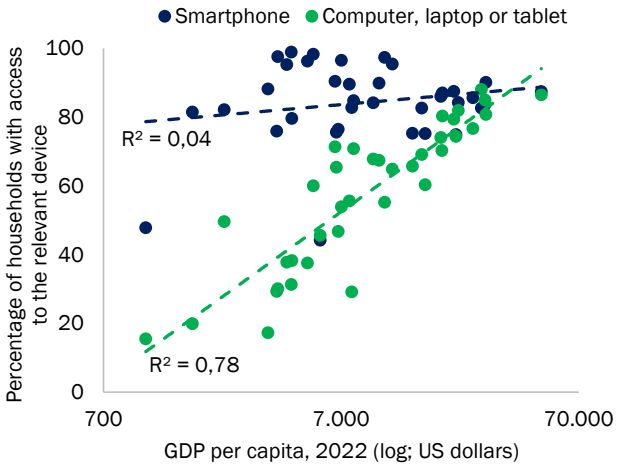
Across the EBRD regions, 84 per cent of households say that they have access to a smartphone, mirroring the high levels of access to mobile internet. In contrast, only 57 per cent of households report having access to a computer.

Strikingly, while access to a computer, a laptop or a tablet is higher in richer economies, this pattern is much weaker for smartphones (see Chart 3.4). In Germany, for example, 86 per cent of households have access to a computer, a laptop or a tablet, and 87 per cent have access to a smartphone. In contrast, the equivalent figures for the Kyrgyz

[72] Those population density data are taken from Version 4 of the Gridded Population of the World dataset, which is published by NASA's Socioeconomic Data and Applications Center. See https://sedac.ciesin.columbia.edu/data/set/gpw-v4-population-density-rev11 (last accessed on 9 June 2024).

Republic are 20 and 81 per cent respectively. More generally, per capita income can explain about 50 per cent of total variation in access to computers, laptops and tablets as reported by households, but only 5 per cent of total variation in access to a smartphone and 10 per cent of total variation in use of a smartphone to access the internet.[73]

Chart 3.4. An economy's level of development matters less for access to a smartphone than for access to a computer, a laptop or a tablet

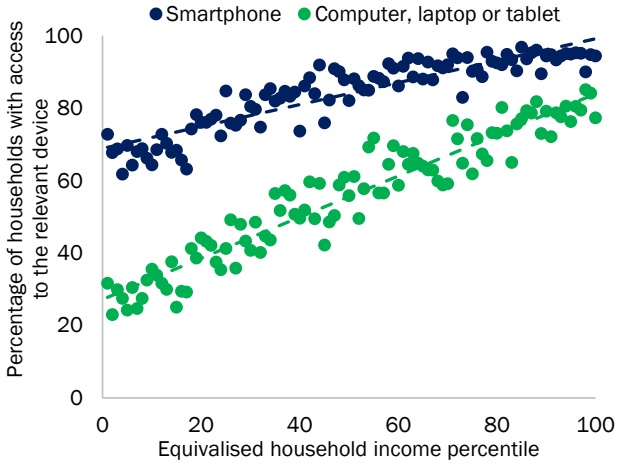


Source: LiTS IV, World Bank WDIs and authors' calculations.
Note: The horizontal axis shows the log of GDP per capita in 2022 in US dollars at market exchange rates.

Within individual economies in the EBRD regions, more educated households and those living in urban areas are more likely to have access to both computers and smartphones. In Germany, by contrast, the head of the household's education level and the household's urban/rural location are not significantly correlated with access to either of those devices.

Access to computers, laptops and tablets varies more with household income, while access to smartphones is higher among poorer households (see Chart 3.5). Looking at households that are in the lowest income decile in their respective economies, 68 per cent have smartphones, while only 27 per cent own computers (compared with figures of 94 and 79 per cent respectively for households in the highest income decile).

Chart 3.5. Household income matters more for access to computers than for access to smartphones



Source: LiTS IV and authors' calculations.
Note: Each dot captures people in the same household income percentile in different countries. Household income has been equivalised using the OECD-modified equivalence scale (see Chapter 1 for details).

These patterns have important implications for firms and governments in the EBRD regions. Ensuring that online services provided by businesses and governments can be accessed effectively using mobile phones (rather than computers) with the help of apps and appropriate designs could help to make those services accessible to a wider audience.

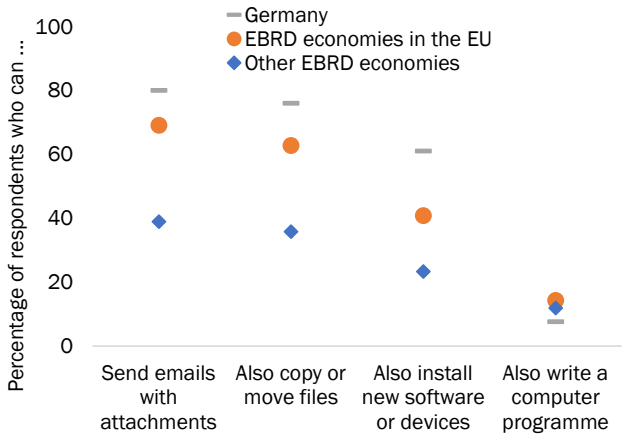
Competency of digital users

There were detailed questions in the LiTS IV survey asking respondents whether they could (i) send emails with attachments, (ii) copy or move files, and (iii) install new software or devices. In addition to those three basic tasks, survey participants were also asked if they could write a computer program.

In Germany, over 75 per cent of respondents say that they are able to send emails with attachments and copy files. And around 60 per cent of respondents report that they are able to perform all three of those basic tasks (and can therefore be regarded as "competent users"; see Chart 3.6). Some EBRD economies in the EU, such as Czechia and Lithuania, are comparable to Germany as regards the two most basic digital skills, but lag behind it in terms of being able to install new software or devices. Overall, around 40 per cent of respondents in EBRD economies in the EU report being able to complete all three basic tasks.

[73] This is based on Shapley decomposition of R^2 values derived from two separate regressions estimated using ordinary least squares. Those regressions seek to explain dummy variables for access to computers, laptops and tablets and access to smartphones using a set of household-level characteristics and the logarithm of GDP per capita in US dollars at market exchange rates.

Chart 3.6. In EBRD economies outside the EU, less than half of all respondents have basic digital skills



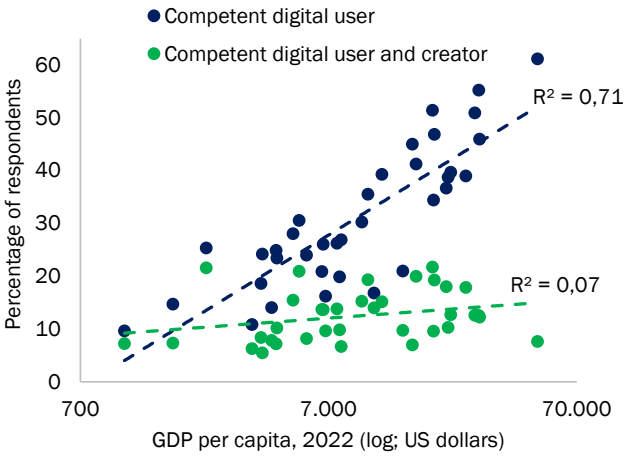
Source: LiTS IV and authors' calculations.
Note: Tasks are listed from left to right in ascending order of complexity. The percentages refer to individuals who can complete the task in question and all lower-level tasks.

In EBRD economies outside the EU, less than a quarter of respondents report being able to complete all three basic tasks. In Tajikistan, for instance, only 17 per cent of respondents are able to send emails with attachments and also copy or move files, and the figure for Morocco is not much higher at 19 per cent. In those two countries, only 10 and 11 per cent of respondents respectively are able to carry out all three basic tasks.

At the same time, a number of economies in the EBRD regions have relatively high percentages of respondents who, in addition to being competent digital users, are also able to write a computer program (see Chart 3.7). Figures for such digital creators are often higher in economies that are developing significant IT clusters and targeting the software industry and the provision of outsourced digital services (with examples including Hungary, Poland and Lithuania).

Unsurprisingly, respondents in richer economies tend to have better digital skills. However, the relationship with per capita income is considerably stronger for basic user skills than it is for the ability to write a computer program. Some economies, such as Türkiye and North Macedonia, have relatively large numbers of digital creators but only modest levels of digital literacy in the general population.

Chart 3.7. Richer economies tend to have more digitally skilled users; however, the relationship with GDP per capita is less strong when it comes to digital creators



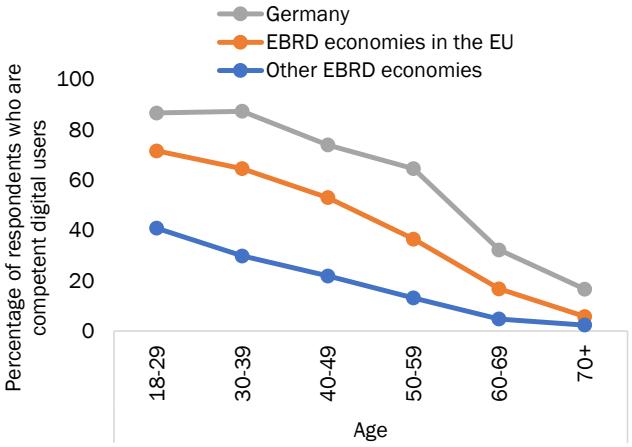
Source: LiTS IV and authors' calculations.
Note: The horizontal axis shows the log of GDP per capita in 2022 in US dollars at market exchange rates. A "competent digital user" is a respondent who is able to (i) send emails with attachments, (ii) copy or move files and (iii) install software. A "competent digital user and creator" is, in addition to those three things, also able to write a computer program.

Digital skills: a generational divide

In all economies, digital skills are considerably weaker among older cohorts. In Germany, for instance, 87 per cent of LiTS IV respondents under the age of 40 can send emails with attachments, copy or move files and install software, but the same is true of less than a third of respondents in their 60s and just 17 per cent of those aged 70 or above. Similar generational divides can be observed in other economies.

However, in EBRD economies outside the EU, deficits in terms of digital skills can be observed not only among older respondents but also in younger cohorts (see Chart 3.8). In those economies, only 40 per cent of respondents aged 18 to 29 are competent digital users, compared with 73 per cent in EBRD economies in the EU.

Chart 3.8. In EBRD economies outside the EU, deficits in terms of digital skills can also be observed in younger cohorts

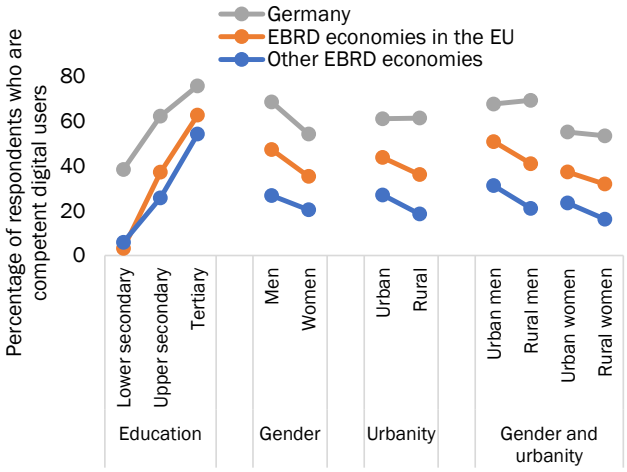


Source: LiTS IV and authors' calculations.
Note: A "competent digital user" is a respondent who is able to (i) send emails with attachments, (ii) copy or move files and (iii) install software.

As expected, digital competency is greater among respondents with higher levels of education (see Chart 3.9). On average, it is also higher for men than for women (a difference that is statistically significant in both Germany and the EBRD regions). In the EBRD regions, respondents living in urban areas tend, on average, to have significantly better digital skills than those living in rural areas; however, there is no urban-rural gap in Germany.

Overall, differences based on gender and location are much smaller than differences based on age. For instance, in EBRD economies in the EU, 48 per cent of male respondents are competent digital users, compared with 36 per cent of female respondents, while the average difference between urban and rural areas in those economies stands at 8 percentage points. In contrast, the average difference between respondents aged 18 to 29 and those aged 50 to 59 is around 35 percentage points.

Chart 3.9. Digital competency tends to be greater among respondents with higher levels of education and those living in urban areas



Source: LiTS IV and authors' calculations.
Note: A "competent digital user" is a respondent who is able to (i) send emails with attachments, (ii) copy or move files and (iii) install software. "Lower secondary" also includes respondents with lower levels of education (such as those who have only completed primary education).

More highly paid, stable jobs with better access to benefits are more likely to require digital skills

Employed LiTS IV respondents were asked whether their jobs required computer skills. On average, 61 per cent of those respondents reported a need for computer skills at work, with figures ranging from more than 80 per cent for managerial and professional occupations (such as managers or teachers) to between 12 and 34 per cent for elementary occupations (such as mining or construction workers).

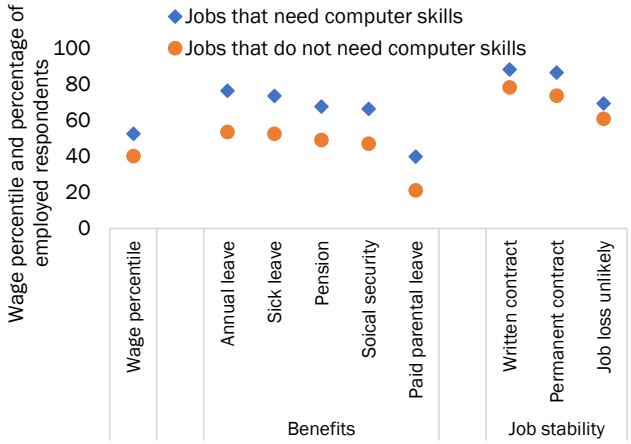
On the basis of those survey responses, the EBRD regions are similar to Germany in terms of demand for computer skills in the service sector (with around 60 per cent of such jobs requiring computer skills). In the manufacturing sector, by contrast, demand for computer skills is currently lower than in Germany, in line with the lower level of automation: around 54 per cent of manufacturing workers in the EBRD regions report a need for computer skills at work, compared with 82 per cent in Germany.[74]

Combining the detailed analysis of job characteristics in Chapter 2 with these responses on the subject of computer skills suggests that more highly paid jobs, those that provide access to more benefits (such as annual leave, sick leave, parental leave, pensions and social security) and those that are governed by a written contract are all more likely to require digital skills (see Chart 3.10). These differences are all

[74] See EBRD (2018) for evidence that the EBRD regions are lagging behind advanced economies in terms of the use of robots in manufacturing.

statistically significant, but there is no statistically significant difference between jobs with and without computer skill requirements in terms of the perceived likelihood of job loss.

Chart 3.10. More highly paid, stable jobs with better access to benefits are more likely to require digital skills



Source: LiTS IV and authors' calculations.
Note: This chart is based on employed individuals aged 18 to 64.

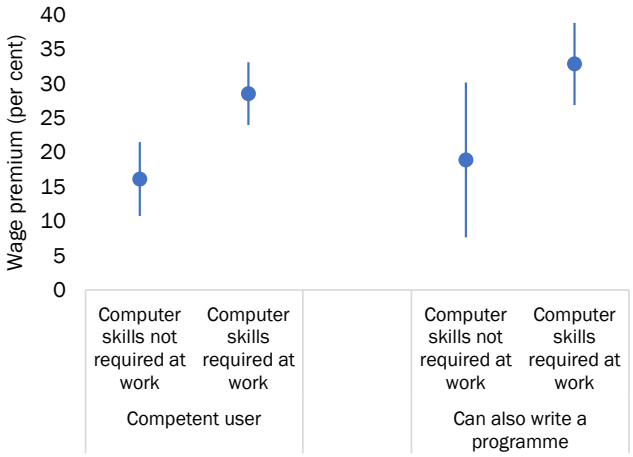
Regression analysis at an individual level points to a wage premium of 12 to 33 per cent for digital skills (see Chart 3.11). The baseline group in this analysis are respondents who report no computer skill requirements and are not competent digital users. The classification also distinguishes between (i) individuals who report such skill requirements but do not have basic digital skills, (ii) people with basic digital skills whose job does not have computer skill requirements, (iii) respondents who have basic digital skills and can also write a computer program, but whose job does not require computer skills, (iv) individuals who report computer skill requirements at work and are deemed to be competent users, and (v) people with basic digital skills and the ability to write a computer program whose job requires computer skills.

In order to estimate the wage premium, the logarithm of self-reported earnings is regressed on the categorical variable capturing the type of respondent as outlined above, as well as various individual-level characteristics such as age, age squared (to account for non-linear effects that age has on earnings), level of education, gender, location (urban or rural) and country of residence. Control variables include the number of books at home during childhood (to account for differences in individuals' learning environments, which may have translated into differences in various cognitive skills, in addition to differences in acquired digital skills). For instance, recent research has shown that the number of books at home during childhood is a strong predictor of performance in standardised cognitive tests for adults.[75]

Some of that wage premium – the difference between the earnings of (i) individuals with digital skills and jobs that require them and (ii) individuals with no digital skills and jobs that do not require them – may be down to other skills possessed by holders of digital-intensive jobs. Indeed, the wages of people with basic digital skills but jobs that do not require them are 16 per cent higher than those of the baseline group. For those who can also write a computer program, the wage premium in a job with no computer skill requirements is estimated at 19 per cent. These differences may reflect a strong association between digital skills and other – unobserved, but nonetheless valuable – skills that respondents possess.

Focusing solely on employed individuals with basic digital skills, 79 per cent of those individuals have jobs with computer skill requirements. The wage premium commanded by individuals with such jobs is 12 percentage points higher than that of other competent digital users. This difference is statistically significant at the 5 per cent level and can be regarded as a fairly conservative estimate of the wage premium that is associated with using digital skills at work.

Chart 3.11. Digital skills command a wage premium of 12 to 33 per cent



Source: LiTS IV and authors' calculations.
Note: This chart shows transformed point estimates and 95 per cent confidence intervals that are derived from a linear model regressing the logarithm of self-reported earnings in euros on a categorical variable indicating respondents' digital skills and the requirements of their jobs as shown on the horizontal axis. The omitted baseline group are individuals who are not competent digital users and have jobs that do not require computer skills. The individual-level characteristics that are included in the regression are age, age squared, gender, education level and the number of books at home during childhood. Additional controls include an urban or rural household dummy and country of residence fixed effects. Standard errors are clustered at the level of the PSU.

[75] See Byrne and Plekhanov (2021).

The estimated wage premium for individuals who can write a computer program and are in a job with computer skill requirements is around 33 per cent. The difference between the wage premiums of competent users and people who are able to write a computer program is not statistically significant and is considerably smaller than the difference between the wage premium of competent digital users with a job requiring computer skills and the premium that is commanded by competent users with a job that does not require computer skills. The premium that is associated with jobs requiring computer skills can be observed for both private and public-sector employees.

The estimates of wage premiums in this chapter are not precise. There may be many reasons why individuals hold certain jobs and have acquired particular skills. Skills help people to obtain jobs and are, in turn, acquired in the course of doing jobs. Individuals with and without digital skills also differ in terms of other skills, and variables such as the level of education and the number of books at home during childhood may not capture all of those differences.

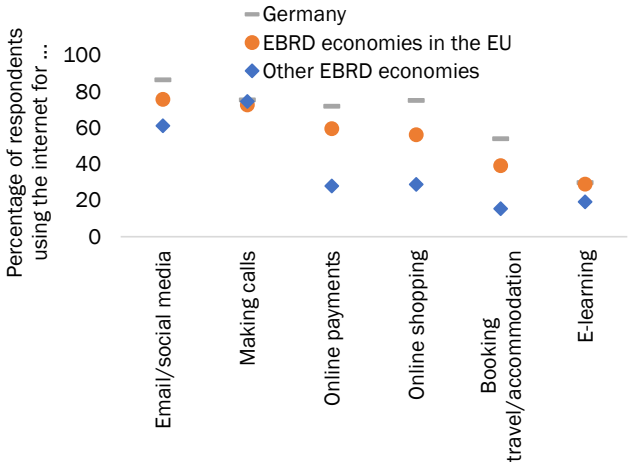
However, the estimates provided are nonetheless insightful insofar as they describe labour market equilibria across economies with differing levels of development, varying industrial structures and different levels of digital literacy.

Digital skills are likely to become even more important as production structures focus more on digital-intensive sectors and technological skills become more important within individual sectors and occupations. As the automation of production increases, many repetitive tasks may be carried out by advanced robotic systems, with human involvement switching to the maintenance and supervision of machines.[76] In line with these trends, the importance of technological skills increased in almost three-quarters of industries globally between 2015 and 2019, including industries that are far removed from the information and communication technology (ICT) sector such as food production, paper products and textiles.[77]

Limited use of digital technologies, beyond making calls

In both the EBRD regions and Germany, around 75 per cent of LiTS IV respondents use the internet to make audio or video calls (see Chart 3.12). Use of other online services is more limited in the EBRD regions than in Germany. In the EBRD regions, between 15 and 56 per cent of respondents use the internet to shop, compared with 75 per cent in Germany, and a similar differential can be observed when it comes to booking travel online. In EBRD economies in the EU, uptake of online courses is similar to that seen in Germany at around 30 per cent, with somewhat lower figures being observed in other EBRD economies.

Chart 3.12. In the EBRD regions, around 75 per cent of respondents use the internet for calls, but only around 40 per cent shop online



Source: LiTS IV and authors' calculations.
Note: "Making calls" includes both phone and video calls made over the internet, while "online payments" encompasses the sending and receipt of payments, including mobile banking. "Online shopping" refers to the buying or selling of goods or services online. "E-learning" includes both participation in online courses and the use of online learning materials. With the exception of "e-learning" and "making calls", all differences between the regions shown are statistically significant at the 1 per cent level. For "making calls", the difference between EBRD economies in the EU and Germany is statistically significant at the 5 per cent level, as is the difference between EBRD economies in the EU and other EBRD economies, but the difference between other EBRD economies and Germany is not statistically significant at the 10 per cent level. For e-learning, the difference between EBRD economies in the EU and Germany is not statistically significant at the 10 per cent level.

In Germany and EBRD economies in the EU, use of the internet for online payments, shopping and booking travel or accommodation is near-universal among younger cohorts (see Chart 3.13). In other EBRD economies, by contrast, less than 60 per cent of younger respondents make such payments.

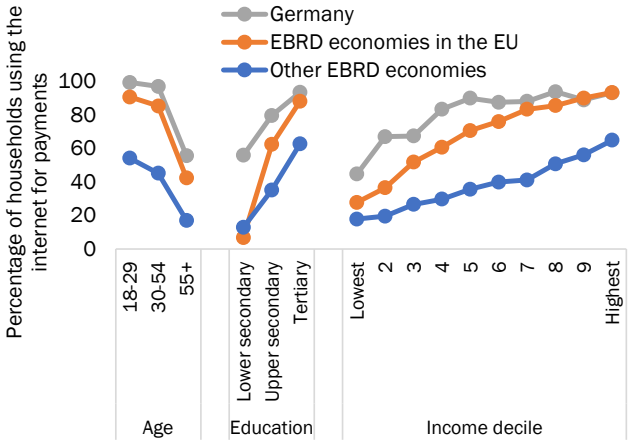
Research has shown that a lack of digital skills impedes people's use of digital technologies. Indeed, differences in digital skills can explain almost 80 per cent of total cross-country variation in households' use of digital technologies. In other words, low levels of digital skills appear to be impeding the use of digital technologies in situations where supporting infrastructure and digital government services are available. A similar correlation can be observed between ICT specialists' share of total employment and firms' use of digital technologies.[78]

[76] See Dauth et al. (2017), EBRD (2021) and Graetz and Michaels (2018). Dauth et al. (2017) study the impact that exposure to robots has on the careers of people working in manufacturing in Germany. They find no evidence that robotisation causes job losses, showing that workers may take on new roles within the same workplace, with displaced workers potentially specialising in new tasks that complement robots.
[77] See EBRD (2021).
[78] Ibid.

Respondents in LiTS IV were asked about their reasons for not using internet-based services such as online shopping. In both the EBRD regions and Germany, the two most common reasons were a preference for shopping in person and a lack of any need to shop online. In the EBRD regions, the next two reasons were a lack of digital skills and concerns about delivery. This echoed the findings of an earlier survey by Eurostat, which showed that a lack of skills was the second most common reason for not shopping online in EBRD economies in the EU, after a preference for shopping in person. In advanced European comparators, by contrast, concerns about payment security were the second most common reason for avoiding e-commerce.[79]

LiTS IV respondents who have a bank account are more likely to use the internet to make payments, as are respondents who trust financial institutions. However, even after controlling for account ownership and trust in banks, along with access to the internet, ownership of a smartphone, laptop or tablet, and individual-level characteristics, lack of digital skills remains a significant impediment to the making of online payments.

Chart 3.13. Use of the internet for payments is still limited among young people in EBRD economies outside the EU

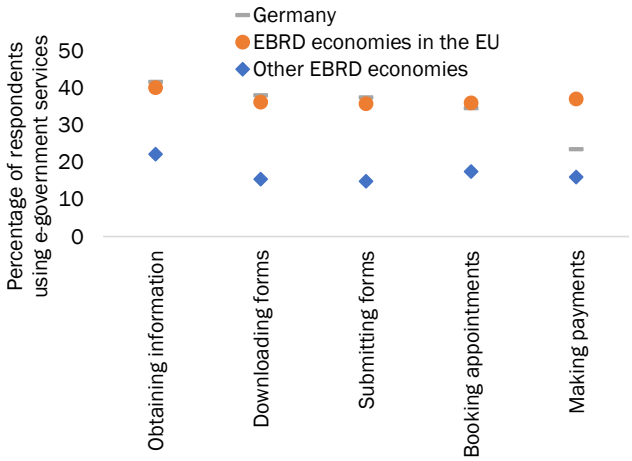


Source: LiTS IV and authors' calculations.
Note: The term "payments" refers to online payments, online shopping and the booking of travel or accommodation online. The income deciles are country-specific. "Lower secondary" also includes respondents with lower levels of education (such as those who have only completed primary education).

High use of e-government services among the young in EU economies

E-government services are used by about 24 to 42 per cent of respondents in Germany and EBRD economies in the EU, compared with 15 to 22 per cent in other EBRD economies (see Chart 3.14).[80] Use of online payments for government and public services is widespread in EBRD economies in the EU, particularly among younger cohorts (see Chart 3.15), which partly reflects the rollout of online payment options during the Covid-19 pandemic (for utilities payments, for instance).

Chart 3.14. In Germany and EBRD economies in the EU, e-government services are used by 24 to 42 per cent of respondents



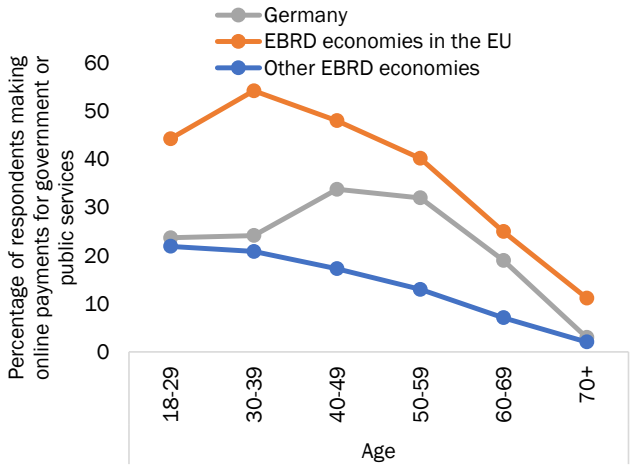
Source: LiTS IV and authors' calculations.
Note: For "obtaining information", "downloading forms", "submitting forms" and "booking appointments", differences between EBRD economies in the EU and Germany are not statistically significant at the 10 per cent level; all other differences between the regions shown are statistically significant at the 1 per cent level.

Across the EBRD regions, the digital skills of respondents are strongly correlated with the use of e-government services when controlling for age and other relevant characteristics. In contrast, differences between residents of urban and rural areas in terms of the uptake of e-government services are not statistically significant at the 10 per cent level.

[79] Ibid.

[80] The more limited use of e-government services in EBRD economies outside the EU may, in part, be due to the availability of such services. EBRD (2021) indicates that the availability of e-government services tends, on average, to be lower in those economies.

Chart 3.15. In the EBRD regions, online payments for government and public services are most prevalent among the young



Source: LiTS IV and authors' calculations.

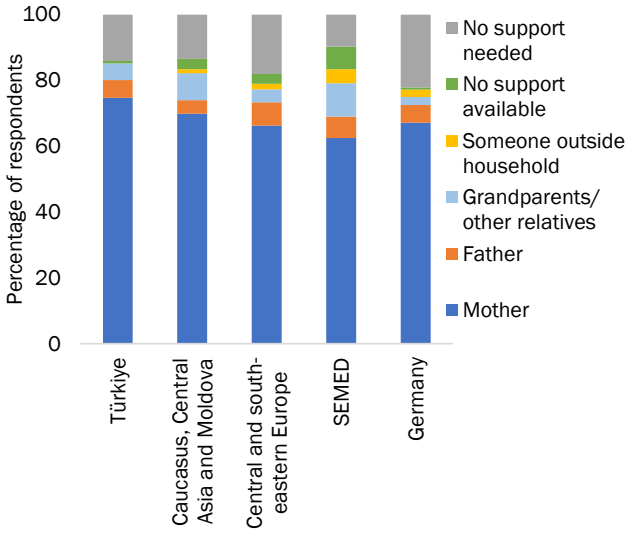
Remote learning during the Covid-19 pandemic

The survey asked respondents about their experiences during the Covid-19 pandemic. In addition to questions about the economic impact of the crisis (see Chapter 2), all respondents with children under the age of 18 in the household who were attending school in February 2020 answered a number of additional questions about their experience of remote learning. Questions focused on the experiences of the youngest child of school age in each household.

Across all economies, two-thirds of households reported that mothers were the main source of support for children when it came to remote learning (see Chart 3.16). In around one-fifth of households, children received no support (either because it was not needed or because it was not available), and in other cases fathers, grandparents, other relatives and people outside the household stepped in to help.

Within individual economies, there were no statistically significant differences between urban and rural households as regards the question of who assisted with remote learning. Nor were there significant differences across the income distribution. Central and south-eastern Europe had a higher percentage of fathers providing support relative to other regions, while grandparents and other relatives were more likely to help in the Caucasus, Central Asia, Moldova and the SEMED region.

Chart 3.16. Mothers tended to assist most with remote learning during the Covid-19 pandemic



Source: LiTS IV and authors' calculations.
Note: This chart excludes people who responded "don't know" or declined to answer the question.

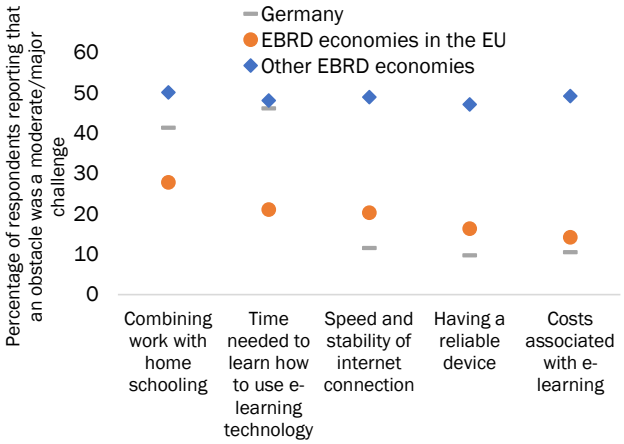
In the EBRD regions, laptops, tablets and other devices required for remote learning were more likely to be shared among a number of children in the household or provided by the school. In Germany, 63 per cent of respondents said that the device used for remote learning was owned by the household and only used by one child; in the SEMED region, by contrast, this was the case for only 29 per cent of households, while 62 per cent of respondents reported that a device owned by the household was shared between multiple household members. Meanwhile, between 12 and 22 per cent of households in Türkiye, Croatia and Georgia reported having a device that had been provided by the school. This was not surprising, given that targeted education programmes relating to e-learning had started to be rolled out in those economies around a decade ago. In Türkiye, for instance, the FATIH Project, which was launched in 2010, covering children from pre-school right up to secondary school, installed electronic whiteboards, supplied students with tablets and enabled the use of e-books in state schools.[81] In Croatia, meanwhile, an e-schooling initiative launched in 2013 not only invested in hardware and digital infrastructure, but also provided specialist training to teachers.[82] Similarly, Georgia embarked on a three-year New School Model programme in 2019, which provided schools with tablets and laptops for teaching.[83]

In EBRD economies outside the EU, around half of all respondents found the lack of a fast and stable internet connection and the absence of a reliable device to be a moderate or major challenge when it came to remote learning (see Chart 3.17).[84] Respondents in those economies were also more likely to highlight challenges associated with the

[81] See Pouezevara et al. (2013).
[82] See European Commission (2020) and CARNET (2023).
[83] See UNICEF (2019).
[84] See also UNICEF (2021).

cost of e-learning (such as the cost of devices or internet access) than respondents in EU economies. When it came to the time needed to learn how to use e-learning technologies, responses were more similar across economies. This could reflect the fact that some simpler technologies were used to reach out to children at home during the pandemic. For instance, Kazakhstan developed more than 3,000 TV-based lessons. TV broadcasting was also used as an e-learning solution in Bosnia and Herzegovina, Kosovo, Montenegro and North Macedonia.[85]

Chart 3.17. Around half of all respondents in EBRD economies outside the EU found internet access and having a reliable device to be a moderate or major challenge when it came to remote learning

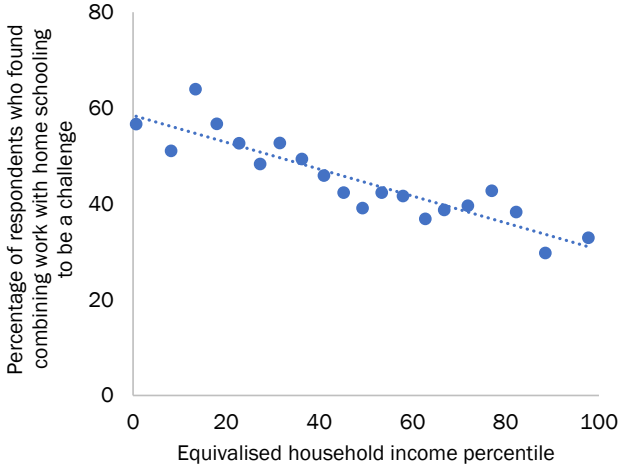


Source: LiTS IV and authors' calculations.
Note: Each obstacle was assessed on a scale of 1 to 4, where those four ratings meant "not a challenge", "a slight challenge", "a moderate challenge" and "a major challenge" respectively.

Lower-income households tended to find that remote learning was more challenging. If one looks at the top half of the income distribution within each economy, the differences between EBRD economies in the EU and Germany in terms of reported obstacles to remote learning are not statistically significant, with the exception of the time needed to learn how to use technologies. In contrast, with the exception of the costs associated with e-learning, the differences are significantly larger if one focuses on the bottom half of the income distribution.

Across economies, poorer households faced greater challenges not only in terms of access to the internet, access to reliable devices and learning how to use new technologies, but also in terms of combining work with home schooling (see Chart 3.18). This could, in part, reflect lower levels of flexibility in terms of working hours among people with lower-paid jobs. For instance, previous studies have shown that highly skilled high-income workers tend to benefit most from remote working,[86] while other research demonstrates that the adoption of digital technologies to accommodate remote working has reinforced pre-existing trends in terms of inequality.[87]

Chart 3.18. Poorer households faced greater challenges in terms of combining work with home schooling during Covid-19 lockdowns



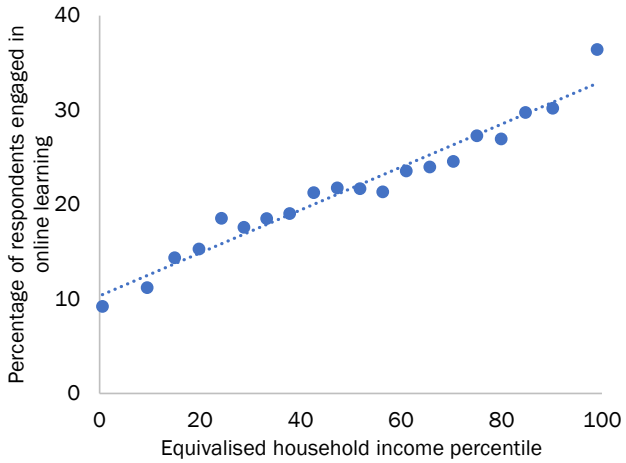
Source: LiTS IV and authors' calculations.
Note: Each dot captures people in the same household income percentile in different countries. Household income has been equivalised using the OECD-modified equivalence scale (see Chapter 1 for details). This binned scatter plot has been residualised against country fixed effects, controlling for individual-level characteristics.

On the one hand, online learning could be used to increase equality of opportunity, as people are not constrained by the availability of courses or good teachers in the area where they live (see Chapter 1 on the importance of a person's place of birth for economic outcomes). On the other hand, however, people in poorer households are less likely to engage in online learning. For instance, while 37 per cent of adult respondents in the top income decile for their economy participated in online learning in the three months preceding the survey, the same was true of only 8 per cent of those in the bottom income decile (see Chart 3.19).

This points to the risk of a "digital inequality stack", whereby a series of digital divides – in respect of access to technologies and hardware, digital skills, and the ability and willingness to learn online – reinforce each other and exacerbate existing socioeconomic divides.[88]

[85] See UNESCO (2021) and UNICEF (2022).
[86] See Adams-Prassl et al. (2020) and Angelucci et al. (2020).
[87] See Mas and Pallais (2020).
[88] See Robinson et al. (2020) and Gottschalk and Weise (2023).

Chart 3.19. Adult respondents in lower-income households are less likely to participate in online courses



Source: LiTS IV and authors' calculations.
Note: Each dot captures people in the same household income percentile in different countries. Household income has been equivalised using the OECD-modified equivalence scale (see Chapter 1 for details). This binned scatter plot has been residualised against country fixed effects, controlling for individual-level characteristics.

Conclusions and policy implications

In some economies in the EBRD regions, the lack of reliable internet access remains a constraint when it comes to increasing uptake of e-government services, e-commerce and online learning. In Central Asia and the SEMED region, for instance, internet access at home is limited by high costs. In those economies, policymakers should (i) ensure that there is competition in the sector, (ii) explore the possibility of establishing public-private partnerships (PPPs) and providing internet access via satellite broadband, and (iii) provide subsidies if need be to ensure investment in infrastructure.[89] This will help to support affordable access in rural areas where population density is low and the fixed cost of providing a reliable service is high.

Access to smartphones is significantly more widespread and equal than access to devices such as laptops or tablets. Consequently, businesses and governments could broaden the reach of their digital services by ensuring that their online presence is optimised for mobile phones through the use of apps and appropriately designed websites.

In addition to digital infrastructure, digital skills are also crucial for the uptake of e-commerce and e-government services and efforts to boost the productivity of workers. Jobs which are more stable, have better access to benefits (such as pensions, social security, annual leave, sick leave and parental leave) and are better paid are more likely to require digital skills. Ensuring broad access to digital skills is thus crucial in the context of labour market shifts such as the green transition and automation.

In Germany and EBRD economies in the EU, there is a strong generational divide when it comes to digital skills, with high levels of digital literacy among younger cohorts and lower levels among older respondents. In other EBRD economies, by contrast, basic digital skills are noticeably weaker in younger cohorts, particularly in rural areas.

There is therefore a case for providing targeted digital skills courses (such as digital literacy programmes offered through public libraries in rural areas), offering support for reskilling and establishing programmes targeting older workers or the unemployed.[90] For example, the Digital Skills @ Your Local Library initiative in Uganda has trained librarians to teach digital literacy, offering affordable and accessible training which has benefited young people, women and rural populations.

In both the EBRD regions and Germany, the overwhelming majority of the burden of home schooling during the pandemic fell on mothers, regardless of their income level or place of residence. Low-income households were disproportionately affected by the costs associated with remote learning and the quality of their internet connection, and they also found it more difficult to manage the competing demands of home schooling and work. This highlights the importance of ensuring support for working mothers with children in education in terms of more flexible working arrangements (see also Chapter 2).

While online learning could be used to increase equality of opportunity, it could also exacerbate existing socioeconomic divides. Policies aimed at making online learning more accessible for individuals from disadvantaged backgrounds could include distributing devices to students or ensuring that students have access to learning materials through their mobile phones (as in the case of Hungary's Hipersuli programme, which was launched in 2015). Efforts to teach digital skills in schools and promote digital literacy among the general public can also play an important role in making access to e-learning opportunities more equitable.[91]

[89] See European PPP Expertise Centre (2012) for details of projects developed by the public sector and investment models that could potentially be adopted through PPPs in order to improve internet infrastructure. See also the proposed Team Europe Initiative on Digital Connectivity in Central Asia, which is currently being implemented and reported on by the European Commission's Directorate-General for International Partnerships. This project has two components: (i) investment in satellite infrastructure to boost connectivity and speeds in the region, and (ii) interventions to foster a policy and regulatory framework that is conducive to the rollout of infrastructure.

[90] See also The Bridgespan Group (2018), which explains that 15 million women have benefited from phase one of the Internet Saathi initiative in India.

[91] See Adams-Prassl et al. (2020) and Angelucci et al. (2020), which show that highly skilled high-income workers tend to be the ones who benefit most from remote working. Meanwhile, Mas and Pallais (2020) show that the adoption of digital technologies to accommodate remote working has reinforced existing trends.

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Chapter 4. Support for the green transition

While most people in the EBRD regions are concerned about climate change, such concerns do not necessarily translate into a willingness to pay for environmental policies. People in higher-income households, individuals who expect to be better off in the future, people who are more patient (placing more value on future income) and individuals who trust the government are all more likely to be willing to pay for policies that mitigate climate change. Thus, measures that increase people's incomes, build trust in government, reduce corruption and increase the transparency and efficiency of government spending could help to boost support for green policies. Communication is also key – not only in relation to the threat posed by climate change, but also as regards progress with the rollout of green technologies. Policies may receive greater support if they take the form of subsidies (where the costs in terms of higher taxes are less salient) or if people can see immediate benefits (as in the case of measures limiting the impact of natural disasters or reducing the concentration of local pollutants).

Introduction

Climate change poses a significant threat to global development, affecting lives and livelihoods through channels such as the increased frequency of extreme weather events (floods, storms, droughts and so on), the negative impact on agricultural productivity, the loss of water resources, and damage to infrastructure and other assets. While those effects are felt in higher-income and lower-income economies alike, lower-income economies – and lower-income households within those economies – are less equipped to deal with them.

This chapter looks at attitudes towards climate change and willingness to pay for policies that mitigate it. While public support for environmental policies has received increasing amounts of attention in economic literature, analysis of its determinants has tended to focus on advanced economies, rather than emerging markets and developing economies.

Public support for environmental policies depends not only on their ecological benefits, but also on their perceived economic implications.[92] Major economic transitions of the past (such as the rollout of digital technologies, the globalisation of trade and investment, and the phasing-out of coal) offer important lessons for the transition to a less carbon-intensive economy.[93] Such transitions entail a reallocation of employment across sectors and industries, as well as changes to job requirements. They bring substantial opportunities and benefits for workers, but also new risks. Crucially, their impact varies across geographical areas and demographic groups, which can potentially exacerbate existing disparities in the economy. It is therefore essential that the transition to a green economy is fair and benefits most members of society.

The analysis in this chapter draws on a rich set of data on climate change and attitudes towards the green transition that is derived from LiTS IV. Those data are complemented by the results of deep dive surveys conducted by the World Bank in Albania, Armenia, Georgia, the Kyrgyz Republic and Tajikistan as an add-on to LiTS IV. The deep dive surveys included further questions on specific climate-change policies, which were put to the 1,000 LiTS IV respondents in each of those five countries as part of their face-to-face interviews. In addition, they also included telephone interviews with 1,000 business managers in each economy. The companies in question were chosen at random from national registers of firms (with an average response rate of around 53 per cent) and were a representative sample in terms of firm size and sector.

Most survey respondents are concerned about climate change and damage to the environment. However, such concerns do not necessarily translate into a willingness to pay more tax or forgo economic growth and job creation in order to prioritise environmental policies.

Respondents in higher-income households generally express greater willingness to pay in order to protect the environment. Willingness to pay is also generally higher among people with more positive expectations about the future (such as those who expect to be better off in four years' time than they are now).

People who are more patient (valuing future income more highly relative to funds available today) are also more willing to pay for environmental policies, as are those who trust the government more.

Only a small percentage of participants in the deep dive surveys believe that all proceeds from a carbon tax or an increase in electricity tariffs that was aimed at addressing climate change would end up being spent on the green transition.

At the same time, participants in those surveys tend to underestimate the percentage of their country's energy production that currently comes from renewable sources.

[92] See EBRD (2023).

[93] See OECD (2023) and EBRD (2023).

These results underscore the critical importance of effectively communicating green policies and building awareness of the progress made to date.

Efforts to build trust in government, reduce corruption and increase the efficiency and transparency of government spending can also help to boost support for climate-change policies in emerging markets.

The results suggest that environmental subsidies receive greater support than taxes (as the eventual costs of subsidies in terms of higher taxes are less salient). Policies targeting particularly visible aspects of climate change and environmental damage (such as measures aimed at adapting to the changing climate and mitigating the impact of natural disasters) are also more likely to receive broad support. Highlighting the local environmental benefits of green policies (such as improved air quality, health benefits and potential job creation) can also help to leverage popular support for such measures.

This chapter starts by exploring people's attitudes towards climate-change policies and mapping out the level of support for environmental action, building on earlier analysis presented in EBRD (2023). It then looks specifically at the determinants of willingness to pay for climate-change mitigation policies.

Attitudes towards the green economy

As part of LiTS IV, respondents were asked about their views on climate change and its consequences. Participants were also asked whether they would prioritise the environment at the expense of economic growth and jobs, and whether they would be willing to pay more tax in order to fund policies that addressed climate change and its effects.

There is a growing body of literature looking at attitudes towards climate change, how environmental policies are perceived and what determines their level of support.[94] Most of those studies focus on a single country or a subset of advanced economies, while comparative cross-country surveys looking at the drivers of support for different climate-change policies in emerging market economies are relatively scarce.[95]

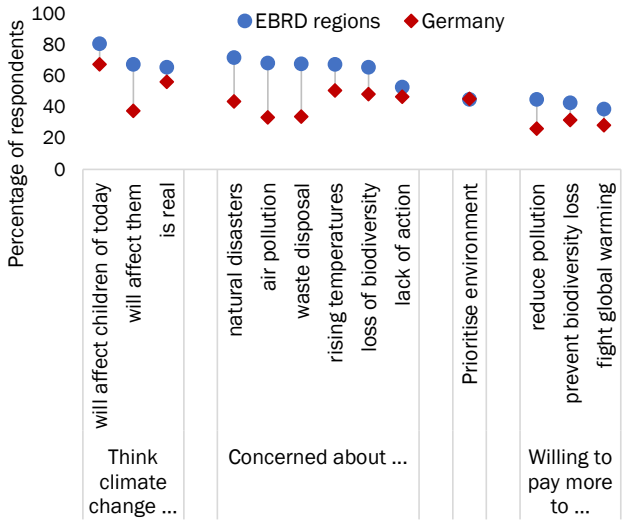
Another distinctive feature of LiTS IV was the timing of the survey: it was conducted at a time when energy prices were particularly high in the EBRD regions and Germany. Following Russia's invasion of Ukraine in February 2022 and the imposition of economic sanctions on Russia, the price of gas and electricity increased significantly in Europe, while consumption of natural gas fell.[96]

In most of the economies surveyed, a large percentage of respondents believe that climate change is real and are concerned about its consequences (see Chart 4.1). Around 80 per cent of respondents in the EBRD regions (and 67 per cent in Germany) believe that climate change will seriously affect the children of today, while around 67 per cent of respondents in the EBRD regions believe it will seriously affect them, with the difference between the two figures suggesting that people expect climate-change shocks to become more severe in the more distant future. This is in line with the results of various recent global surveys, with such studies consistently finding that most people regard climate change as a serious problem.[97]

Concerns are generally more pronounced when it comes to readily observable implications of climate change and environmental harm. For instance, 72 per cent of respondents in the EBRD regions are concerned about extreme weather events (such as droughts, floods, landslides and wildfires) and other natural disasters, while 65 to 68 per cent are concerned about waste disposal, air pollution, rising temperatures, the loss of plant or animal species, or biodiversity. At the same time, fewer respondents (53 per cent in total) are concerned about the lack of action to address climate change (see Chart 4.1).

[94] See Bergquist et al. (2022), Bumann (2021), Drews and van den Bergh (2016) and Fairbrother (2022) for reviews.
[95] Notable exceptions include Dabla-Norris et al. (2023) and Dechezleprêtre et al. (2022).
[96] See Plekhanov and Sassoon (2023) for a discussion and country-specific estimates.
[97] See Dabla-Norris et al. (2023, 2024) and Leiserowitz et al. (2021).

Chart 4.1. Most respondents are concerned about climate change, but fewer than half would be willing to pay more to mitigate its effects



Source: LiTS IV and authors' calculations.
Note: This chart shows the percentages of respondents who (i) think that climate change will seriously affect the children of today during their lifetime, (ii) think that it will seriously affect them during their lifetime, (iii) are entirely convinced or quite convinced that climate change is real, (iv) are concerned or very concerned about natural disasters, air pollution and so on, (v) agree that protecting the environment should be a priority, even if it causes weaker economic growth and some loss of jobs, and (vi) agree or strongly agree that they would be willing to pay more tax if the extra money were used to reduce/prevent pollution (for example, by improving the quality of air or water, or dealing with waste/sewage), prevent the loss of plant or animal species or biodiversity, or fight global warming or the greenhouse effect. In all of the charts in this chapter, figures for the EBRD regions are simple averages across those economies.

At country level, environmental concerns are more pronounced in lower-income economies and economies where agriculture makes a larger contribution to employment and value added. This may reflect the fact that poorer economies are less able to cope with extreme weather than advanced economies.[98]

At individual level, women, respondents with children and those with higher levels of education are more likely to think that climate change will significantly affect them or the children of today, based on regressions controlling for country fixed effects with standard errors clustered at the level of the PSU (locality).

Willingness to pay more to protect the environment

Recognition of the risks associated with climate change does not always translate into broad-based support for environmental policies. For instance, some of the most economically effective climate-change policies, such as comprehensive pricing of carbon emissions, often face political resistance.[99]

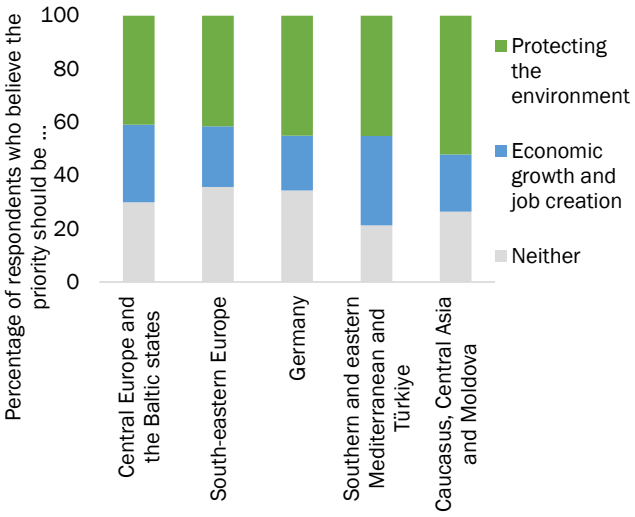
In the EBRD regions – as in other economies – willingness to bear the economic costs of the green transition is significantly lower than the levels of concern about environmental damage (see Chart 4.1).

On average, 45 per cent of respondents in the EBRD regions would prioritise the environment at the expense of economic growth and jobs (see Chart 4.2), with particularly strong support for this viewpoint in Moldova, Morocco, Slovenia and a number of economies in Central Asia.

At individual level, women, older respondents, those with a tertiary education and people in higher-income households are more likely to think that protecting the environment should be the priority, based on regressions controlling for country fixed effects with standard errors clustered at locality level.

Fewer than half of all respondents in the EBRD regions – between 39 and 46 per cent – say that they would be willing to pay more tax if it was used to fight global warming, prevent biodiversity loss or reduce pollution.

Chart 4.2. On average, 45 per cent of respondents in the EBRD regions think that protecting the environment should be the priority, even if it results in weaker growth



Source: LiTS IV and authors' calculations.

Ability to pay

To some extent, the views expressed reflect people's ability to pay. People in higher-income households are generally more able – and, accordingly, more willing – to pay for the green transition than those in lower-income households. For example, people in the top household income decile are, on average, around 10 percentage points more likely to be willing

[98] See also Dabla-Norris et al. (2023).

[99] See Douenne and Fabre (2022) for a discussion of the Yellow Vest movement in France; see also Klenert et al. (2018).

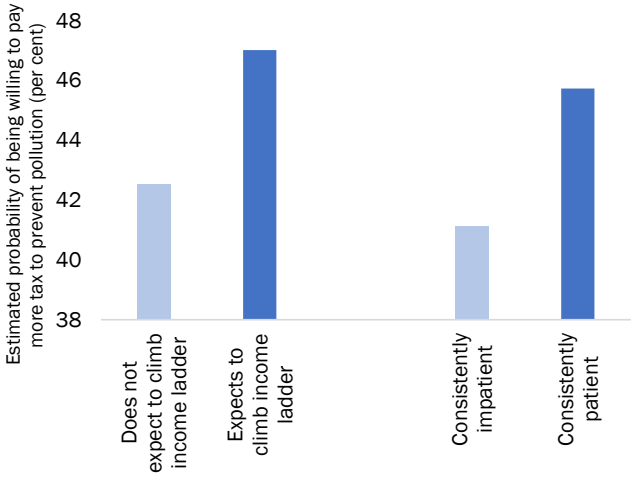
to pay to protect the environment than those in the bottom income decile (controlling for age, gender, the presence of children in the household, urban/rural location, level of education and country fixed effects).

At the same time, the relationship between household income and willingness to pay more to protect the environment is in line with the relationships observed for other policies. When it comes to paying for physical and digital infrastructure, education and healthcare, households in the top income decile are between 7 and 11 percentage points more likely to be willing to pay than households in the bottom decile. As one would expect, the income gradient is less pronounced when it comes to income redistribution policies. For instance, those at the top of the income distribution are only 4 percentage points more likely to be willing to pay to assist the poor and/or reduce inequality and 3.8 percentage points more likely to be willing to pay to create jobs.

Expectations regarding future income also play a role, alongside current income. In particular, respondents who think that their household will be on a higher rung of the income ladder in four years' time are 4.5 percentage points more likely to be willing to pay to reduce pollution, fight global warming and prevent biodiversity loss than similar individuals with no expectations of upward mobility in the future (see Chart 4.3).

Existing research points to several other attributes that shape willingness to pay beyond the simple ability to pay.[100] These include the perceived effectiveness of the policy and the expected benefits (for both the individual in question and society as a whole), the costs associated with its implementation, and the perceived fairness of the policy (how outcomes will be distributed across all parties involved). Broader economic and political attitudes also shape policy support. For instance, right-leaning views have been associated with reduced support for publicly financed climate-change policies, particularly in the United States and the United Kingdom.[101]

Chart 4.3. People who expect to climb the income ladder and those who assign greater value to future income are more willing to pay to protect the environment



Source: LiTS IV and authors' calculations.
Note: This chart shows the estimated probability of people agreeing or strongly agreeing that they would be willing to pay more tax if the extra money was used to prevent environmental pollution for respondents who expect/do not expect to climb the income ladder in the next four years and respondents who are consistently patient/impatient, controlling for individual characteristics and country fixed effects.

Expectations and discount rates

Policies aimed at mitigating climate change will be costly today, but the pay-offs will stretch into the future, so the value that individuals place on the future relative to the present day can affect their willingness to pay for environmental policies.

To measure the value that individuals place on future income relative to today's – that is to say, their discount rates – respondents were asked whether they would prefer to receive (i) an amount corresponding to around 55 per cent of the median household's daily income immediately or (ii) around 85 per cent a month later (in the case of Germany, around €55 today or around €85 a month later). Later in the survey, respondents were asked to choose between (i) 55 per cent of the median household's daily income six months later and (ii) 85 per cent seven months later. The analysis in this section defines respondents as "consistently patient" if they prefer to wait for the larger amount in both situations, while "consistently impatient" individuals are those who prefer to receive the smaller amount sooner in both situations. Those who choose to receive a smaller amount immediately in the first situation but are happy to wait seven – rather than six – months in order to receive a larger amount in the second situation are deemed to exhibit present bias.

Consistently patient respondents (those who value future income more highly) are 4.6 percentage points more likely to be willing to pay to reduce pollution than consistently

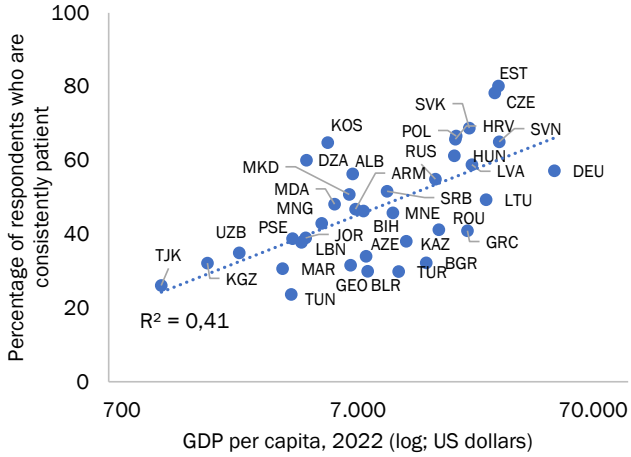
[100] See, for instance, Dabla-Norris et al. (2023), Drews and van den Bergh (2016), Fairbrother (2022), Ziegler (2017) and Carattini et al. (2018).

[101] See Ziegler (2017) and Fairbrother (2022).

impatient individuals (those who value the present more highly), controlling for various individual characteristics and country of residence (see Chart 4.3). Similar results can be seen when it comes to willingness to pay for measures aimed at preventing biodiversity loss and fighting global warming. People's discount rates matter more than whether they have children, which has no bearing on willingness to pay to protect the environment when controlling for age and other characteristics.

The rates at which future income is discounted by individuals are generally higher in poorer economies (see Chart 4.4).[102] In the EBRD regions, Tunisia and Tajikistan have the smallest shares of consistently patient respondents (at 24 and 26 per cent respectively), while Estonia and Czechia have the largest shares (at 78 and 80 per cent respectively).

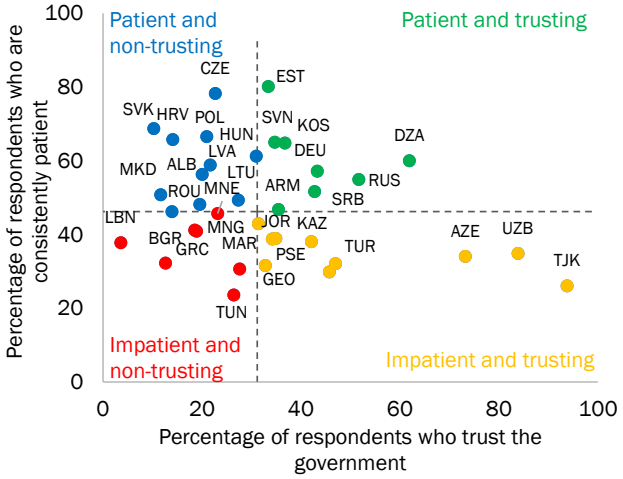
Chart 4.4. In general, richer economies tend to have larger shares of consistently patient respondents



Source: LiTS IV, World Bank and authors' calculations.
Note: The horizontal axis shows the log of GDP per capita in 2022 in US dollars at market exchange rates.

This could, in part, be because discount rates reflect respondents' lack of trust that the promise of future pay-offs will be kept. Empirically, however, the relationship between discount rates and the degree of trust that respondents have in governments is relatively weak (see Chart 4.5).

Chart 4.5. Discount rates and measures of trust capture related but distinct concepts



Source: LiTS IV and authors' calculations.
Note: The horizontal axis shows the percentage of respondents who, when asked whether the government/cabinet of ministers can be trusted, express either some trust or complete trust. The dotted lines denote medians based on all economies covered by LiTS IV.

The next section explores the relationship between trust and environmental attitudes in greater detail on the basis of the deep dive surveys that were conducted by the World Bank in Albania, Armenia, Georgia, the Kyrgyz Republic and Tajikistan.

Trust

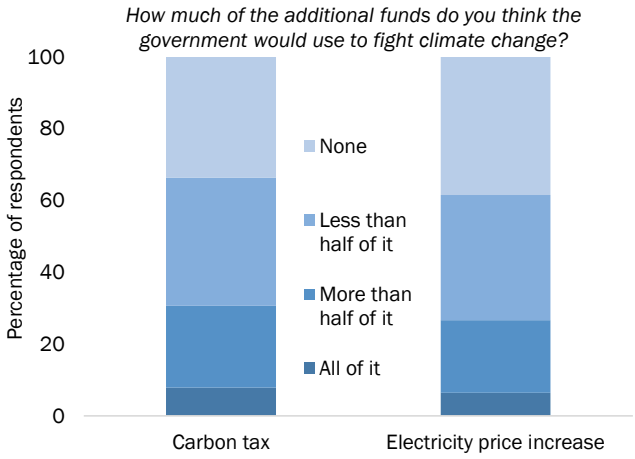
As part of those deep dive surveys, respondents were presented with a hypothetical scenario in which the government introduced a carbon tax of €30 per tonne of CO_2 in order to raise funds to address climate change. Respondents were then asked how much of these additional funds they thought the government would use to fight climate change. A similar question was asked about a 20 per cent increase in the price of electricity.

Only 6 to 8 per cent of respondents believed that all of the funds earmarked for fighting climate change would be spent as advertised. A further 20 to 23 per cent thought that at least half of those funds would be spent on mitigating climate change, while the majority were highly sceptical about the actual use of those funds (see Chart 4.6).

While money is fungible and some scepticism about tax revenues being earmarked for particular purposes is understandable, the extent of that scepticism probably points to broader concerns about the transparency of government spending.

[102] See also Yesuf and Bluffstone (2019) and De Lipsis (2021).

Chart 4.6. There is widespread scepticism that tax revenues earmarked for environmental policies will be used as advertised



Source: World Bank deep dive surveys and authors' calculations.

At individual level, respondents who express higher levels of trust in the government tend to be more willing to pay for environmental policies when controlling for individual characteristics (including discount rates) and country of residence. In particular, respondents who express some trust or complete trust in the government (that is to say, respondents scoring 4 or 5 on a trust scale ranging from 1 to 5, where 1 indicates "complete distrust" and 5 indicates "complete trust") are, on average, 8.7 percentage points more likely to express a willingness to pay to protect the environment than respondents who do not believe that their government can be trusted.

More broadly, other studies find that respondents who do not support subsidies for low-carbon technologies and renewable energy tend to cite the cost to taxpayers and concerns about corruption and the effectiveness of policies as the primary reasons for their views.[103] Previous studies have shown that countries with higher perceived corruption tend to have weaker environmental policies and higher greenhouse gas emissions after relevant political and economic factors have been taken into account.[104]

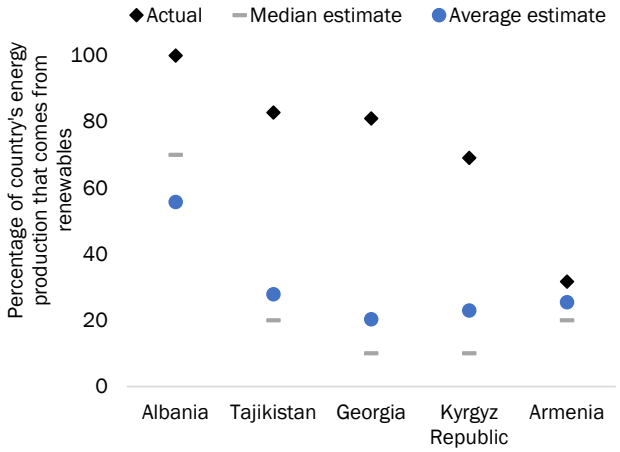
Information

Knowledge and understanding of climate-change policies can boost support for environmental spending. However, there is still a sizeable information gap to be filled in most countries. The percentage of respondents reporting awareness of their government's measures to tackle climate change tends, on average, to be higher in advanced economies, though there is significant cross-country variation. In some emerging market economies (such as Azerbaijan, Colombia, the Philippines and Vietnam) where governments' environmental commitments have received extensive media attention at domestic level, respondents report higher levels of awareness.[105]

The deep dive surveys suggest that people typically underestimate the percentage of their country's total energy production that comes from renewables. Respondents were asked to estimate the share that came from renewable sources in their country, and in all five economies both the mean and the median were well below the actual figure (see Chart 4.7). Albania, for instance, is entirely dependent on renewable sources for its energy, but the average answer in that country was 56 per cent.

Better awareness of the progress made to date with the transition to a green economy can boost support for climate-change policies. For instance, giving respondents information about the effectiveness of carbon pricing and the benefits of revenue recycling has been found to increase public support for those measures, with larger increases being seen in countries where there was little pre-existing knowledge of carbon taxes as an environmental policy instrument.[106]

Chart 4.7. People typically underestimate the percentage of their country's energy production that comes from renewables



Source: IEA, World Bank deep dive surveys and authors' calculations.
Note: For Albania and the Kyrgyz Republic, actual data relate to 2022; for Armenia, Georgia and Tajikistan, they relate to 2021.

Better awareness of environmental risks also plays a role. Respondents who have personally experienced disruption or damage caused by flooding, drought or other natural disasters are, on average, around 8 percentage points more likely to be willing to pay to prevent environmental pollution and fight climate change than those who have not had such personal experiences (controlling for individual characteristics and country fixed effects).

Attitudes towards climate-change policies

Governments frequently invoke the principle of distributive justice in climate negotiations and public debate in order to justify their position on sharing the cost of reducing carbon

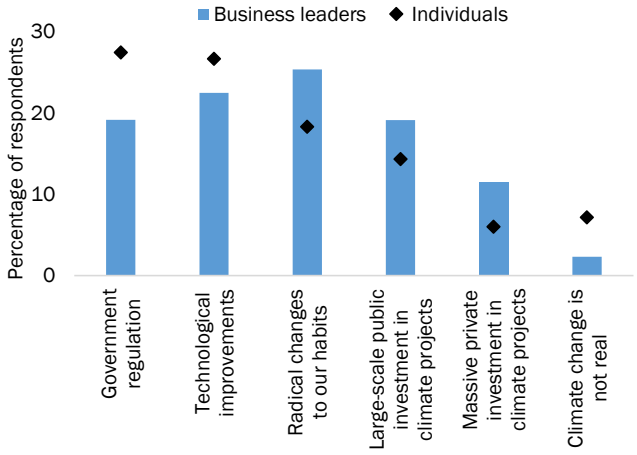
[103] See Dabla-Norris et al. (2023).
[104] See Klenert et al. (2018).
[105] See Dabla-Norris et al. (2023).
[106] Ibid.

emissions. Such stances are typically aligned with their countries' economic interests. Some arguments are based on the "polluter pays" principle, with costs apportioned on the basis of current greenhouse gas emissions or cumulative emissions over time;[107] other arguments are based on the "ability to pay" principle, with higher-income economies expected to pay higher costs.

In line with this, respondents in the deep dive surveys felt that all countries should, to some extent, pay to help address climate change, but the burden of financing climate-change policies should increase with the level of economic development and personal income.[108] These views were also shared by a sample of business leaders – managers of manufacturing or service companies that had been selected at random from national registers of firms.

As regards policy design, individual respondents taking part in the deep dive surveys felt that government regulation and technological improvements were the most important means of tackling climate change (see Chart 4.8).[109] Both were chosen by around 27 per cent of respondents from a list of six different options (with other options including radical changes to habits, large-scale public investment and massive private investment). Business leaders, in contrast, prioritised radical changes to habits over regulation and technology.

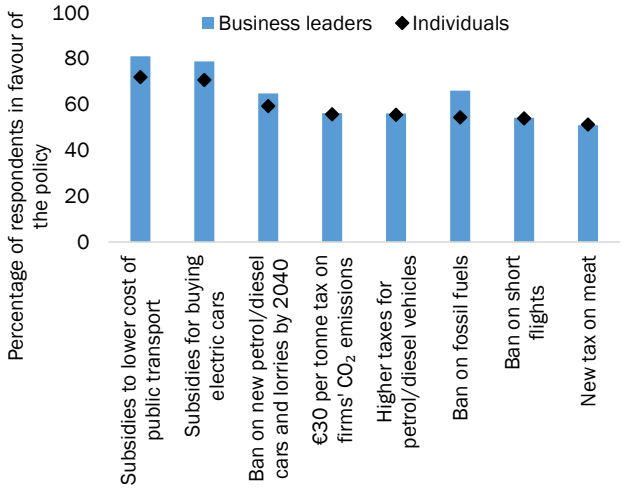
Chart 4.8. Most individuals see regulation and technological improvements as the best way to fight climate change, while business leaders prioritise changes to habits



Source: World Bank deep dive surveys and authors' calculations.
Note: This chart is based on responses to the question "Which of the following do you believe is the most significant way to mitigate climate change?" Participants could only choose one answer.

Looking at respondents' support for individual measures, subsidies (for public transport or purchases of electric cars) were preferred to higher taxes (on greenhouse gas emissions, internal combustion vehicles or meat; see Chart 4.9). While the benefits of subsidies are well understood by the public, their costs (in the form of higher taxes or reduced spending elsewhere) tend to be less salient.[110]

Chart 4.9. Subsidies (and some bans) are preferred to higher taxes



Source: World Bank deep dive surveys and authors' calculations.
Note: Respondents were asked whether they favoured or opposed the adoption of these various policies in order to reduce greenhouse gas emissions. The calculations exclude respondents who replied "don't know", as well as missing responses.

That being said, a caveat is required. The five economies that were studied in the deep dive surveys are not necessarily representative of the "typical" economy in the EBRD regions. For example, the quality of their economic institutions is below the average for the EBRD regions, including when it comes to indicators of government effectiveness. This may explain some of the scepticism as to whether the government would use funds for the advertised purposes.

Respondents in those five economies are also significantly above the average for the EBRD regions in terms of both (i) their willingness to pay for climate-change mitigation policies (with figures of 46 to 68 per cent, compared with an average of 39 per cent across the EBRD regions as a whole) and (ii) their willingness to pay for education, healthcare, housing, pensions, social welfare and infrastructure. Consequently, the support for individual policies that is depicted in Chart 4.9 may be higher than the average for the EBRD regions as a whole.

Conclusions and policy implications

The overwhelming majority of LiTS participants are concerned about environmental damage and the impact that climate change will have on them and their children. However, such concerns about climate change do not necessarily translate into a willingness to pay for environmental policies: the majority of the population are concerned, but those who are

[107] See Dabla-Norris et al. (2024).
[108] See also Dabla-Norris et al. (2023).
[109] See UNFCCC (2022).
[110] See also Fairbrother (2022).

willing to pay higher taxes or prices to protect the environment remain a minority – albeit a large one.

Tackling climate change will require broad public support for environmental policies. Economic development may, over time, strengthen support for the green economy, since higher-income individuals tend, in general, to be more willing to pay for policies that mitigate climate change (as well as other public services). Such shifts are bound to be relatively slow, however.

A lack of trust in government and concerns about corruption can result in opposition to climate-change policies, particularly in emerging markets with weaker economic institutions. For example, very few of the respondents who took part in the World Bank's five deep dive surveys believed that all proceeds from a hypothetical carbon tax or an increase in electricity tariffs would actually be spent on measures addressing climate change, despite those funds being earmarked for such initiatives. Building trust in public institutions and increasing the transparency and efficiency of government spending may help to overcome such scepticism.

The results of those surveys also underscore the importance of communicating effectively about green policies implemented to date and building awareness of progress made with the green transition, in addition to raising awareness of the cost of failing to cut pollution. For example, the deep dive surveys suggest that people vastly underestimate the percentage of their country's energy production that comes from renewables.

Climate-change policies should be designed in such a way that they are affordable and regarded as being fair to everyone. The funding of those policies needs to ensure that more of the costs are borne by higher earners, while benefits also accrue to individuals on lower incomes. The results of the deep dive surveys indicate that respondents expect to see these features in environmental policies. Social safety nets can help to protect the most vulnerable, while active labour market policies can assist with the transition process where workers are displaced by technological change.

Recycling some of the tax receipts from carbon pricing in order to subsidise investment in low-carbon technologies such as renewable energy or electric vehicles – a policy that enjoys broad-based support – could increase the availability of cleaner alternative energy sources.[111] Subsidies tend to enjoy greater popular support, since their costs in terms of higher taxes are less salient.

Highlighting additional benefits of climate-change policies, such as improved air quality, health benefits and potential job creation, can also help to reduce the public's sensitivity to their short-term costs.

[111] See EBRD (2023), IMF (2019, 2022) and Shang (2021).

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Chapter 3. Digitalisation: A generational divide

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Chapter 4. Support for the green transition

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The Life in Transition Survey IV

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