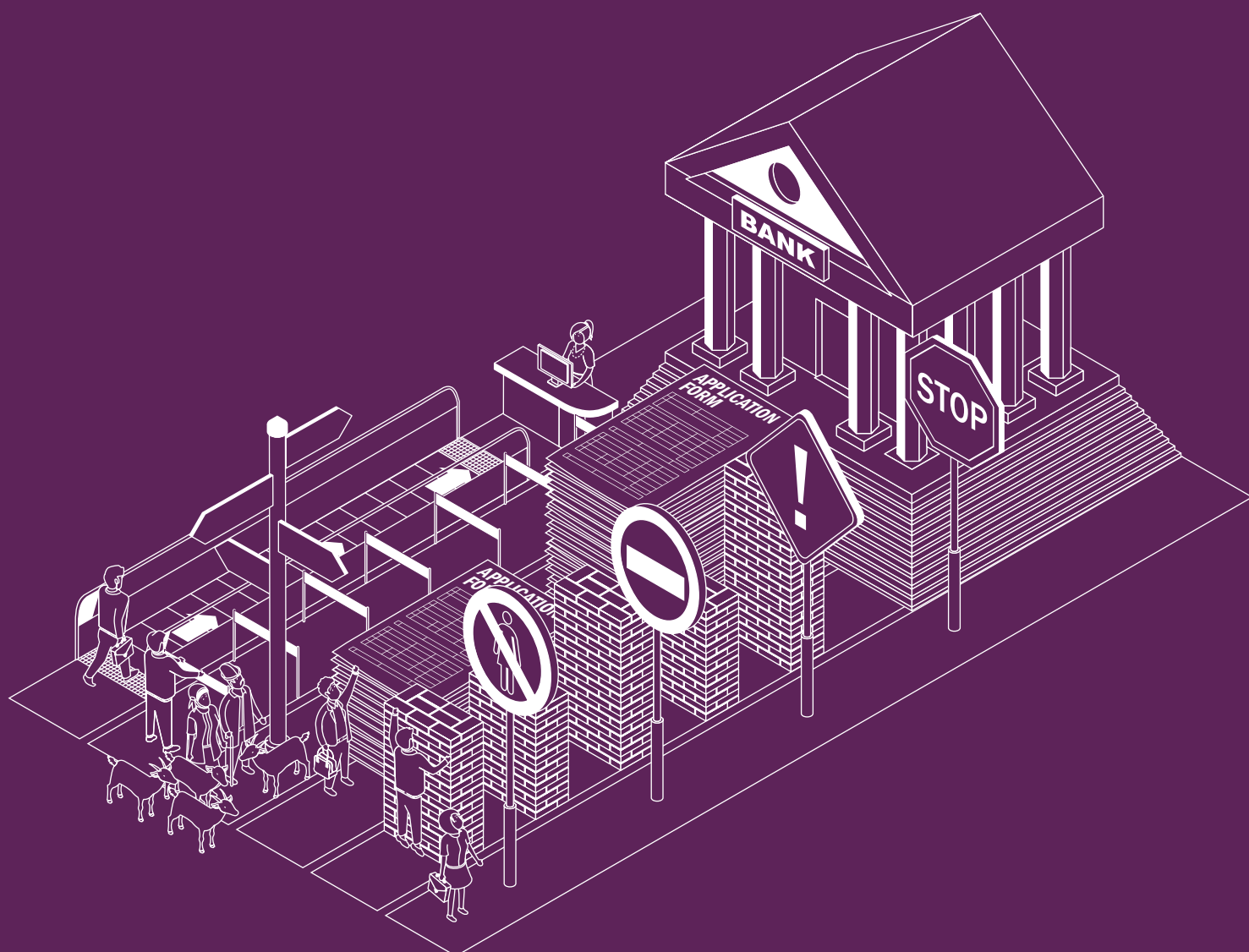


# FINANCIAL INCLUSION



## 26%

OF PEOPLE WITHOUT  
A BANK ACCOUNT  
THINK ACCOUNTS ARE  
TOO EXPENSIVE

## 21 PERCENTAGE POINTS

URBAN-RURAL GAP FOR  
MIDDLE-AGED WOMEN  
IN POORER COUNTRIES  
IN TERMS OF ACCESS TO  
BANK ACCOUNTS

ONLY

## 18%

OF YOUNG PEOPLE IN  
THE SEMED REGION OWN  
AN ACCOUNT, WHICH IS  
LESS THAN HALF OF THE  
EQUIVALENT FIGURES  
FOR MIDDLE-AGED AND  
ELDERLY PEOPLE

## 21%

OF PEOPLE WITHOUT  
A BANK ACCOUNT DO NOT  
TRUST BANKS

An inclusive financial system can reduce both inequality of opportunity and, ultimately, inequality of outcomes. While access to financial services is reasonably high in richer parts of the EBRD region, it is not so good in less developed economies. In these poorer countries, financial access is also distributed unevenly. In particular, many women, young people and rural populations remain disconnected from the financial system. The reasons for such exclusion vary depending on the circumstances of the household or individual, with many young people being discouraged by onerous documentation requirements, while older people are often deterred by long distances to the nearest bank branch. While foreign banks' entry into local markets has improved competition – and with it, access to financial services – in many countries, evidence suggests that these gains have been uneven, with less educated and lower-income households continuing to have less access to such services.

## Introduction

Countries with larger and better developed financial systems tend to grow faster. Not only do banks and other financial intermediaries provide more services to households and firms as their financial needs grow, better access to finance also causes firms and countries to grow faster, as a large body of evidence shows.<sup>1</sup> The ability to hold accounts with trustworthy banks increases savings, which the banks can then intermediate into business loans. The resulting increase in investment boosts growth.<sup>2</sup> Even within individual countries, the expansion of banks' branch networks can foster investment and growth, reducing poverty in areas that have previously suffered from financial exclusion.<sup>3</sup>

Access to bank accounts also allows households to save for a rainy day, thus reducing their vulnerability to a temporary loss of income or assets. Formal insurance mechanisms fulfil a similar role. Savings instruments also help households – especially those without access to credit from the formal banking system – to accrue the funds needed to buy investment goods that require a lump sum payment up front. Thus, access to bank accounts and other formal savings services may stimulate small-scale entrepreneurship and allow some households to escape poverty.<sup>4</sup>

In other words, when large parts, or specific subsets, of a country's population are denied access to financial services, their ability to insure themselves against shocks or save for educational, entrepreneurial or retirement purposes may be inhibited. Exclusion from the financial system may therefore exacerbate the economic vulnerability of particular segments of society: those living in poverty, women, rural communities and those without a stable and well-paid job in the formal sector.<sup>5</sup> This may, in turn, perpetuate inequality of opportunity and, ultimately, poverty and inequality of outcomes.<sup>6</sup> In contrast, access to finance can boost bottom-up competition and allow start-up firms to compete with incumbents by entering new markets or introducing new technologies, spreading economic growth more evenly.<sup>7</sup>

The mechanisms that drive exclusion from financial services can be complex. Households may not visit banks because they are too far away (a supply-side factor) or because the household does not want their services at that particular moment in time (a demand-side factor).<sup>8</sup> Of course, there are also very simple reasons why households might not be showing interest in a bank's products; for example, they could just be unaware of them, or the products could be poorly designed and fail to meet their needs. Such misalignment can lead to suboptimal social outcomes, thus creating room for policy intervention.

This chapter comprises three main sections. First of all, it maps both cross-country and intra-country variation in the use of financial services in the region where the EBRD operates. That analysis is based on household data from two sources: the third round of the *Life in Transition Survey* (LiTS III), which was conducted by the World Bank and the EBRD in 2015 and

<sup>1</sup> See, for instance, King and Levine (1993) and Rajan and Zingales (1998).

<sup>2</sup> Banks may also intermediate these savings into mortgages and consumer credit, the long-term growth effects of which tend to be less positive. Moreover, while lending to firms is associated with reductions in income inequality, this does not hold true for household credit (see Beck et al. (2012)).

<sup>3</sup> See Burgess and Pande (2005), Bruhn and Love (2014) and Young (2016).

<sup>4</sup> See Banerjee and Newman (1994) for a discussion of credit market imperfections and poverty traps, and see Dupas and Robinson (2013) for empirical evidence on the impact that access to bank accounts has on entrepreneurship.

<sup>5</sup> The Consultative Group to Assist the Poor defines financial inclusion as follows: "Financial inclusion means that households and businesses have access [to] and can effectively use appropriate financial services. Such services must be provided responsibly and sustainably, in a well regulated environment."

<sup>6</sup> See Beck et al. (2007).

<sup>7</sup> See Rajan and Zingales (2003).

<sup>8</sup> Households may also have less demand for formal banking products because they are already being served by the informal sector. While the use of informal services generally comes at a cost, such issues fall outside the scope of this chapter, which focuses solely on the formal financial system.

2016, and the 2014 Global Findex database. Global Findex is a comprehensive survey conducted by the World Bank that provides data on how individuals save, borrow, make payments and manage risks. This analysis will show that, in richer EBRD countries, both the gender gap and the urban-rural gap have now been closed in terms of access to financial services, with the exception of the oldest sections of the population. In poorer countries, however, gender gaps are still present across all age groups. In these countries, there is also still a substantial urban-rural gap as regards access to bank accounts. Rural women are by far the worst connected to the financial system in these countries.

The chapter then looks more closely at the role that local (town/city-level) banking markets play in facilitating or hindering access to bank accounts for various sections of the population, before turning its attention to the Euro Survey conducted by Austria's central bank (the Oesterreichische Nationalbank; OeNB) in 10 countries in central and south-eastern Europe in autumn 2015. That survey provides detailed data on households' loan application behaviour, allowing more detailed analysis of the demand and supply-side factors that drive some of the results reported earlier in the chapter. This chapter then ends with a number of evidence-based policy recommendations.

## Financial inequality across countries

Bank accounts – which can be used to save money, as well as to make and receive payments – are often a first step towards the use of a more diverse set of financial services, such as credit and insurance products. Unlike credit, saving and payment-related services are wanted by almost everybody, even the poorest in society,<sup>9</sup> so cross-country and intra-country variation in their use is likely to reflect supply-side constraints.

In western European countries, bank accounts' reach is nearly universal (with the exception of Italy and Portugal). In the east and south of the EBRD region, in contrast, usage levels are substantially lower, particularly in eastern Europe and the Caucasus (EEC), Central Asia and the southern and eastern Mediterranean (SEMED). Chart 4.1 shows the cross-country variation in people's access to basic bank accounts. For instance, more than 97 per cent of people in Slovenia and Estonia have a bank account, compared with 53, 14 and 12 per cent in Ukraine, Egypt and Tajikistan, respectively.

One notable exception is Mongolia, where an impressive 92 per cent of the population have a bank account. This reflects not only the extensive branch networks of banks such as Khanbank and XacBank in what is a sparsely populated country, but also the effect of government policies. For example, having a bank account is a prerequisite for the receipt of various government transfers, such as payments from the country's Human Development Fund, which was set up in 2009 to reduce inequality by distributing the benefits of the mining boom. Around half of all Mongolian bank accounts are mainly used to receive government transfers. In short, there is immense variation across the EBRD region in terms of the percentage of people who are connected to

the formal financial system in the most basic way – by having a bank account.

## Use of bank accounts

Do people with bank accounts actually use them? Dormant and underutilised accounts waste any fixed costs associated with opening them. Perhaps more importantly, they also signal the possible existence of barriers impeding their use. Data on the use of bank accounts, which again reveal significant cross-country variation, show high usage rates in countries with both very high and very low levels of access to bank accounts. For instance, 91 per cent of Slovenian account holders and 99 per cent of Estonian account holders have used their accounts to make a deposit in the last 12 months. In countries with relatively low levels of bank account penetration, people do seem to use their accounts: 93, 85 and 62 per cent of account holders in Tajikistan, Ukraine and Egypt respectively have made deposits in the last 12 months. Countries with moderate account coverage show lower usage rates. Similar figures can be observed for withdrawals. Thus, where bank accounts are relatively scarce, people who have made the effort to open them do make use of them.

In Mongolia, where accounts are mainly used to receive government transfers, the percentage of people making withdrawals is significantly higher than the percentage of people making deposits. Even so, with 64 per cent of the total population having made a deposit in the last year, Mongolia still ranks higher than most of its neighbours. This suggests that supply-side approaches to introducing bank accounts might be effective – albeit potentially costly – ways of increasing financial inclusion.

## Access to debit and credit cards

As bank accounts represent the gateway to broader interaction with the financial system, one would expect access to other, more sophisticated financial products (such as debit or credit cards) to be lower on average. People's lack of access to such instruments is less innocuous than it may appear at first glance. Indeed, for many people, a credit card is more than just a convenient method of payment. For instance, households may use credit cards to overcome temporary income shocks. Evidence suggests that newly unemployed people use their credit cards as a source of “bridge financing”,<sup>10</sup> allowing them to extend their job search in order to procure a better set of job offers.

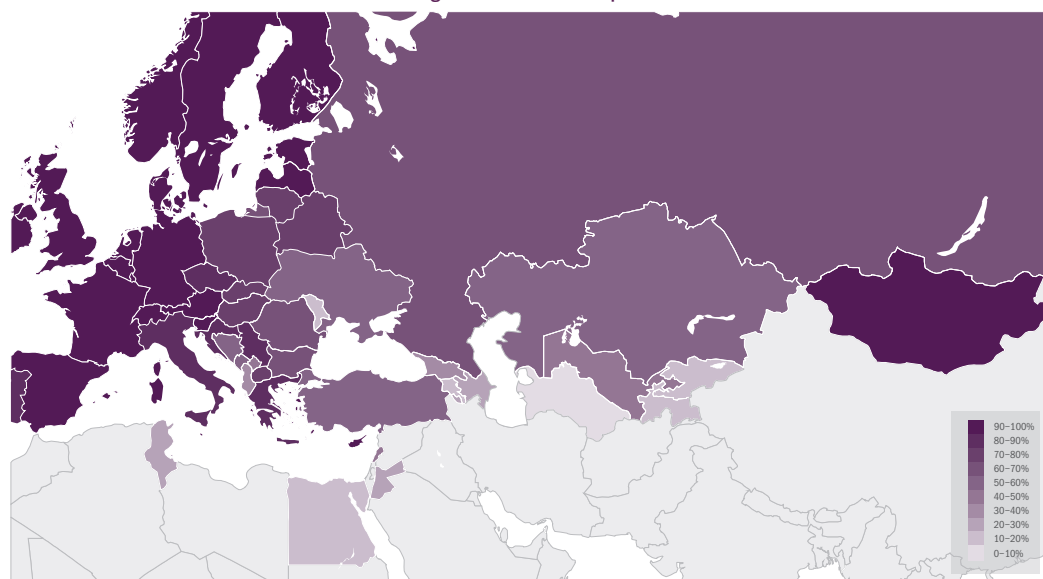
Credit cards can also help to foster entrepreneurship among sections of the population – such as ethnic minorities and women – that have more problems accessing formal forms of business credit.<sup>11</sup> Background market research conducted in 2013 for the EBRD's Women in Business programmes revealed that two-thirds of female entrepreneurs in Turkey were using personal credit cards for professional purposes, with almost 10 per cent of them relying exclusively on this expensive form of financing to fund working capital. Credit cards were the most common type of banking product used by these entrepreneurs (after the basic bank account and debit cards), and they are the easiest way for many women to access credit, as they require no

<sup>9</sup> See Collins et al. (2009).

<sup>10</sup> See Sullivan (2008).

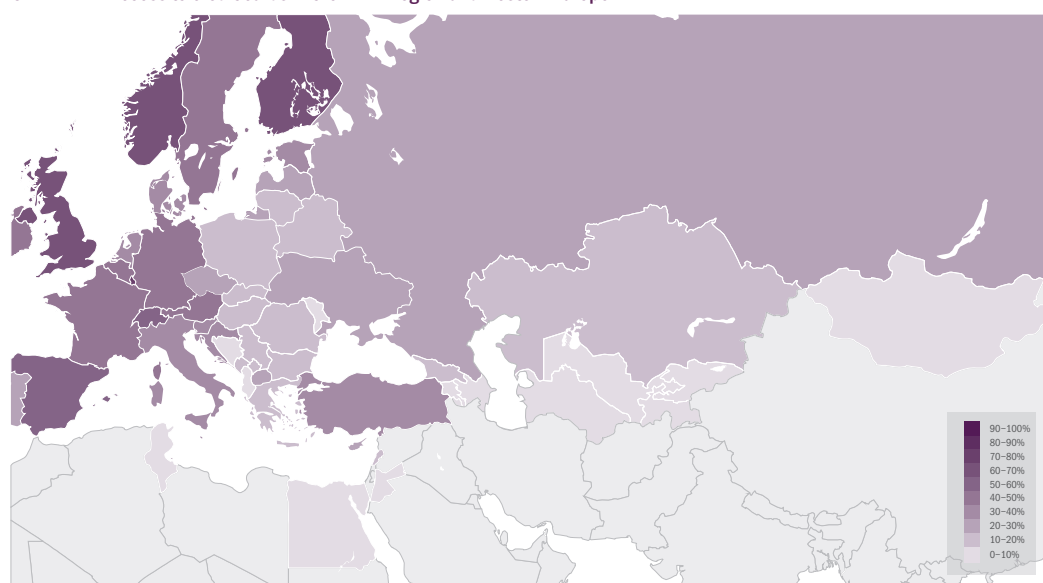
<sup>11</sup> See Chatterji and Seamans (2012).

CHART 4.1. Access to bank accounts in the EBRD region and western Europe



**Source:** Global Findex database (2014).  
**Note:** This chart shows the percentage of respondents who own a bank account. Darker colours indicate higher levels of account ownership. Morocco was not included in the 2014 Global Findex survey. Lebanon is shown as a comparator country.

CHART 4.2. Access to credit cards in the EBRD region and western Europe



**Source:** Global Findex database (2014).  
**Note:** This chart shows the percentage of respondents who own a credit card. Darker colours indicate higher levels of card ownership. Morocco was not included in the 2014 Global Findex survey. Lebanon is shown as a comparator country.

collateral and involve minimal financial disclosure. They typically remain, however, the most expensive form of bank finance.

As Chart 4.2 shows, people do indeed typically have less access to credit cards than they do to bank accounts (with the same applying to debit cards, albeit to a lesser extent). Coverage also remains far from uniform in western Europe, ranging from a low of 29 per cent in Portugal to a high of 70 per cent in Luxembourg. Equivalent figures for the EBRD region are much lower, ranging from close to zero in Egypt, Jordan, the Kyrgyz Republic, Mongolia, Tajikistan, Turkmenistan and Uzbekistan to 35 per cent in Slovenia and 39 per cent in Croatia.

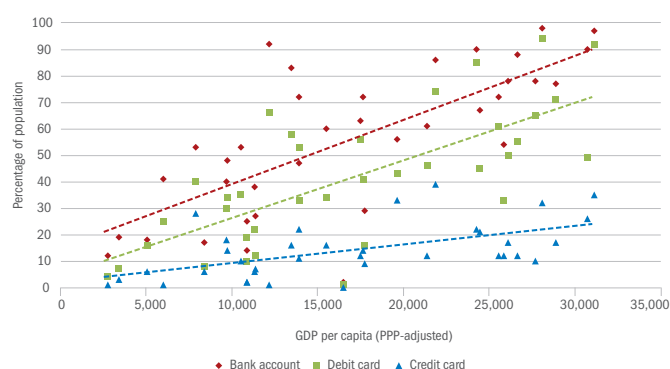
LESS THAN  
**15%**  
OF PEOPLE IN EGYPT  
AND TAJIKISTAN HAVE  
A BANK ACCOUNT,  
COMPARED WITH MORE  
THAN 97% IN SLOVENIA

As Chart 4.3 shows, there is a strong positive correlation in the EBRD region between a country's level of economic development and the percentage of the population who have access to bank accounts, debit cards and, to a lesser extent, credit cards. Further analysis indicates that levels of bank account penetration are higher not only in richer countries, but also in countries where fewer wages are paid in cash and countries where more people receive government transfers (such as Mongolia).

### Financial inequality within countries

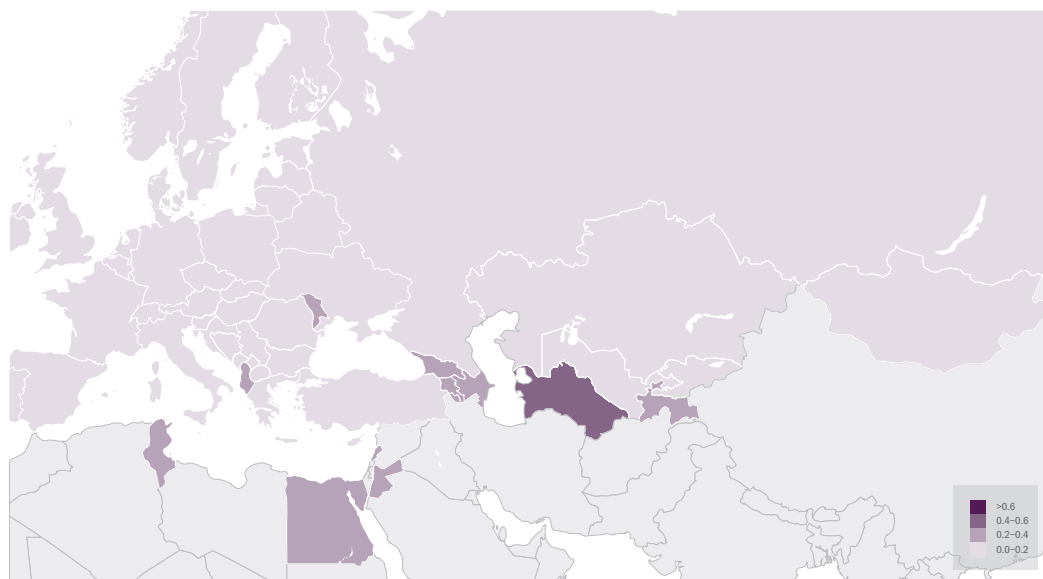
The ability to access and use financial services does not just differ from region to region and from country to country; it can also vary substantially within an individual country. This section provides systematic analysis of such intra-country variation in access to bank accounts and other financial services. That analysis is based on the estimation of a logistic model, which explains the use of a financial service by an individual on the basis of personal characteristics that are expected to determine access to that service, namely the individual's income, level of education, gender and age. The estimated coefficients are then used to calculate the probability of access to the financial service for each individual in the sample on the basis of their characteristics. In each case, this probability can be compared with the average probability of access in the country where the person resides. On the basis of this comparison, a dissimilarity index is constructed. That index is simply a weighted measure of the difference between the probability of access predicted on the basis of individuals' characteristics and the average probability of access for the country sample. In countries with a dissimilarity index of 0, everyone has the same probability of accessing a financial service, while in countries with a dissimilarity index of 1,

**CHART 4.3. Economic development and financial inclusion in the EBRD region**



**Source:** Global Findex database (2014), World Development Indicators (2015) and authors' calculations.  
**Note:** This chart shows each country's level of economic development as measured by GDP per capita at purchasing power parity (PPP) on the horizontal axis and the percentage of people who own bank accounts, debit cards and credit cards on the vertical axis. The three dotted lines indicate the lines of best fit for those three banking products.

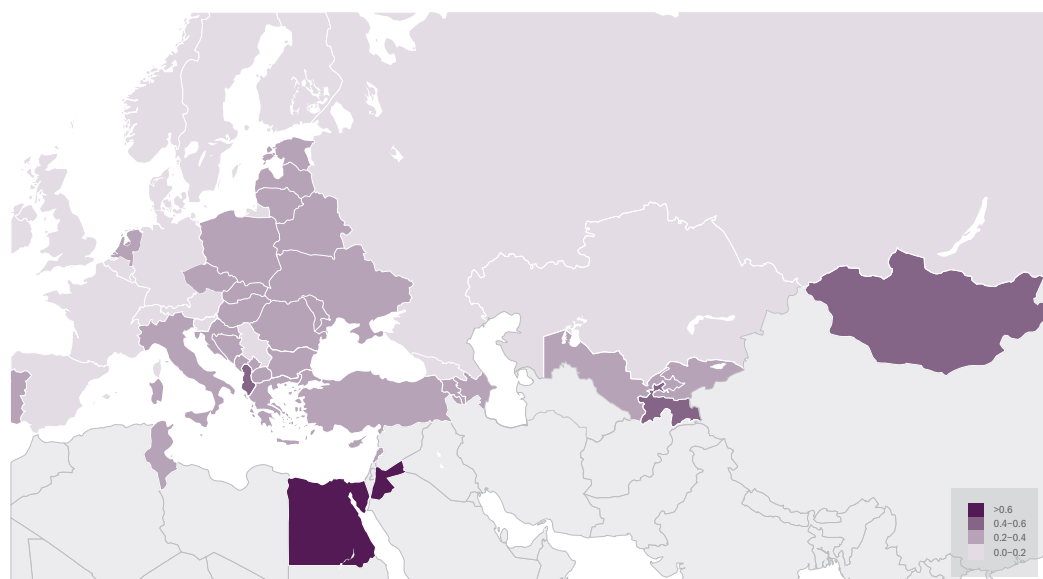
**CHART 4.4. Inequality of access to bank accounts in the EBRD region and western Europe**



**Source:** Global Findex database (2014) and authors' calculations.  
**Note:** Inequality is measured using a dissimilarity index that ranges from 0 to 1. Darker colours indicate that access to bank accounts varies more across the country's population on the basis of income, education, gender and age. Morocco was not included in the 2014 Global Findex survey. Lebanon is shown as a comparator country.



CHART 4.5. Inequality of access to credit cards in the EBRD region and western Europe



Source: Global Findex database (2014) and authors' calculations.

Note: Inequality is measured using a dissimilarity index that ranges from 0 to 1. Darker colours indicate that access to credit cards varies more across the country's population on the basis of income, education, gender and age. Morocco was not included in the 2014 Global Findex survey. Lebanon is shown as a comparator country.

individual characteristics, such as gender and age, can perfectly predict who uses a financial service and who does not.

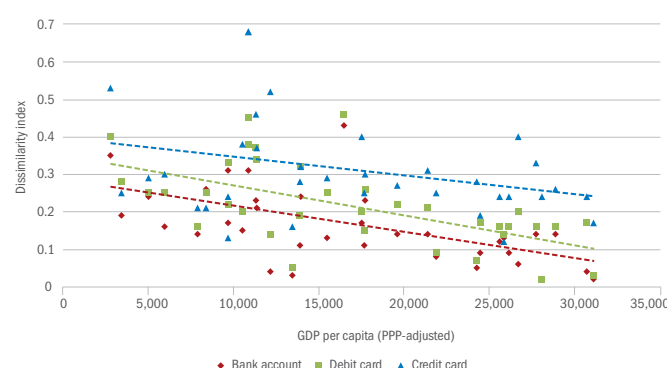
Chart 4.4 shows the resulting dissimilarity index for access to bank accounts. Darker colours indicate more unequal access to bank accounts across a country's population. In western Europe, access to bank accounts is very equal (resulting in very low index scores), but access is less equal in a number of countries where the EBRD invests, especially in Central Asia and the SEMED region. Access to bank accounts is relatively unequal in Bosnia and Herzegovina, Moldova, the Caucasus, Turkmenistan, Tajikistan and the SEMED countries. This pattern of unequal access is even more pronounced for credit cards (see Chart 4.5).

In economically more developed countries, access to financial services tends not only to be higher on average (as Chart 4.3 showed), but also to be distributed much more equally across the population (see Chart 4.6).

### Determinants of unequal access to financial services

What underlying factors – income, education, gender and/or age – are driving unequal access to bank accounts in the EBRD region?<sup>12</sup> And to what extent do these factors differ from country to country? In order to look into this question, Shapley decompositions are used to estimate the relative importance of various population characteristics that determine a country's dissimilarity index.<sup>13</sup> Chart 4.7 shows the 14 countries in the EBRD region with the most unequal access to bank accounts, plus Lebanon (which is ranked seventh in terms of inequality) as a comparator country. The countries are arranged in decreasing order of inequality, meaning that access to bank accounts is most unequal in Turkmenistan, slightly less so in Egypt, and so on.

CHART 4.6. Economic development and inequality of access to financial services in the EBRD region



Source: Global Findex database (2014), World Development Indicators (2015) and authors' calculations.

Note: Inequality is measured using a dissimilarity index that ranges from 0 to 1.

<sup>12</sup> Note that income may itself be dependent on access to finance and may be correlated with other potential determinants, such as education. It is nevertheless included here, given that household income is likely to be a strong determinant of a person's need for financial services.

<sup>13</sup> A Shapley decomposition takes the total explained variation in a particular variable of interest (in this case, access to a financial service) and breaks it down into the variation explained by various explanatory variables.

We can clearly see that the least inclusive financial systems are found in the SEMED region, Central Asia, the Caucasus and parts of the Western Balkans. Each bar in Chart 4.7 also indicates the relative importance of the various drivers of exclusion, showing that unequal access is driven mainly by income and age. That is to say, in these 15 countries, poorer people (and, by association, less educated people) and the young (but less so the elderly) are disproportionately excluded from the financial system. A person's gender plays a somewhat smaller role, although women are more disadvantaged in some countries, such as Jordan, Kosovo, Lebanon and Tunisia. Gender plays the strongest role in Turkey, but this country is not shown in Chart 4.7, as it is not among the 15 countries with the least inclusive financial systems (on the basis of Global Findex data). See also Boxes 4.1 and 4.2 for a discussion regarding female entrepreneurs' access to finance.

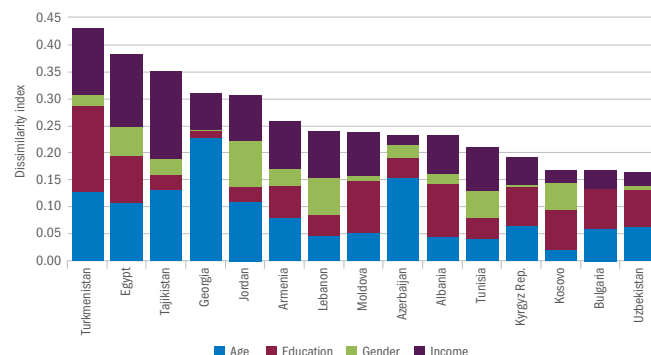
In many countries, financial inclusion varies between urban and rural areas. In order to investigate this variation, the analysis of unequal access to bank accounts is repeated using data from LITS III, which covers more than 51,000 households across the EBRD region and several comparator countries. Chart 4.8 shows the Shapley decompositions resulting from that analysis. These data have the advantage of allowing the rural/urban nature of a respondent's place of residence to be included as an additional explanatory factor, but they do not cover the SEMED countries or Turkmenistan. Reassuringly, the most unequal countries on the basis of this alternative dataset are very similar to those in Chart 4.7. The data show that there is a clear urban-rural divide in many countries in terms of access to bank accounts, particularly in countries with higher levels of inequality. In Albania, for instance, the rural/urban nature of a person's place of residence is more important than his/her income, gender and level of education combined.

### Variation in the use of bank accounts

Supply-side interventions and cultural norms resulting in high levels of bank account ownership can sometimes mask inequality in the utilisation of those accounts across sections of the population. Chart 4.9 presents Shapley decompositions that explain variation between account holders who report having deposited money in an account in the last 12 months. We can see from the changes to the order of the countries that this is a very different question. Turkmenistan, which exhibited very high levels of inequality in terms of access to accounts, is only moderately unequal in terms of the use of accounts to make deposits. The Kyrgyz Republic, where only 47 per cent of account holders have made a deposit in the last year, also stands out for its high degree of inequality in account usage, as do Kosovo and Albania.

Intra-country variation in account usage may indicate that certain segments of society face prohibitively high variable costs (either pecuniary or social) that prevent them from making greater use of their accounts. Furthermore, the factors that prevent people from using an account are different from those that prevent people from having an account in the first place.

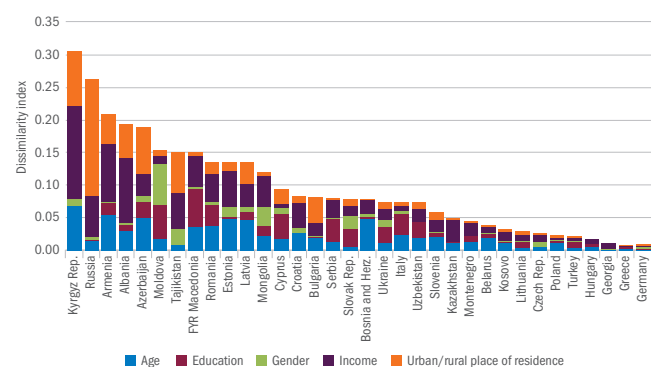
**CHART 4.7. Shapley decompositions of unequal access to bank accounts in the least equal EBRD recipient countries**



Source: Global Findex database (2014) and authors' calculations.

Note: This chart shows the 14 EBRD recipient countries with the most unequal access to bank accounts, listed in decreasing order of inequality. The height of the bar indicates the dissimilarity index score, which ranges from 0 to 1. The relative importance of each factor in terms of explaining the degree of dissimilarity is presented within each bar. Lebanon is shown as a comparator country.

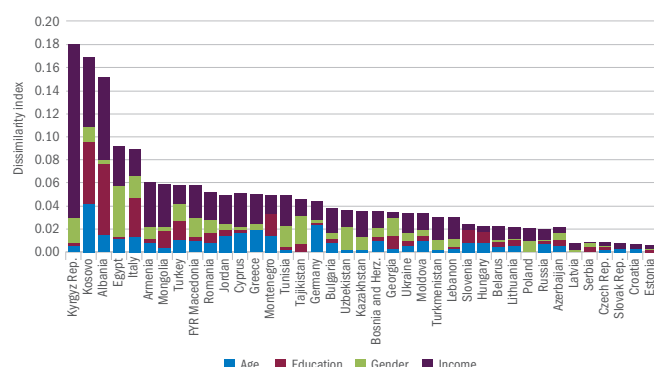
**CHART 4.8. Shapley decompositions of unequal access to bank accounts using LITS III data**



Source: LITS III and authors' calculations.

Note: The height of the bar indicates the dissimilarity index score, which ranges from 0 to 1. The relative importance of each factor in terms of explaining the degree of dissimilarity is presented within each bar. The Czech Republic, Germany and Italy are shown as comparator countries.

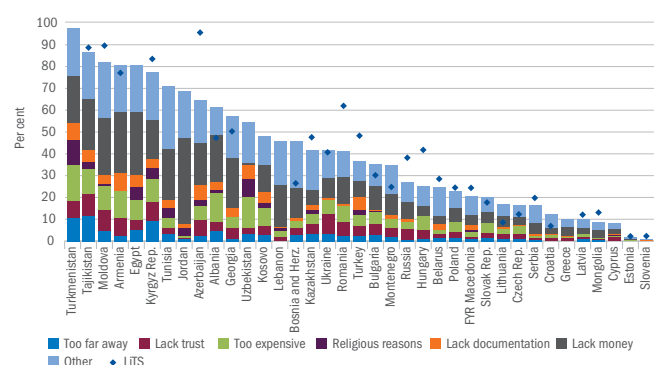
CHART 4.9. Shapley decompositions of unequal deposit-making behaviour



Source: Global Findex database (2014) and authors' calculations.

Note: The height of the bar indicates the dissimilarity index score, which ranges from 0 to 1. The relative importance of each factor in terms of explaining the degree of dissimilarity is presented within each bar. The Czech Republic, Germany, Italy and Lebanon are shown as comparator countries.

CHART 4.10. Reasons for not having a bank account: cross-country variation



Source: Global Findex database (2014; bars), LITS III (blue diamonds) and authors' calculations.

Note: The height of the bar indicates the percentage of respondents in each country who do not have a bank account. The segments within each bar indicate the relative breakdown of the reasons given in that country for not having an account (with respondents able to cite multiple reasons). The Czech Republic and Lebanon are shown as comparator countries.

Thus, certain sections of the population may face higher costs than others. For instance, gender plays a prominent role in explaining intra-country variation in deposit-making in Egypt, Georgia, Poland, Tajikistan, Tunisia and Uzbekistan. However, gender explains less of Egypt's variation in the use of accounts for withdrawals. This discrepancy could be attributable to various factors, including lower levels of female employment. In the other countries listed above, women have both lower withdrawal rates and lower deposit rates, suggesting that women generally face higher costs when interacting with the financial system. Unsurprisingly, income plays an important role in most – but not all – countries.

### Reasons for not having a bank account

Detailed data are also available on the reasons people report for not having bank accounts. Chart 4.10 shows, for each country, the percentage of respondents in the Global Findex survey who do not have a bank account, which is indicated by the height of the relevant bar. Each bar also indicates the relative breakdown of the reasons cited for not having an account.<sup>14</sup> Many people (60 per cent of those without an account) reported that they did not have enough money to open an account, while only a small number (8 per cent) indicated that they did not want one for religious reasons.<sup>15</sup> Many respondents also pointed to supply-side factors, reporting that accounts were too expensive (26 per cent), banks were not trustworthy (21 per cent), the nearest bank branch was too far away (14 per cent) or they lacked the required documentation (14 per cent).<sup>16</sup>

Different segments of the population may experience different barriers to participation in the financial sector. Chart 4.11 looks in more detail at the reasons why people do not have bank accounts, indicating that different social groups are excluded from formal finance for different reasons. A lack of documentation is mainly an issue for the young (defined as people under the age of 25), and much less so for the elderly (defined as people aged 65 and over) and the highly educated (see top-left panel). A total of 21.7 per cent of young people without a bank account report that this is due to a lack of documentation, compared with only 6.7 per cent for the elderly. These findings suggest that banks can expand their customer base by making it easier for people – particularly the young and the less educated – to open an account. Documentation requirements may have a particular impact on workers in the informal sector and the self-employed, as they may be more likely to lack wage slips or proof of domicile.<sup>17</sup>

**21.7%**  
OF YOUNG PEOPLE WITHOUT  
A BANK ACCOUNT DO NOT  
HAVE ONE BECAUSE OF A  
LACK OF DOCUMENTATION

<sup>14</sup> Respondents were allowed to cite multiple reasons.

<sup>15</sup> For example, some respondents might not have wanted a bank account that did not comply with the principles of Islamic law.

<sup>16</sup> Estimates of bank account penetration derived from LITS III and the Global Findex survey are more or less consistent with one another, although LITS III points to significantly higher levels of financial exclusion in Azerbaijan and Romania and substantially lower levels in Bosnia and Herzegovina and Lithuania (see the

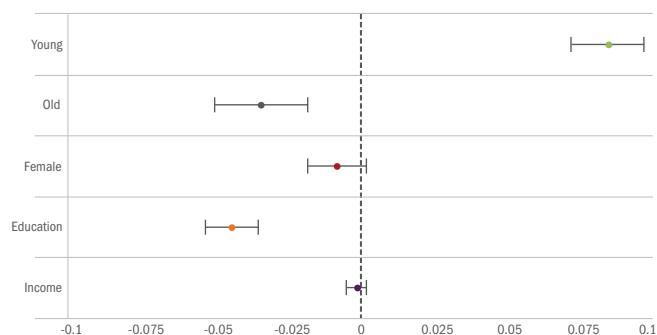
blue diamonds in Chart 4.10, which show the percentage of the population that is without a bank account according to LITS III data).

<sup>17</sup> Documentation requirements imposed as part of banks' 'know-your-customer' procedures may include proof of identity by means of a government-issued piece of ID, proof of nationality or right of residence in the country, proof of address, proof of income and proof of employment.

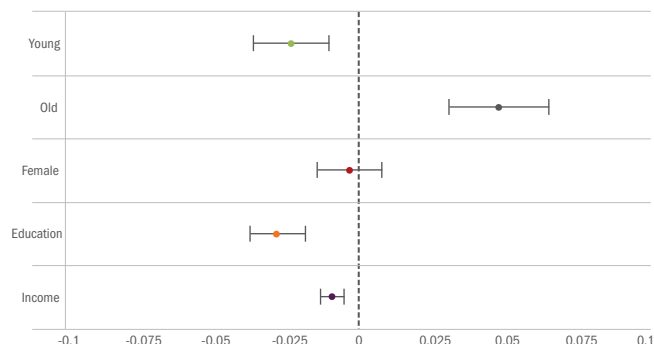


CHART 4.11. Reasons for not having a bank account: intra-country variation

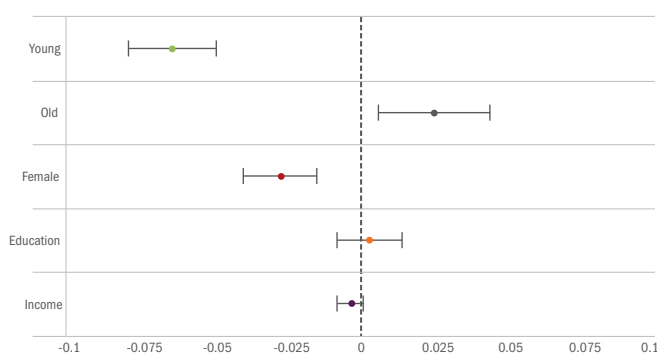
## Lack of documentation



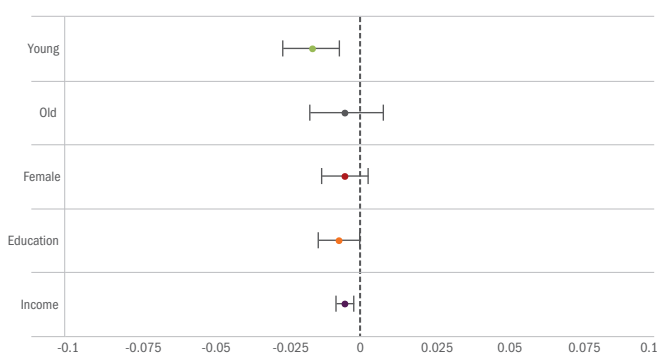
## Bank too far away



## Lack of trust in banking system



## Religious reasons



Source: Global Findex database (2014) and authors' calculations.

Note: Each panel presents the results of a series of linear probability regressions that explain the likelihood of someone not having a bank account for a particular reason (looking only at those who do not own an account). These regressions include country fixed effects, which means that they focus on intra-country variation, while keeping all country-level characteristics (such as GDP per capita) constant. Either side of each coefficient is a horizontal line indicating the 95 per cent confidence interval. Where this interval does not cross the vertical zero line, the coefficient is statistically significant at the 5 per cent level at least.

In sharp contrast, the elderly are the group most likely to lack access to a bank account owing to geographical constraints, with 18.1 per cent of elderly people without an account saying that this is due to the nearest branch being too far away, compared with only 11.8 per cent of (more mobile) young people (see top-right panel). As expected, better educated and richer people are also less likely to face such constraints. The elderly are also more likely not to have an account because of a lack of trust in the banking system (see bottom-left panel). They are, after all, more likely to have experienced banking crises than younger sections of the population. A total of 27.1 per cent of older people without accounts report that this is due to a lack of trust in banks, compared with only 14.6 per cent of young people. Trust in the banking system is particularly low in Ukraine, where 62.7

per cent of the population do not trust banks, compared with an average of 20.0 per cent (which is still high) in the rest of the EBRD region.

Lastly, religious reasons do not seem to play a major role in terms of deterring people from interacting with banks, at least as far as opening bank accounts is concerned, despite the fact that accounts may pay interest (see bottom-right panel). This holds across the board, with the young being less influenced by religion than older generations. It even holds in the SEMED region and Central Asia, where religion tends to play a more important role in day-to-day life. In these regions, however, the percentage of people who do not have a bank account for religious reasons is higher at 14.2 per cent, compared with just 3.9 per cent in the rest of the EBRD region.

### Unequal access to financial services in lower-income countries

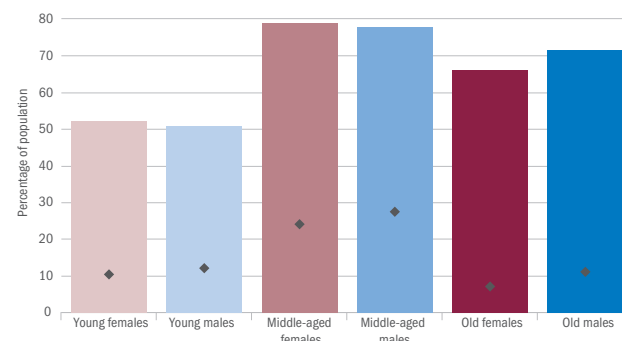
In order to gain greater insight into how gender and age interact in determining access to financial services at different stages of economic development, Chart 4.12 provides a breakdown of access by age and gender for both richer and poorer countries. The upper panel shows the EBRD countries with GDP per capita (in PPP terms) above the median level; the lower panel shows the countries below that level.

Levels of bank account ownership are significantly higher in richer countries. Moreover, in higher-income countries, there is no gender gap in the young and middle-aged segments of the population in terms of access to bank accounts. (Indeed, in Croatia, 70.5 per cent of young women have a bank account, which is higher than the 62.5 per cent recorded for young men.) A gender gap can be observed for the older generation, although it is less pronounced than the one seen in poorer countries. In those countries, too, the gender gap is largest among the older generation. In Armenia, for instance, only 6.1 per cent of older women own a bank account, compared with 13.3 per cent of older men. A similar pattern can be observed for ownership of credit cards (see diamonds in Chart 4.12), albeit at a much lower level. For this more sophisticated financial product, a gender gap exists even among young people in richer countries.

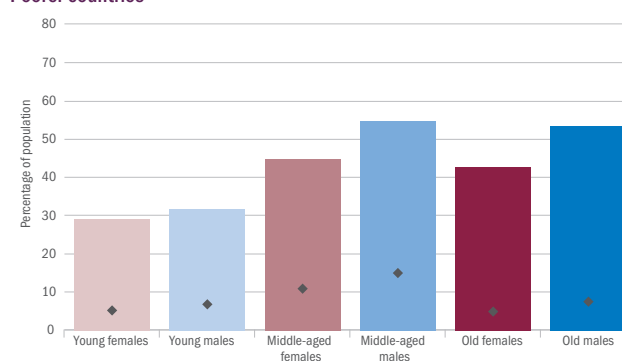
In addition to gender and age gaps, some countries display large differences between urban and rural areas in terms of inclusion. Chart 4.13 shows a similar breakdown based on LiTS III data, which allow a distinction to be drawn between people in rural and urban areas. In higher-income countries, there is almost no difference between people living in urban and rural areas in terms of their access to bank accounts, with large sections of these countries' populations being served by the formal banking system. Only among older respondents does a residual urban-rural gap appear to persist. In contrast, a substantial urban-rural gap can be observed for poorer countries in terms of access to bank accounts. Moreover, the magnitude of this effect is gender-specific: rural women are by far the worst connected to the financial system in these countries in each age group, followed by rural men (especially young rural men), urban women and, to a lesser extent, urban middle-aged men. The urban-rural gap for middle-aged women in poorer countries is a huge 21 percentage points, while the equivalent gap in richer countries is 2 percentage points in the opposite direction. Somewhat surprisingly, there is no urban-rural gap for older men in poorer countries, the only demographic for whom that is true in those countries. Thus, access to affordable finance remains a challenge for rural populations in various parts of the EBRD region. Their exclusion from financial services may, among other things, limit the productivity of smallholders' food production.<sup>18</sup>

CHART 4.12. Access to bank accounts broken down by GDP per capita, age and gender

#### Richer countries



#### Poorer countries



Source: Global Findex database (2014) and authors' calculations.

Note: Richer (poorer) countries are EBRD countries with GDP per capita in PPP terms above (below) the median level in the EBRD region. Diamonds show the corresponding percentages for credit card ownership. The young are defined as people under the age of 25; the middle-aged are defined as people between the ages of 25 and 64; and the old are defined as people aged 65 and over.

### The role of local bank ownership and competition

Evidence from around the world shows that documentation requirements are more likely to be reported as a barrier to bank account ownership in countries with a smaller percentage of government-owned banks and a larger percentage of foreign-owned banks.<sup>19</sup> This suggests that foreign banks may apply more stringent documentation requirements – which, according to Chart 4.11, have a particularly strong impact on the young and the less educated. In order to analyse this issue in more detail, this section combines data from LiTS III with information on intra-country variation in the presence of foreign banks at a local level. More specifically, each location (referred to as a “primary sampling unit” or “PSU”) where households were interviewed as part of LiTS III can be characterised by the percentage of all branches that are owned by foreign banks. This information is taken from data collected as part of the EBRD's second *Banking Environment and Performance Survey* (BEPS II), which was conducted in 2010.

<sup>18</sup> See Young (2016).

<sup>19</sup> See Allen et al. (2016).

In order to examine the extent to which various customer-level characteristics influence the likelihood of someone having a bank account, and look at whether these characteristics are more or less influential in determining access to accounts in locations (towns and cities) that are dominated by foreign banks (as opposed to domestic financial institutions), a regression analysis has been conducted. The results of that analysis are presented in Table 4.1. Each regression includes PSU fixed effects, such that the analysis focuses solely on variation in household outcomes and characteristics within each PSU. The upper part of the table shows that, as expected, levels of financial inclusion are higher for richer households (as captured by their expenses, whether they are in formal employment and whether they own a car). Highly educated people – those with a university degree – are also significantly more likely to have a bank account. The young and the elderly are less likely to have an account than middle-aged people.

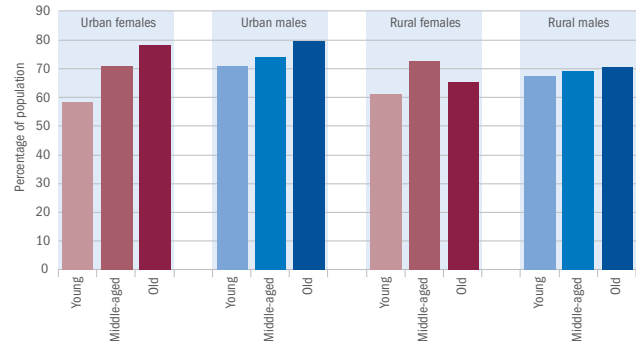
The bottom part of the table shows interaction terms between these characteristics and the presence of foreign banks in the local area (in the form of the percentage of local branches that are owned by foreign banks). These results indicate that in locations with higher levels of foreign bank ownership, people's wealth and formal employment become even more important predictors of bank account ownership. Moreover, foreign banks also tend to favour middle-aged clients (that is to say, people of working age) over younger and older clients. Overall, this suggests that foreign banks have a narrower customer profile than domestic banks, favouring middle-aged, highly educated, richer people who are in stable employment.<sup>20</sup>

In the table, the estimated direct effect corresponds to the impact that a given characteristic (such as age) has on the likelihood of a household having an account in a market served exclusively by domestic banks. The sum of the estimated coefficients for the direct effect and the interaction term denotes the estimated impact that the relevant characteristic has in markets served exclusively by foreign banks. (These are both extreme cases; in reality, most locations are served by a mixture of domestic and foreign banks.) The estimates imply that, while having higher expenses (a proxy for higher levels of income) and owning a car (which probably captures several characteristics, including household wealth) increase the likelihood of having an account in a market served mainly by domestic banks, these effects are approximately three and four times larger, respectively, in a market served mostly by foreign banks. Similarly, being in formal employment is a relatively important factor in a purely domestic market, but its effect essentially doubles in size in a market served exclusively by foreign banks.

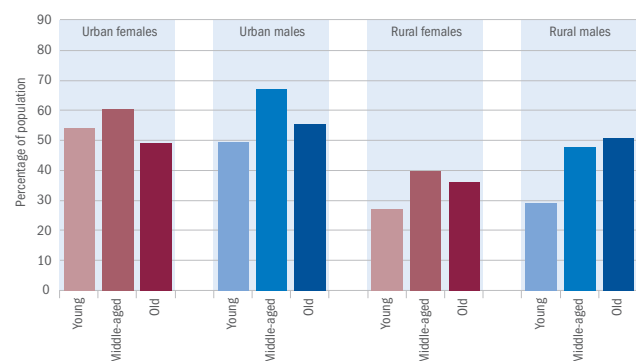
These findings are in line with existing evidence<sup>21</sup> – for the same region, but using older data – showing that in countries with more foreign banks, banks focus disproportionately on “easy clients”: white-collar workers with a stable job and a decent salary. Other groups benefit less from the presence of foreign banks.<sup>22</sup> This is in line with a strand of academic literature that describes foreign banks as “cherry pickers” or “cream skimmers”.<sup>23</sup> This also means that other types of institutions may

**CHART 4.13. Access to bank accounts broken down by GDP per capita, age, gender and place of residence**

#### Richer countries



#### Poorer countries



Source: LITS III and authors' calculations.

Note: Richer (poorer) countries are EBRD countries with GDP per capita in PPP terms above (below) the median level in the EBRD region. Percentages for young rural males and females are based on 170 and 234 observations respectively. All other percentages are based on at least 370 observations.

<sup>20</sup> At the same time, foreign banks may potentially be more likely to establish branches in towns and cities where people with higher levels of income, greater assets and higher levels of education are already using more financial services. In order to account for this potential endogeneity, the analysis in this section adopts an instrumental variables approach, using the distance between the PSU and Frankfurt am Main, Germany, as an instrument. The presence of foreign banks in eastern European markets has been shown to depend on the distance to the western European markets where many of those foreign banks have

their headquarters. While the distance to western Europe is negatively correlated with the presence of foreign banks, owing to travel costs and historical factors, demand for loans on the part of certain types of household in local markets is regarded as exogenous to this distance.

<sup>21</sup> See Beck and Brown (2015) for a similar analysis at the country level.

<sup>22</sup> The entry of foreign banks can, however, increase competition, enhance financial efficiency and improve financial stability. See De Haas (2014) and Claessens (2016).

be able to pick up those clients that are left behind by foreign banks. Evidence from microfinance institutions (MFIs) suggests that MFIs may pick up some clients who are not served by formal bank competitors. Indeed, a recent study of the geographic expansion of an MFI operating in the Western Balkans shows that it tended to open new branches in locations with a large percentage of low-income households.<sup>24</sup> The percentage of households with bank accounts then increased more in those locations than it did in the locations where the MFI had not opened a new branch.

Lastly, the impact that such new branches had on the use of bank accounts was stronger among low and middle-income households than it was among high-income households. Those branches also had a stronger impact among older households. The study demonstrates that, even in areas where a number of foreign banks are already competing with each other, some household segments may still remain underserved because they do not meet the strict requirements imposed by those foreign institutions. In such circumstances, the entry of other types of financial service provider can serve as a useful complement from a financial inclusion perspective.

## Household loan application strategies and access to bank credit

The final piece of analysis in this chapter examines micro-level data in order to better understand the mechanisms that drive the variation observed in financial inclusion. Analysis of interactions between households and banks sheds light on how households with different socioeconomic backgrounds make different decisions when considering applying for a loan and how banks' responses to those applications reaffirm general trends in terms of households' access to finance.

Interaction between households and banks can be complex in nature. Households that need credit must choose whether or not to apply for a loan, which banks to apply to, and which loan offers to accept (if any) where offers are forthcoming from one or more banks. Conversely, banks must decide which markets to operate in, which potential clients to market their products to, and which loan applications to grant and on what terms.

The annual Euro Survey conducted by the OeNB in autumn 2015 provides detailed information on the strategies that households adopt when applying for retail loans, thus shedding light on the nature of such interaction. The 2015 survey consisted of face-to-face interviews with 10,325 households across 10 countries in central and south-eastern Europe,<sup>25</sup> with approximately 1,000 interviews being carried out in each country. The survey provides data on all of those households' attempts to borrow money from banks since 2000, including information on the year the loan was sought, the purpose of the loan, which banks the household contacted, whether each application resulted in a loan being offered, and whether the household ended up taking out the loan.<sup>26</sup>

These data make it possible to identify households that have made at least one loan application since 2000. All regressions

TABLE 4.1. Presence of foreign banks in the local area and access to bank accounts

Dependent variable	Indicator variable that takes a value of 1 if the respondent has a bank account				
Expenses	0.048*** (0.013)				
Formal employment		0.089*** (0.019)			
Car			0.041*** (0.011)		
University degree				0.114*** (0.015)	
Middle-aged					0.010 (0.016)
Foreign banks ×					
Expenses	0.158*** (0.027)				
Formal employment		0.080** (0.035)			
Car			0.167*** (0.022)		
University degree				0.005 (0.025)	
Middle-aged					0.139*** (0.029)
Method	IV	IV	IV	IV	IV
Clustering	PSU	PSU	PSU	PSU	PSU
Fixed effects	PSU	PSU	PSU	PSU	PSU
No. of observations	30,562	31,381	36,914	36,914	36,910
R <sup>2</sup>	0.456	0.443	0.455	0.449	0.447

Source: LITS III and authors' calculations.

Note: Estimated using an instrumental variables model. Standard errors are clustered at the PSU level and reported in parentheses. \*, \*\* and \*\*\* denote values that are statistically significant at the 10, 5 and 1 per cent levels respectively. All specifications control for household size, gender, a religion variable, and whether the language in the household is an official language of the country.

include country fixed effects, such that they only use intra-country variation in outcomes and explanatory factors. The regressions control separately for the log of the number of foreign and domestic bank branches in the area, the log of the size of the local population, and respondents' age and age squared. More explanatory variables and additional controls are included in individual specifications.

The first analysis looks at whether certain household-level characteristics suggest a greater likelihood of exclusion in terms of access to bank loans. The regression results presented in column 1 of Table 4.2 are fairly intuitive. Less educated households (where the respondent has completed only primary or lower-secondary education) are less likely to approach banks. Being employed greatly increases the likelihood of a household contacting a bank, while a low level of income reduces that likelihood by a similar amount, relative to that of a middle-income household.<sup>27</sup> Highly educated households (where the respondent has completed the first or second stage of tertiary education) are

<sup>23</sup> See Detragiache et al. (2008).

<sup>24</sup> See Brown et al. (2016).

<sup>25</sup> The survey covers Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic (which serves as a comparator), FYR Macedonia, Hungary, Poland, Romania and Serbia.

<sup>26</sup> The data capture instances where households contacted banks to apply for a loan, but were discouraged from submitting their application. For the purposes of this analysis, these events are regarded as applications that result in no offer being made.

<sup>27</sup> Employment status and income are important factors determining whether households approach banks for a loan. The fact that an educational status coefficient loses its statistical significance when controlling for details of employment suggests that the importance of educational status may be as an indicator of employment potential.

TABLE 4.2. Which households successfully interact with banks?

Dependent variable	Any application		Number of applications		All banks Ratio of offers to applications		Foreign banks Ratio of offers to applications	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Low level of education	-0.031*	-0.022	-0.024	-0.017	-0.069***	-0.058***	-0.070***	-0.048**
	(0.016)	(0.017)	(0.042)	(0.056)	(0.016)	(0.017)	(0.020)	(0.022)
High level of education	0.020	0.006	0.125**	0.148**	0.010	0.008	0.013	0.009
	(0.016)	(0.015)	(0.056)	(0.063)	(0.022)	(0.021)	(0.030)	(0.028)
Employed	0.074***	0.069***	-0.037	-0.050	0.008	0.019	0.050**	0.061**
	(0.011)	(0.015)	(0.040)	(0.041)	(0.019)	(0.021)	(0.024)	(0.027)
Low level of income	-0.072***		0.037		-0.061**		-0.064**	
	(0.014)		(0.067)		(0.025)		(0.031)	
High level of income	0.008		-0.115*		0.040***		0.023	
	(0.013)		(0.060)		(0.015)		(0.018)	
Blue-collar worker		-0.032**		0.143*		-0.020		-0.019
		(0.013)		(0.081)		(0.022)		(0.034)
Other worker		-0.063***		-0.010		-0.054**		-0.056*
		(0.013)		(0.080)		(0.025)		(0.032)
Self-employed		-0.057***		-0.029		0.003		0.006
		(0.019)		(0.088)		(0.022)		(0.028)
Student		-0.052*						
		-0.026						
Additional controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering	NUTS 2	NUTS 2	NUTS 2	NUTS 2	NUTS 2	NUTS 2	NUTS 2	NUTS 2
Fixed effects	Country	Country	Country-Year	Country-Year	Country-Year	Country-Year	Country-Year	Country-Year
No. of observations	9,194	8,314	1,929	1,853	1,907	1,831	1,365	1,305
R <sup>2</sup>	0.111	0.105	0.163	0.163	0.068	0.056	0.165	0.159

Source: Euro Survey (2015) and authors' calculations.

Note: Estimated using a linear probability model. Standard errors are clustered at the Nomenclature of Territorial Units for Statistics 2 (NUTS 2) level and are reported in parentheses. \*, \*\* and \*\*\* denote values that are statistically significant at the 10, 5 and 1 per cent levels respectively. All specifications control separately for the log of the number of foreign and domestic bank branches in the area, the log of the size of the local population, and respondents' age and age squared. In addition, specifications in columns 3 to 8 control for loan purpose fixed effects, as well as individual fixed effects for the country and the year in which the loan was sought.

more likely to approach a bank for a loan, although this estimate loses its statistical significance when other explanatory variables are included. Having a high level of income does not appear to increase the likelihood of contacting a bank over and above that of middle-income earners.

The analysis in column 2 provides a different insight into the role of employment, replacing the income indicators with indicators for different types of worker. Blue-collar workers, the self-employed (including farmers), students and all "other workers" who do not fall into one of the other categories – are less likely to approach banks for loans than white-collar workers (which represent the excluded category in the regression).

After deciding to seek a loan, households must choose whether to apply to a single bank or multiple banks, and which ones to approach. These decisions are probably dependent on characteristics of the households themselves, as well as those of the bank branches in their vicinity. Applying to multiple banks may increase the probability of the household securing at least one offer. "Shopping around" in this way might also help households to secure a loan with better terms. However, applying for loans can be costly in terms of both time and energy, so additional

applications can reduce the overall benefit derived from a loan.

Looking solely at the set of households that have applied to at least one bank for a loan since 2000, the analysis next considers the question of how households with various characteristics differ in their loan application strategies. Column 3 presents the results derived from regressing the number of banks contacted during a household's search for their first loan in the period since 2000 on the set of explanatory variables used in specification 1. Loan purpose fixed effects are now included, as well as country-year effects, which flexibly accounts for macroeconomic conditions. The evidence shows that having a higher level of education increases the number of banks that the household approaches when seeking a loan, while having a higher level of income reduces the number of banks approached. In column 4, where income indicators are replaced with indicators for different types of worker, the highly educated are still shown to approach more banks, while blue-collar workers also approach more banks.

These findings regarding application strategies reflect the relative payoffs and costs anticipated by each household on the basis of their circumstances. Highly educated households may be more financially literate, resulting in them contacting more



banks in order to improve their chances of receiving better offers and obtaining a loan. The paperwork involved in loan applications may also be less onerous for these households, reducing the cost of submitting additional applications. In fact, 25 per cent of highly educated households in the sample of loan seekers approach multiple banks, compared with just under 19 per cent of households with average and lower levels of education. High-income households that apply to fewer banks, may be more confident in their chances of receiving offers. The opportunity cost of the time they devote to searching is higher, and the marginal benefit of the money saved from receiving better terms may be lower owing to their greater earnings. Thus, they may decide to apply to fewer banks, since the cost of additional applications exceeds the increased benefit. Lastly, blue-collar workers may apply to more banks if they think they are less likely to receive an offer or if they are less wealthy and value the savings derived from better terms more than their white-collar counterparts.

There is an inherent difficulty in properly interpreting the causal mechanisms that lie behind differences in application rates across households. Less educated and unemployed people may have less need of loans – or they may need a loan, but not one with the size or terms on offer in their market. Alternatively, banks might not serve particular segments of the market for a variety of reasons. The analysis of application-to-offer ratios in columns 5 and 6 attempts to address this issue, using the set of variables employed in specifications 3 and 4.

Analysis shows that the percentage of successful loan applications is lower among those with lower levels of education and income (see column 5). These results, which are closely aligned with the initial analysis looking at which households contact banks in the first place (see columns 1 and 2), suggest that poorer households may anticipate the likely negative outcome of their application and choose instead to refrain from applying, thereby avoiding any associated costs.

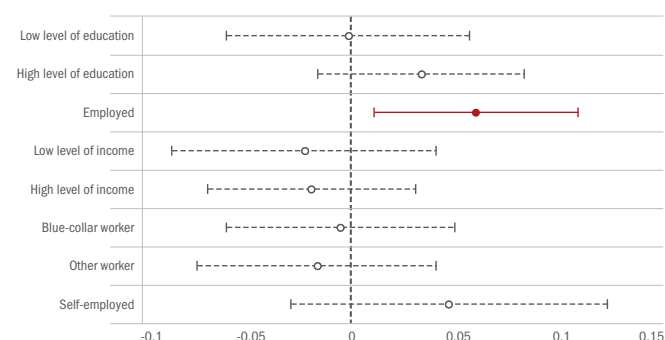
Households with average and high levels of income appear to be equally optimistic in terms of seeking out loans, but having a high level of income is shown to increase the chances of loan applications being successful. Specifically, while households with average and high levels of income are just as likely to approach banks (see column 1), high-income households receive a significantly larger number of offers from their set of applications than households with average incomes, as column 5 shows. The impact of being employed has a small and statistically insignificant impact on the outcome of loan applications, whereas it is an important determinant of the decision to apply for a loan.

### Interaction with foreign banks

Next, the analysis looks at the question of how households interact with foreign banks in their local market. The forces identified earlier in this chapter, which result in a narrower customer profile for foreign banks, may also affect the application strategies adopted by households when approaching such banks.

The share of foreign banks in total applications made by a household increases significantly when the applicant is in

**CHART 4.14. Which households are more likely to apply to foreign banks?**



**Source:** Euro Survey (2015) and authors' calculations.

**Note:** Estimated using a linear probability model. The dependent variable is the share of foreign banks in total applications made by households. Standard errors are clustered at the NUTS 2 level. The chart shows coefficient estimates and 95% confidence intervals. Specifications also control, separately, for the log of the number of foreign and domestic bank branches in the area, as well as the log of the size of the local population, and respondents' age and age squared. Country-year fixed effects are also included, as are loan purpose fixed effects, as well as separate fixed effects for the country and the year in which the loan was sought.

employment. (Note that these estimates control for the number of domestic and foreign bank branches in a location, so we are comparing households that face a similar set of local banks.) Chart 4.14 shows the coefficient estimates and 95% confidence intervals derived from regressing the share of foreign banks in total applications made by households on the full set of explanatory variables. Only the coefficient for employment status is statistically significant, and it has the largest impact. This suggests that employed applicants are submitting significantly more of their applications to foreign banks than unemployed applicants. Thus, some self-selection on the part of unemployed applicants appears to be resulting in them being excluded from the potential gains that could be derived from the increased presence of foreign banks in the local retail loan market.

As regards the percentage of applications made to foreign banks that result in loan offers, the results shown in columns 7 and 8 of Table 4.2 are nearly identical to those in columns 5 and 6, with the notable exception of employment. Employed applicants receive offers from a higher percentage of the foreign banks to which they submit applications than unemployed applicants, and that difference is statistically significant. This contrasts with the small and statistically insignificant effect of employment that was found when considering the full set of banks (that is to say, both foreign and domestic banks).

Taken together, evidence from micro-level data on the interaction between households and banks suggests that markets operate in an equilibrium in which applying for a loan is not without costs and households are aware of the likelihood of being made a loan offer by a bank on the basis of their profile. Households with a low probability of being made an offer by banks submit fewer applications to those banks, and those that do apply receive fewer offers.

## Conclusion

Levels of financial inclusion remain lower in the EBRD region than they are in western Europe, with negative implications for private-sector development and broad-based economic growth. Moreover, households' ability to access financial services varies both between countries and across different households within countries. While the gender gap in terms of ownership of bank accounts is in the process of closing for younger generations at the level of the EBRD region as a whole, a significant gender gap continues to be observed in the region's poorer countries, particularly in rural areas and among older generations. In these countries, there remains a substantial urban-rural gap in terms of access to accounts, especially for women. Moreover, in the SEMED region, many young people continue to be denied access to bank accounts. Indeed, only 18 per cent of young people in this region own an account, which is less than half of the equivalent figures for middle-aged and elderly people. Bridging these age and gender gaps constitutes a key priority.

The promotion of financial inclusion will be most successful if a multipronged approach is adopted, as inclusion is itself a multidimensional issue. Account ownership can, for instance, be fostered through the introduction of digital payments. Countries that disburse government transfers and pay government wages through banks can increase the number of accounts owned by their citizens, as exemplified by Mongolia. Evidence shows that such approaches can be particularly effective in narrowing urban-rural account coverage gaps.<sup>28</sup>

However, supply-side approaches such as these may need to be accompanied by financial literacy programmes, a consumer protection framework, adequate regulation of payment systems and robust infrastructure to support electronic payments, online banking and other means by which customers interact with their banks.<sup>29</sup> The introduction of electronic systems for payments such as utilities or retail purchases can also encourage participation in the financial sector. To promote the efficient development of payment services, regulators must ensure that providers have equal access to the infrastructure necessary to operate. In addition to technology such as telecommunications systems, infrastructure also includes things like the interoperability of card readers.<sup>30</sup>

Introducing basic "no-frills" accounts with little or nothing in the way of balance requirements, transaction charges and annual fees may also encourage the ownership and utilisation of accounts. Simplifying application procedures and tailoring documentation requirements to the realities of currently excluded groups (who may not have easy access to all the documentation available to older and richer customers) may also have a positive impact on financial inclusion. In order to ease documentation requirements affecting the young and the poor, regulators could create a class of current accounts with limitations on balances and pass-through amounts. Such accounts would avoid major risk factors and thus require less scrutiny. Financial institutions might find it expedient to design their basic "no-frills" accounts in such a way that they fell into this class of account. Finding

ways to build trust in the formal banking system (for instance, by introducing credible deposit insurance schemes) will also help to reduce some of the barriers that hinder account ownership in the EBRD region.

Increasing the number of bank branches in underserved areas is also likely to promote inclusion in the formal banking sector. Fostering a diverse financial system consisting of a variety of banks and other types of financial intermediary may also help to ensure broad-based access to financial services. For many households, the local branch remains their point of entry into the financial system, so the expansion of branch networks may help to increase access to credit for previously excluded households. Placing reduced (though still sufficient) licensing requirements on entities offering limited financial services, such as payment transfers, or only allowing the acceptance of deposits that are fully backed by government securities or other safe assets – thus avoiding the risk factors associated with full banks – can encourage entry and greater competition. Evidence shows that improving competition in local banking markets can lower the cost of opening and maintaining accounts.<sup>31</sup> In the loan market, competition may have less of an impact in terms of reducing interest rates for the most vulnerable segments of society, but policies encouraging households to shop around can help to leverage what competition exists.<sup>32</sup>

A combined approach aimed at reducing search costs and encouraging households and businesses to shop around for the best deal can benefit the most financially vulnerable segments of the population. Government authorities and commercial data aggregators can reduce search costs by collecting and distributing information on variation in interest rates for broad categories of loans offered by banks, preferably at a local market level. For instance, providing key statistics through an official comparison website can benefit less financially literate households that may have weaker bargaining power and negotiation skills. Advertising campaigns that promote financial literacy, explain the importance of shopping around for loan offers and advocate the use of comparison websites can help to reduce inequality in terms of households' access to financial services and support competition between banks (see also Annex 4.1, which discusses the rolling-out of broadband internet and its benefits).

Policies promoting financial inclusion should be designed and advocated by means of a context-specific approach and tailored to the obstacles facing specific markets. In many cases, removing information barriers between banks and borrowers will benefit excluded sections of the population. Introducing national ID numbers/cards with universal coverage would alleviate the documentation restrictions that currently prevent many young and poor people from opening bank accounts, particularly if such measures involved a biometric component. Establishing credit bureaus and credit registries, which national ID numbers would make possible, can also promote competition between banks through the sharing of borrower histories, which can benefit creditworthy clients.

<sup>28</sup> See Allen et al. (2016).

<sup>29</sup> See Demirgüç-Kunt et al. (2015).

<sup>30</sup> See Claessens and Rojas-Suarez (2016).

<sup>31</sup> See Brown et al. (2016).

<sup>32</sup> See Allen et al. (2014).

Introducing financial products aimed at meeting the needs of poorer households (which typically differ from those of more affluent customers) will foster demand where access to the financial system exists but is underutilised. Loans for which smaller and more mobile assets (as well as traditional wealth-storage mediums such as livestock or gold) are accepted as collateral are better able to meet the needs of borrowers who traditionally use informal systems of finance. Governments can assist in the development of new products – for example, by putting in place the legal and fiscal framework that is necessary in order to use leasing arrangements to expand the potential customer base.<sup>33</sup>

Increases in financial inclusion will hopefully improve households' ability to weather unexpected declines in income and manage consumption over time. They should also help small businesses and aspiring entrepreneurs to accrue the savings required to fund investment or take out loans on affordable terms with a view to entering new markets, increasing competitiveness and otherwise growing their businesses. As previously excluded sections of the population gain access to the financial system, greater equality of opportunity should contribute to stronger and more stable economic growth across the region.

### Box 4.1. Improving access to credit for women-led SMEs

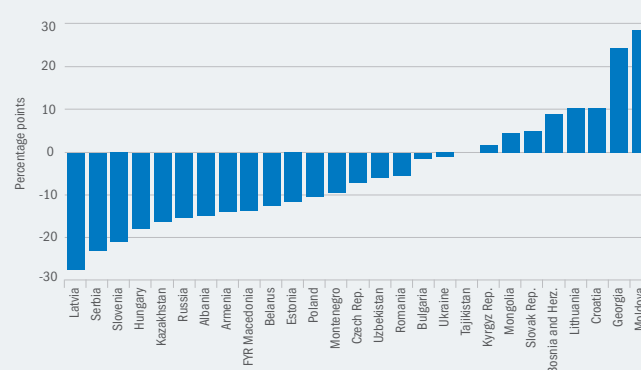
Many women-led businesses in the transition region – defined here as businesses where a woman has overall managerial responsibility for the company – continue to experience gender-specific barriers. As a result, these businesses exhibit weaker growth, remain smaller and are less productive than other firms.<sup>34</sup> This is a costly state of affairs: if women and men participated equally as entrepreneurs, global GDP could increase by around 2 per cent or US\$ 1.5 trillion.<sup>35</sup> Unlocking the economic potential of small and medium-sized enterprises (SMEs) led by women means tackling the challenges they face, notably as regards access to finance. Three issues stand out in this regard:

- First, customs and inheritance laws in many countries limit women's ownership of property, and thus their access to collateral. Moreover, many women-led SMEs are in the service, clothing and retail sectors, which tend to have fewer assets that can be collateralised.
- Second, in order to sustain and build a business, entrepreneurs need access not only to financial capital, but also to human and social capital. Female entrepreneurs continue to have inferior access to professional networks, mentors, and information on subjects such as financial management, marketing and the adoption of technology.<sup>36</sup>
- Third, banks may have more trouble evaluating women's business proposals, as they fit less well with some traditional credit-scoring models and some male loan officers may be less able to properly evaluate women's business proposals.<sup>37</sup> This may result in more loan applications being rejected or women paying higher interest rates than men.

Overall, the impact of these barriers on the development of women-led businesses is acute. The International Finance Corporation estimates that as many as 70 per cent of women-owned SMEs in the formal sectors of developing economies are unserved or underserved by financial institutions, leaving a financing gap of more than US\$ 285 billion.<sup>38</sup> Chart 4.1.1. shows, for countries where at least 10 per cent of all SMEs are run by women, the difference between the percentages of male and female-led SMEs that report credit constraints (that is to say, SMEs that need credit, but are unable to get it). In the majority of countries, it is clearly substantially more difficult for women-led SMEs to access credit.

Addressing this challenge requires a model that both boosts access to finance and improves female entrepreneurs' access to know-how. The EBRD's Women in Business programmes are one example of such an approach. Currently active in 16 countries, these programmes offer a whole range of complementary services to women-led SMEs. Access to credit through local financial institutions is combined with technical assistance to help those institutions to provide lending solutions that are tailored to the needs of women-led businesses. Credit enhancement and risk-sharing mechanisms also enable local partner institutions to feel more comfortable lending to this "riskier" segment. The hope is that once the differential between perceived and real risk is documented, women-led firms will no longer face unjustified higher financing costs. In addition, the programmes provide female-led SMEs with access to business advisory services, mentoring, training in key entrepreneurial skills, online business diagnostics and networking opportunities.

CHART 4.1.1. Differences in credit constraints between male and female-led SMEs



Source: BEEPS V and authors' calculations.

Note: This chart shows the difference between the percentage of female-led SMEs that report being credit-constrained and the percentage of male-led SMEs reporting that they are credit-constrained. Negative figures indicate that the former exceeds the latter, which can be interpreted as meaning that female-led SMEs have greater difficulty accessing finance. The Czech Republic is shown as a comparator country.

<sup>33</sup> See World Bank (2008).

<sup>34</sup> See Goldman Sachs Global Markets Institute (2014).

<sup>35</sup> See Boston Consulting Group (2014).

<sup>36</sup> Ibid.

<sup>37</sup> See Beck et al. (2014).

<sup>38</sup> See International Finance Corporation (2011).

## Box 4.2. Women and entrepreneurship

Entrepreneurship is an essential driver of private-sector development and the transition process more generally. For this reason, policy-makers and higher education institutions across the EBRD region began in the early 1990s to develop programmes to help foster entrepreneurship. A salient feature common to many EBRD countries of operations has been a level of entrepreneurial activity among women that is lower than the equivalent for men, in terms of both establishing businesses in the formal economy and the size and scale to which businesses grow. While this entrepreneurship gap has narrowed substantially over the last decade, it has not yet fully closed (see Chart 4.2.1).

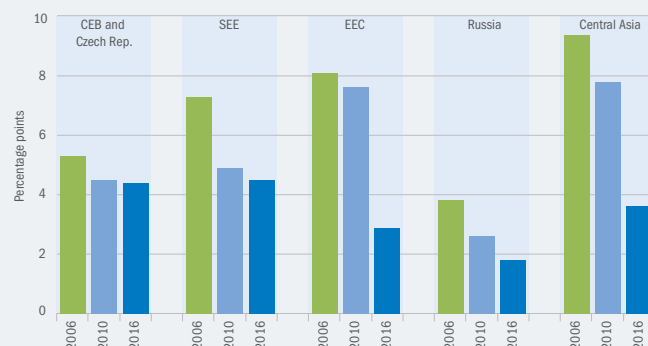
There is an ongoing debate as to the best way to stimulate entrepreneurship among women. Most support for female entrepreneurs targets existing start-ups, either through general programmes or through specific programmes directed only at women. For instance, the EBRD's Women in Business programmes are implemented in 16 different countries and deliver €500 million of EBRD funding to more than 20 partner financial institutions and 10,000 women-led SMEs (see Box 4.1). Data collected in the course of these programmes suggest that women are less likely than men to engage in entrepreneurial activity, acquire enough financial resources to support the growth of their business, and implement effective strategic, organisational and managerial practices. Moreover, women are also more likely than men to adopt beliefs and behaviours that reduce their financial risks (for example, by borrowing less money than they are able to) and are more likely to engage in behaviours that are linked to the welfare of their family (such as investing profits in the health of their family, rather than putting the money back into the business).

The above diagnostic narrative tends to portray entrepreneurship as an inherently masculine endeavour, whereas if more women are to become entrepreneurs, the prevailing institutional environment must become more gender-neutral, and women need to overcome their limitations by training or educating themselves better, developing the right networks and mentoring relationships, and reassigning domestic work.

Paradoxically, such narratives may feed into common gender-specific expectations and stereotypes and help explain the tendency for women to evaluate business opportunities less favourably, possess lower levels of entrepreneurial self-belief, express less desire to become an entrepreneur, or self-select out of the credit market.<sup>39</sup> Moreover, by placing excessive emphasis on gender-based patterns of behaviour, such stereotypes may distract from broader issues relating to the entrepreneurial environment, such as the lack of access to markets and/or essential business support services.

Recent experience with the expansion of the EBRD's Women in Business programmes across Central Asia suggests that barriers to female entrepreneurship go beyond issues relating to access to finance and know-how. For instance, women may not register businesses in the first place on account of sexual harassment being a "feature of tax inspections", or because women feel they are "regularly belittled by fiscal authorities". Likewise, EBRD research looking at Egypt's railways found that 70 per cent of the women interviewed avoided using the

CHART 4.2.1. Differences between self-employment rates for men and women, 2006-16



Source: LITS I, II and III, and authors' calculations.

Note: This chart shows the difference in percentage points between self-employment rates for men and women, whereby self-employment rates represent the percentage of respondents aged between 18 and 65 who report being self-employed.

train to commute to work because of safety concerns. Women's fear of harassment restricts their movement outside their homes and limits their use of public spaces. As a result, women's ability to undertake entrepreneurial activity is limited, regardless of their ambitions.

Even with dedicated support for women in business, female entrepreneurial activity will remain constrained if policies do not address entrenched forms of exclusion in society. There are a number of surveys available that can help policy-makers to improve their understanding of such exclusion and find ways of remedying it, including the *Life in Transition Surveys* conducted by the EBRD and the World Bank and the Gallup World Poll. These surveys shed light on women's and men's comparative levels of satisfaction with public transport services and other public infrastructure, their relative confidence in local police and the judicial system, and their perceived ability to move around freely and safely in public spaces.

<sup>39</sup> Ongena and Popov (2016) show that in transition countries with higher generalised levels of gender bias, female entrepreneurs are more likely to opt out of the loan application process even when banks do not appear to actively discriminate against women when they apply for credit.

# References

**J. Allen, R. Clark and J.-F. Houde (2014)**

“The Effect of Mergers in Search Markets: Evidence from the Canadian Mortgage Industry”, *American Economic Review*, Vol. 104(10), pp. 3365-3396.

**F. Allen, A. Demirgüç-Kunt, L. Klapper and M.S. Martinez Peria (2016)**

“The Foundations of Financial Inclusion: Understanding Ownership and Use of Formal Accounts”, *Journal of Financial Intermediation*, Vol. 27, pp. 1-30.

**A.V. Banerjee and A.F. Newman (1994)**

“Poverty, Incentives and Development”, *American Economic Review: Papers and Proceedings*, Vol. 84(2), pp. 211-215.

**T. Beck, P. Behr and A. Madestam (2014)**

“Sex and Credit: Is There a Gender Bias in Lending?”, Working Paper No. 29, Cass Business School.

**T. Beck and M. Brown (2015)**

“Foreign Bank Ownership and Household Credit”, *Journal of Financial Intermediation*, Vol. 24(4), pp. 466-486.

**T. Beck, B. Büyükkarabacak, F.K. Rioja and N.T. Valev (2012)**

“Who Gets the Credit? And Does It Matter? Household vs. Firm Lending Across Countries”, *The B.E. Journal of Macroeconomics*, Vol. 12(1), pp. 1-46.

**T. Beck, A. Demirgüç-Kunt and R. Levine (2007)**

“Finance, Inequality and the Poor”, *Journal of Economic Growth*, Vol. 12(1), pp. 27-49.

**Boston Consulting Group (2014)**

*Bridging the Entrepreneurship Gender Gap: The Power of Networks*, BCG Perspectives.

**M. Brown, B. Guin and**

**K. Kirschenmann (2016)**

“Microfinance Banks and Financial Inclusion”, *Review of Finance*, Vol. 20(3), pp. 907-946.

**M. Bruhn and I. Love (2014)**

“The Real Impact of Improved Access to Finance: Evidence from Mexico”, *The Journal of Finance*, Vol. 69(3), pp. 1347-1376.

**R. Burgess and R. Pande (2005)**

“Do Rural Banks Matter? Evidence from the Indian Social Banking Experiment”, *American Economic Review*, Vol. 95(3), pp. 780-795.

**A.K. Chatterji and R.C. Seamans (2012)**

“Entrepreneurial Finance, Credit Cards, and Race”, *Journal of Financial Economics*, Vol. 106(1), pp. 182-195.

**S. Claessens (2016)**

“Global Banking: Recent Development and Insights from Research”, *Review of Finance*, forthcoming.

**S. Claessens and L. Rojas-Suarez (2016)**

“Financial Regulations for Improving Financial Inclusion”, *Center for Global Development Task Force Report*.

**D. Collins, J. Morduch, S. Rutherford and O. Ruthven (2009)**

*Portfolios of the Poor. How the World's Poor Live on \$2 a Day*, Princeton University Press, Princeton, N.J.

**R. De Haas (2014)**

“The Dark and the Bright Side of Global Banking: A (Somewhat) Cautionary Tale from Emerging Europe”, *Comparative Economic Studies*, Vol. 56(2), pp. 271-282.

**A. Demirgüç-Kunt, L. Klapper, D. Singer and P. van Oudheusden (2015)**

“The Global Findex Database 2014: Bringing the 2 Billion Unbanked into the Financial System”, Findex Note 2014-2.

**E. Detragiache, T. Tressel and P. Gupta (2008)**

“Foreign banks in poor countries: theory and evidence”, *The Journal of Finance*, Vol. 63(5), pp. 2123-2160.

**P. Dupas and J. Robinson (2013)**

“Savings Constraints and Microenterprise Development: Evidence from a Field Experiment in Kenya”, *American Economic Journal: Applied Economics*, Vol. 5(1), pp. 163-192.

**Goldman Sachs Global Markets Institute (2014)**

*Giving Credit Where It Is Due. How Closing the Credit Gap for Women-Owned SMEs Can Drive Global Growth*.

**International Finance Corporation (2011)**

*Strengthening Access to Finance for Women-Owned SMEs in Developing Countries*, Washington, D.C.

**R.G. King and R. Levine (1993)**

“Finance and Growth: Schumpeter Might Be Right”, *Quarterly Journal of Economics*, Vol. 108(3), pp. 717-737.

**S. Ongena and A. Popov (2016)**

“Gender Bias and Credit Access”, *Journal of Money, Credit, and Banking*, forthcoming.

**R.G. Rajan and L. Zingales (1998)**

“Financial Dependence and Growth”, *American Economic Review*, Vol. 88(3), pp. 559-586.

**R.G. Rajan and L. Zingales (2003)**

*Saving Capitalism from the Capitalists*, Random House, London.

**J.X. Sullivan (2008)**

“Borrowing During Unemployment: Unsecured Debt as a Safety Net”, *The Journal of Human Resources*, Vol. 43(2), pp. 383-412.

**World Bank (2008)**

“Finance for All? Policies and Pitfalls in Expanding Access”, World Bank policy research report.

**N. Young (2016)**

“Banking and Growth: Evidence from a Regression Discontinuity Analysis”, EBRD working paper, forthcoming.



## Annex 4.1. ICT and the knowledge economy

The knowledge economy can be broadly defined as an economy that is able to grow through innovation. The knowledge economy commonly makes up a large percentage of all economic activity in developed economies, driving productivity, investment, the upgrading of skills and, ultimately, economic growth.

Information and communication technology (ICT) and the knowledge economy can also foster equality of opportunity, as the EU's "Digital Agenda" recognises.<sup>1</sup> This can be achieved, for instance, by delivering better public services, helping to reduce individuals' energy consumption and revolutionising health care. Moreover, digital financial services allow people to send and receive money to/from distant relatives and friends, enabling them and their businesses to better withstand economic shocks. In addition, eGovernment services and payments – such as social security payments made via mobile phones – can significantly reduce travel and waiting times, especially in remote rural areas, thus allowing people to spend more time earning a living.<sup>2</sup> Such services can also drastically reduce corruption and the associated costs to society. Rural areas may benefit particularly strongly from access to ICT, as improved availability of information will allow farmers to manage agricultural risks more effectively and increase productivity.<sup>3</sup>

Against that background, this annex assesses ICT infrastructure in 20 countries where the EBRD operates.<sup>4</sup> It finds that significant progress has been made with the adoption and implementation of best practices in terms of policies, legislation and regulation, as demonstrated by the growth seen in ICT services (notably as regards access to broadband, eGovernment, eCommerce and digital broadcasting).

Notwithstanding that overall progress, market conditions continue to vary widely when it comes to investment in broadband infrastructure, resulting in significant variation from country to country in terms of broadband take-up, internet usage, eGovernment services and use of eCommerce. This annex focuses on ICT infrastructure that enables consumers, organisations and businesses to participate fully in the knowledge economy – looking, for example, at electronic communications networks providing access through high-speed broadband services, as well as the market for digital services. The digital services that are most relevant to the knowledge economy include high-speed internet, eGovernment, eCommerce and digital broadcasting.

### The Digital Agenda

The EU's Digital Agenda employs a number of key policy and regulatory enablers for the ICT sector. For instance, there are clear policy objectives aimed at providing all EU citizens with access to high-speed broadband. In addition, the EU framework encourages investment and provides effective safeguards for consumers and investors by fostering competitive markets. Public funding is made available with a view to achieving universal high-speed broadband access in areas of market failure (primarily more remote rural areas, as discussed below).

Although the governments of the countries under assessment recognise the importance of investing in ICT infrastructure and services, additional commitment, investment and innovation are required in many of those countries in order to further develop knowledge economies. Furthermore, a number of key policy and regulatory enablers still need to be put in place. This assessment examines the enablers that are already in place in the countries in question and the results that have been achieved to date. It then compares them with the policies, regulatory enablers and results observed under the EU's current regulatory framework. The EU model has been chosen because it represents an achievable set of practices that have already been implemented in the ICT markets of a wide range of countries.

### Regulation of ICT infrastructure

Legal and regulatory frameworks governing ICT infrastructure markets have undergone significant changes since the latter part of the 20th century, driven by the rapid development of digital technologies and the internet. Traditional telecommunications and broadcast media services markets have been transformed by these technological developments. In particular, the traditional model involving a state-owned monopoly on telecommunications and broadcasting has been largely replaced by a more liberalised competitive supply of fixed and mobile services, in order to meet the more sophisticated demands of consumers wanting higher-quality services, greater mobility and high-speed access to a full range of internet and media services.

The pace of the ICT market's transformation has varied from country to country. One of the main determinants of the speed of the transition from monopolistic to competitive markets has been the progress made by each country's policy-makers in terms of adopting legal and regulatory frameworks that facilitate such developments. Putting in place modern digital network infrastructure with competitive service delivery requires an effective and supportive institutional framework in which all investors – whether existing operators or new market entrants – have confidence.

Following the wave of privatisations seen in the electronic communications sector since the 1980s, most investment in that sector is now carried out by private companies. In recent years, however, a parallel role for public investment has been found in the form of subsidies, subject to clear rules on state aid. Such subsidies have primarily been used to accelerate private

<sup>1</sup> See European Commission (2014).

<sup>2</sup> See Aker et al. (2016).

<sup>3</sup> See World Bank (2015).

<sup>4</sup> Namely, the four southern and eastern Mediterranean (SEMED) countries (Egypt, Jordan, Morocco and Tunisia), seven south-eastern European (SEE) countries (Albania, Bosnia and Herzegovina, Cyprus, FYR Macedonia, Greece, Montenegro and Serbia) and the six Eastern Partnership countries (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine), plus Croatia, Kazakhstan and Turkey.

investment in more remote regions, where lower commercial returns on investment would otherwise result in some citizens remaining without access to the full range of public and commercial ICT services.

## Assessment objectives

This assessment aims to support the EBRD's analysis of enablers of and impediments to investment in the ICT sector. This will lay the foundations for the development of specific programmes tailored to each individual country, which will help with the formulation of policies, the modernisation of legislation, the strengthening of the institutional base and the fostering of better conditions for investment. The emphasis here is on practical support for the modernisation of countries' regulatory frameworks, focusing on the rolling out of high-speed broadband and the attendant development of the ICT sector.

## Assessment methodology: investors' perspective

This annex examines the development of countries' ICT sectors, the legal and regulatory conditions prevailing in those countries and the penetration of broadband services, comparing them with what investors would generally consider to be good practices – namely, the average situation in an EU country. The assessment looks at the various countries' positions in the UN's world rankings on the development of eGovernment, eParticipation and eCommerce, as well as examining information published by the International Telecommunication Union (ITU) on ICT development, broadband penetration, internet usage and the affordability of ICT services.

Taken together, the various components of this comparative

analysis provide an overall assessment of the investment potential in each country. On the basis of the current gaps in ICT services, the cost of giving everyone in these 20 countries access to high-speed broadband would be in the region of €100-200 billion.<sup>5</sup>

Table A.4.1.1 describes the nine key benchmarks used in this assessment. For those benchmarks where statistical data are readily available, comparative scores are calculated using the methodology detailed in Table A.4.1.2 (where Croatia is used as an example). For the remaining benchmarks, where comparable statistical measures are not available, each country is given a score based on the conditions prevailing in that country, as summarised in Table A.4.1.3.

## Summary of results

Overall, the results show that the countries under assessment generally lag behind in terms of the development of ICT and the use of broadband services by citizens and businesses. One of the main reasons for this is the existence of a very large gap between the penetration of broadband in those countries and the average levels seen in the EU. On average, there are only 66 broadband subscriptions per 100 residents in the countries assessed, compared with 108 per 100 residents in the EU. There are also clear differences between the two in terms of the development of online services, the level of broadband infrastructure (especially in rural areas), internet usage levels and the affordability of ICT services.

At the same time, demand for broadband services remains extremely high. Total (fixed plus mobile) broadband penetration has grown at an average annual compound rate of 44 per cent since the EBRD's last assessment in 2012.<sup>6</sup> Broadband users are

TABLE A.4.1.1. Benchmarks and weights

Benchmark	Description	Weight
<b>Clarity of policy</b>	A clearly defined policy on the ICT sector and the knowledge economy involving clear targets for ICT infrastructure and broadband access (as contained in the EU's Digital Agenda, for example), with the full commitment of stakeholders	10%
<b>eGovernment</b>	Average world ranking of all EU countries in the UN's E-Government Development Index, which is a composite measure combining three aspects of eGovernment: the provision of online services, telecommunications connectivity and human capacity	10%
<b>eCommerce</b>	Average world ranking of all EU countries in UNCTAD's B2C E-commerce Index, which is a composite measure combining four indicators: internet usage, secure servers, credit card penetration and postal delivery services	10%
<b>Implementation of an enabling legal and regulatory framework for electronic communications</b>	The EU's legal and regulatory framework for electronic communications, which focuses on specific measures bringing about more effective competitive markets for consumers and investors. These include regulatory measures that contribute to consumer choice in the area of services (particularly broadband services) and competitive market safeguards for operators. The regulatory process uses a modern <i>ex ante</i> market analysis framework. The individual benchmarks used in the assessment are: ease of market entry; carrier selection/pre-selection; portability of landline and mobile numbers; liberalised international traffic; liberalised spectrum; fixed wireless services; virtual mobile services; local loop unbundling; wholesale broadband access; and the use of a competitive market analysis procedure by the regulator.	20%
<b>Digital broadcasting</b>	Liberalised market, with full switchover from analogue to digital terrestrial broadcasting completed	10%
<b>Fixed broadband take-up</b>	Average penetration rate for fixed broadband in the EU	10%
<b>Mobile broadband take-up</b>	Average penetration rate for mobile broadband in the EU	10%
<b>Internet usage</b>	Average percentage of the population using the internet in the EU	10%
<b>Affordability</b>	Average affordability in the EU on the basis of the ITU's ICT Price Basket Index, which is a composite measure combining three service baskets: landline services, mobile services and fixed broadband. Affordability is expressed as the cost of ICT services to end-users as a percentage of gross national income (GNI) per capita.	10%

Source: EBRD ICT sector assessment (forthcoming).

<sup>5</sup> The estimate depends on the desired broadband penetration (of between 50 and 100 per cent) and assumes an average capital investment cost of €1,000 per internet connection.

<sup>6</sup> See EBRD (2012).

TABLE A.4.1.2. Assessment methodology for benchmarks using statistical data

Benchmark	Method of calculation	Example for Croatia
<b>eGovernment world ranking</b> using the UN's E-Government Development Index for 2014	Average world ranking for the EU-28 divided by the country's world ranking	Average world ranking for 28 EU countries = 29.2 Croatia's world ranking = 37 Croatia's eGovernment score: $29.2/37 = 7.89/10$
<b>eCommerce world ranking</b> using UNCTAD's B2C E-commerce Index for 2014	Average world ranking for the EU-28 divided by the country's world ranking	Average world ranking for 28 EU countries = 27.5 Croatia's world ranking = 30 Croatia's eCommerce score: $27.5/30 = 9.17/10$
<b>Fixed broadband take-up</b> using ITU data on penetration per 100 residents	Penetration of fixed broadband in the country divided by average penetration in the EU-28	Fixed broadband penetration in Croatia = 23.2/100 Average fixed broadband penetration in the EU = 31.9/100 Croatia's fixed broadband take-up score: $23.2/31.9 = 7.27/10$
<b>Mobile broadband take-up</b> using ITU data on penetration per 100 residents	Penetration of mobile broadband in the country divided by average penetration in the EU-28	Mobile broadband penetration in Croatia = 75.4/100 Average mobile broadband penetration in the EU = 75.7/100 Croatia's mobile broadband take-up score: $75.4/75.7 = 9.96/10$
<b>Internet usage</b> based on ITU data on the percentage of the population who use the internet	Internet usage in the country divided by average internet usage in the EU-28	Internet usage in Croatia = 69.8% Average internet usage in the EU = 79.6% Croatia's internet usage score: $69.8/79.6 = 8.77/10$
<b>Affordability</b> using ITU data on the cost of ICT services to end-users as a percentage of GNI per capita	Average cost in the EU-28 divided by the cost in the country	Average cost in EU countries = 1.7% of GNI per capita Cost in Croatia: 1.5% of GNI per capita Croatia's affordability score: $1.1/1.7 = 6.47/10$

Source: EBRD ICT sector assessment (forthcoming).

TABLE A.4.1.3. Assessment methodology for benchmarks not using statistical data

Benchmark	Criteria	Method of calculation
<b>Clarity of policy</b>	<ul style="list-style-type: none"> <li>- Existence of a clearly defined and published policy for the ICT sector and the knowledge economy</li> <li>- Stakeholders fully consulted and committed</li> <li>- Clear targets for ICT infrastructure and broadband access</li> </ul>	Score awarded out of 10
<b>Implementation of an enabling legal and regulatory framework for electronic communications</b>	<ul style="list-style-type: none"> <li>- Implementation of a legal framework for electronic communications that is in line with the standards applied by the EU</li> <li>- Full ex ante competitive market analysis</li> <li>- Ease of market entry</li> <li>- Carrier selection/pre-selection available</li> <li>- Landline numbers portable</li> <li>- Mobile numbers portable</li> <li>- Full infrastructure-sharing mandatory</li> <li>- Permits and rights of way easy to grant</li> <li>- International traffic liberalised</li> <li>- Spectrum liberalisation, including usage neutrality</li> <li>- Availability of fixed wireless access</li> <li>- Virtual mobile services available</li> <li>- Local loop unbundling available</li> <li>- Wireless broadband access available</li> </ul>	Score awarded out of 20
<b>Digital broadcasting</b>	<ul style="list-style-type: none"> <li>- Commencement of digital terrestrial broadcasts</li> <li>- Analogue switch-off completed</li> </ul>	Score awarded out of 10

Source: EBRD ICT sector assessment (forthcoming).

also demanding higher speeds and improvements in quality as ICT markets develop.

All of the countries under assessment are developing eGovernment as a means of improving access to public services and increasing the efficiency of their delivery. Meanwhile, businesses in those countries are increasingly adopting online eCommerce models in the interests of efficiency and competitiveness. However, on the basis of their world rankings for eGovernment and eCommerce, those countries continue to lag behind their neighbours in the EU. In the area of eCommerce, there is a need for legal safeguards to ensure privacy and online security, with greater involvement in online payments on the part of the banking sector, in order to foster greater confidence among users and encourage participation. There is also a general need to improve the scope and efficiency of eGovernment services and promote their use.

The most important step now is to reduce the “broadband gap” between the countries under assessment and EU averages. The EU has been successful in terms of achieving high levels of broadband penetration. Fixed and mobile broadband services are already available to 97 per cent of EU citizens and premises, and one aim of the Digital Agenda initiative is for all citizens to have access to high-speed broadband (with speeds in excess of 30 Mbps) by 2020. The countries of the EU have also implemented a common legal and regulatory framework that promotes effective competitive markets. Finally, the EU uses innovative implementation and funding models that boost infrastructure investment in its more remote rural areas. EU countries have plenty of experience of using cost-efficient rural investment models and innovative public-private funding models.

In the EBRD region, although demand is generally being met in urban areas in increasingly competitive conditions,

the investment required to extend high-speed broadband infrastructure into less profitable rural areas is not yet being provided. Effective access to ICT markets requires high-speed broadband infrastructure based on next-generation technologies (mainly fibre backbone networks with fibre/VDSL or 4G/LTE<sup>7</sup> for customer access). All countries need to invest more in high-speed broadband infrastructure, yet many countries still lack a number of key enablers.

In this regard, the main broad recommendations of this assessment are as follows:

1. National policies for the ICT sector should continue to emphasise the importance of a knowledge-based economy for the achievement of sustainable growth and benefits to society. Legal and regulatory frameworks should foster the development of ICT, establishing conditions that will allow all citizens and businesses to be given online access to public services and commercial markets via competitive modern broadband services.
2. The development of eGovernment services should be continued, with a particular focus on promoting the full use of online public services by consumers and businesses. Progression from simple accessing of information to interactive use will lead to significant efficiencies in the delivery of public services. Similarly, all enablers required to foster confidence in eCommerce should be put in place. These include the protection of users' data, in preparation for the significant increase in eCommerce that can be expected as a result of increasing credit card ownership and improvements in postal delivery services. Specific assistance should be given to small and medium-sized enterprises when it comes to adopting ICT services and acquiring digital skills.
3. All enablers fostering investment in essential ICT infrastructure should be put in place with a view to achieving universal access to high-speed broadband. The key enablers are as follows:
  - a) A clear broadband policy, with clearly defined targets (such as universal access to high-speed broadband).
  - b) A clear national broadband plan which sets out specific legal and regulatory enablers, implementation measures and timetables for efficient investment, making full use of competitive markets. That plan should also specify the public and private stakeholder participation that is required to meet the universal targets set out in the relevant broadband policy.
  - c) Specific broadband infrastructure projects in rural areas, with full stakeholder participation, with a view to bringing modern competitive broadband services to citizens and businesses in more remote areas.

Detailed recommendations for each country are contained in a forthcoming assessment report. Table A.4.1.4 summarises the priority areas for the various countries.

TABLE A.4.1.4. Priority areas for individual countries

	Clear policy and targets	National broadband plan with specific enablers fostering investment in infrastructure	Projects serving rural areas
Egypt	Medium	High	High
Jordan	High	Medium	High
Morocco	Medium	Medium	High
Tunisia	High	Medium	High
Albania	Medium	High	High
Bosnia and Herz.	High	High	High
Cyprus	Low	Low	Medium
FYR Macedonia	High	Medium	High
Greece	Low	Low	Medium
Montenegro	Low	Medium	High
Serbia	Low	High	High
Armenia	High	High	High
Azerbaijan	High	High	High
Belarus	Medium	High	High
Georgia	Medium	Medium	High
Moldova	Medium	Medium	High
Ukraine	High	High	High
Croatia	Low	Low	Medium
Kazakhstan	High	High	High
Turkey	High	Medium	High

Source: EBRD ICT sector assessment (forthcoming).

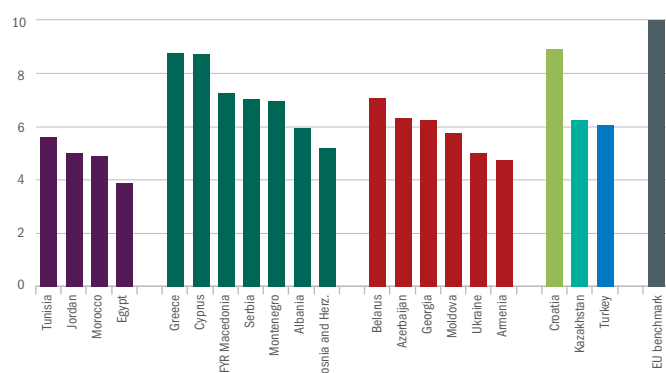
## Country scores

Chart A.4.1.1 presents the countries' overall ICT scores, using the average level of development in the EU (which corresponds to a score of 10) as a benchmark. The overall assessment score represents a combination of a number of components, as outlined in Tables A.4.1.2 and A.4.1.3 (namely a clear policy framework, eGovernment, eCommerce, the legal and regulatory framework, digital broadcasting, fixed broadband, mobile broadband, internet usage and affordability).

Croatia, Cyprus and Greece, as EU countries, have the requisite legal and regulatory framework, which is the factor with the most weight in terms of the calculation of the overall ICT score (accounting for 20 per cent of the total). In addition, Albania, FYR Macedonia and Montenegro have also managed to align their regulatory frameworks for electronic communications fairly well with the standards applied in the EU. Bosnia and Herzegovina and Serbia have implemented the EU's 2003 framework, but have yet to fully adopt its 2009 framework. Meanwhile, Georgia, Moldova and Turkey have already implemented many of the features of the 2009 framework, and Armenia, Jordan, Morocco and Tunisia are broadly in line with the 2003 framework. The legal frameworks of Azerbaijan, Belarus, Egypt, Kazakhstan and

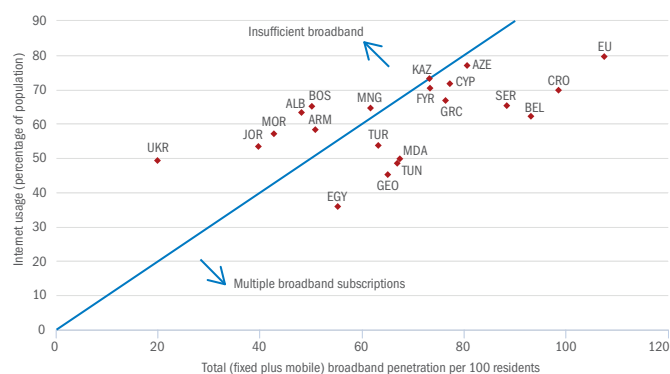
<sup>7</sup> VDSL: very-high-bit-rate digital subscriber line. LTE: long-term evolution.

CHART A.4.1.1. ICT sector assessment scores



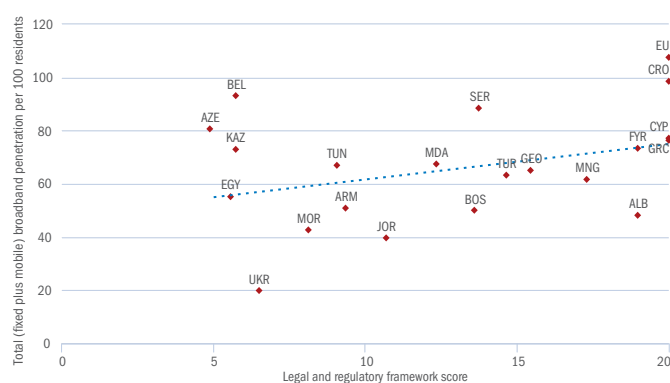
Source: EBRD ICT sector assessment (forthcoming).

CHART A.4.1.2. Broadband penetration and internet usage



Source: EBRD ICT sector assessment (forthcoming).

CHART A.4.1.3. Legal framework for ICT and broadband penetration rates



Source: EBRD ICT sector assessment (forthcoming).

Ukraine, on the other hand, differ significantly from that of the EU.

In the area of eGovernment, there is a wide range of scores, reflecting the differing levels of development in the various countries. Tunisia is ranked 72nd in the world, ahead of Albania (82nd), Morocco (85th), Armenia (87th), Jordan (91st), Bosnia and Herzegovina (92nd) and Egypt (108th). Azerbaijan, Georgia, Ukraine, Cyprus, Moldova, Turkey and FYR Macedonia are ranked between 56th and 69th, while Kazakhstan, Croatia, Serbia, Greece, Belarus and Montenegro are ranked between 33rd and 44th. The average ranking for EU countries is 29th.

When it comes to eCommerce, the non-EU countries are generally not so well developed. The four SEMED countries, plus Montenegro, Bosnia and Herzegovina, Georgia, Armenia and Kazakhstan are ranked between 73rd and 88th in the world. Serbia, Ukraine, Moldova, Albania, Azerbaijan and Belarus are ranked between 52nd and 62nd, while Croatia, Cyprus, FYR Macedonia, Greece and Turkey are all ranked in the top 50 in the world. Croatia, at 30th, sits just below the EU average of 27th. Countries with lower rankings for eGovernment and eCommerce (such as the SEMED countries) tend to also have lower levels of broadband penetration. Besides limitations on access, lower levels of eCommerce activity and eParticipation are also linked to a relative lack of confidence in online transactions, lower levels of participation in online payments on the part of banks and generally inferior digital skills among businesses and citizens.

All of the countries under assessment have internet usage levels that are lower than the EU average (which stands at around 80 per cent). All of the SEE countries have internet usage levels in excess of 60 per cent, as do Croatia and Kazakhstan. Egypt, Georgia, Moldova, Tunisia and Ukraine all have usage levels of less than 50 per cent.

Although broadband markets (both fixed and mobile) are growing fast in all countries, broadband penetration varies widely from country to country, with levels generally lower than those observed in the EU. Albania, Armenia, Bosnia and Herzegovina, Jordan, Morocco and Ukraine have the lowest levels of broadband penetration at less than half of the EU average. Only Belarus, Croatia and Serbia have levels approaching the EU average. In the remaining countries, broadband penetration rates are between 50 and 80 per cent of the EU figure.

Internet usage tends to be higher where broadband penetration is higher (see Chart A.4.1.2). In a number of countries (Albania, Bosnia and Herzegovina, Jordan, Morocco and Ukraine) internet usage significantly exceeds broadband penetration (see the dots above the line), whereas the opposite is true in the EU. This indicates that existing broadband infrastructure and services are not sufficient to serve all internet users individually, with the result that multiple users share broadband subscriptions. In contrast, other countries (notably Belarus, Croatia, Egypt, Georgia, Moldova, Serbia and Tunisia) have broadband penetration that significantly exceeds internet usage, indicating that internet users are taking out more than one broadband subscription.

Countries with more supportive legal frameworks tend to have higher broadband penetration rates (see Chart A.4.1.3), although



some countries (notably Azerbaijan, Belarus and Kazakhstan) have achieved relatively high levels of broadband penetration by means of state-led, more monopolistic approaches to infrastructure investment, with subsidies used to keep retail prices relatively low. In contrast, other countries (notably Albania and Montenegro) have adopted legal and regulatory frameworks that foster competition and investment, but not yet achieved good levels of broadband penetration. In these countries, the prices of ICT services are still relatively high.

Only Cyprus, Greece, Kazakhstan and Turkey have fixed broadband service prices that are as affordable as in the EU, where average fixed broadband penetration (32 connections per 100 residents) is achieved at a relatively low cost to users (around 1.1 per cent of GNI per capita). Some of the assessed countries with relatively low fixed broadband prices (such as Belarus, Croatia, Cyprus and Greece) have high levels of fixed broadband penetration (see Chart A.4.1.4). In contrast, Moldova has achieved good levels of fixed broadband penetration (16 connections per 100 residents), but at a relatively high cost to users (around 6 per cent of GNI per capita). Ukraine has low levels of fixed broadband penetration (fewer than 12 connections per 100 residents), despite relatively low prices (less than 2 per cent of GNI) being charged to users.

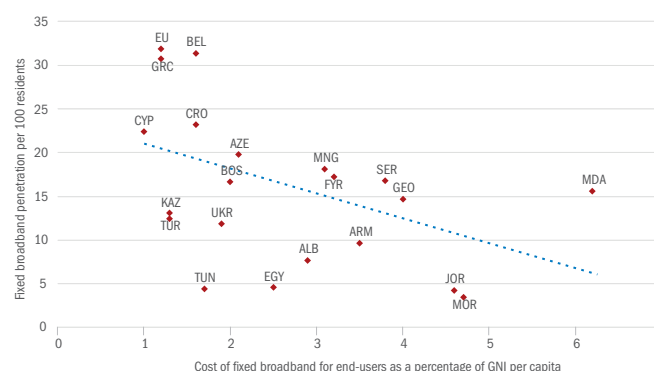
## Conclusion

The 20 countries under assessment vary widely in terms of access to ICT services. Broadband penetration levels range from 20 to 98 per cent of the population. In terms of the development of ICT services, those countries' world rankings for eGovernment and eCommerce range from 30th to 108th. Internet usage ranges from 36 to 77 per cent of the population, while the cost of fixed broadband services varies widely, ranging from around 1.1 to around 6 per cent of GNI per capita.

The relative positions of the various countries are summarised in Chart A.4.1.5. The countries in the central white area have an average level of broadband services and an average level of ICT development, while Belarus, Croatia, Cyprus, Greece and Serbia in the top right-hand corner have high levels of broadband penetration and ICT development. In contrast, Albania, Egypt, Jordan, Morocco and Ukraine in particular are under-achieving in terms of both broadband penetration and ICT development.

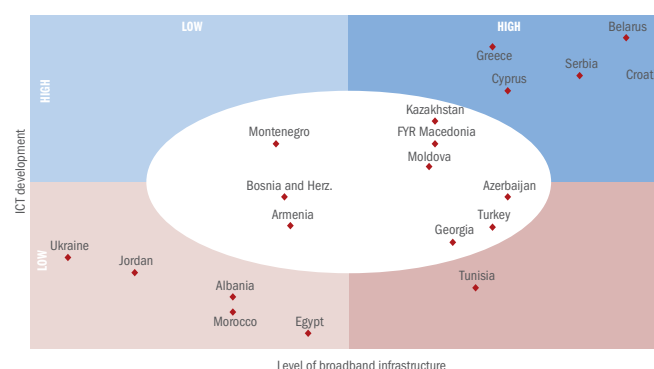
The relationships between the development of ICT, broadband penetration, the affordability of ICT services and internet usage are complex, and there is no single determinant of the effectiveness of ICT markets. The key enablers appear to be broadband infrastructure (as reflected in the penetration rates for fixed and mobile broadband) and the competitiveness of the market (underpinned by a sound legal and regulatory framework). Countries that score highly in terms of these key enablers appear to enjoy higher levels of ICT development and provide more affordable internet services covering more of the population. Other factors also play a role, including the development of eGovernment and eCommerce – which are, in turn, linked to the level of broadband penetration.

CHART A.4.1.4. Fixed broadband prices and penetration rates



Source: EBRD ICT sector assessment (forthcoming).

CHART A.4.1.5. Broadband infrastructure and ICT development



Source: EBRD ICT sector assessment (forthcoming).

## References

**J. Aker, R. Boumijel, A. McClelland and N. Tierney (2016)**

"Payment Mechanism and Anti-Poverty Programs: Evidence from a Mobile Money Cash Transfer Experiment in Niger", *Economic Development and Cultural Change*, forthcoming.

**EBRD (2012)**

*Electronic Communication Sector Comparative Assessment*.

**European Commission (2014)**

*The European Union Explained: Digital Agenda for Europe*.

**World Bank (2015)**

"Supporting Women's Agro-Enterprises in Africa with ICT", World Bank Group Report No. 93077-AFR.