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**Research Report**

## Access to finance in the Western Balkans

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## Occasional Paper Series

Isabella Moder, Niccolò Bonifai **Access to finance in the  
Western Balkans**

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# Abstract

Limited access to finance is one of the main obstacles for firms located in the Western Balkans and hampers economic growth as well as the transmission of monetary policy. The aim of this paper is to undertake an in-depth analysis of access to finance constraints in this region, where countries as EU candidates or potential candidates have a prospect of joining the European Union. Besides touching upon macroeconomic and banking sector indicators that influence access to finance, this paper empirically assesses firm-level factors that determine whether a firm operating in the Western Balkans is credit-constrained, both in actual and perceived terms. In line with the literature, the results suggest that size, age, location, being audited, having outstanding loans and expectations about future performance matter for actual credit availability. The econometric analysis is complemented by a review of the Western Balkan countries' Economic Reform Programmes, which indicate that financing constraints are tackled by most national authorities through specific policy measures, mostly for small and medium-sized enterprises.

**Keywords:** financing constraints, SMEs, economic development

**JEL codes:** E22, G30, O16

## Non-technical summary

Surveys among companies in the Western Balkans suggest that limited access to finance is one of the main obstacles for firms in doing business, and has serious implications for economic growth and hampers the transmission of monetary policy. Therefore, this paper aims to analyse access to finance constraints in the Western Balkans, where countries as EU candidates or potential candidates have a prospect of joining the European Union.

Comparing banking sector and macroeconomic characteristics of the Western Balkans with those of the countries in central, eastern and south-eastern Europe that have joined the European Union since 2004 and with the euro area shows that the Western Balkans score worse in many areas that have been found to be conducive to easier financing conditions in the literature.

Stylised facts based on the Business Environment and Enterprise Performance Survey (BEEPS) of the European Bank for Reconstruction and Development (EBRD) reveal that limited access to finance in the Western Balkans is indeed a serious constraint on doing business and has even worsened over time for some countries. More specifically, high real interest rates seem to be constraining credit in the majority of cases, followed by a number of other constraints such as complex application procedures or high collateral requirements. The subjective assessment of firms in the Western Balkans also points towards access to finance constraints, although the correlation between real and perceived constraints is not straightforward.

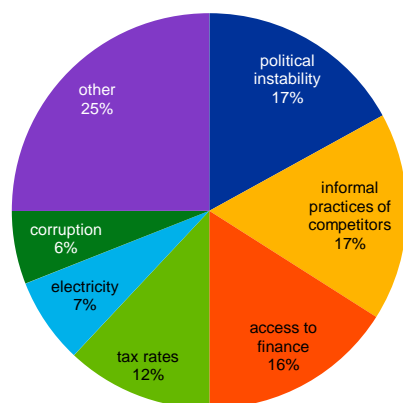
The empirical tests on firm-level access to finance constraints show that small and medium-sized enterprises (SMEs) and firms that are young, not audited and located outside the capital cities are particularly affected by financing constraints. By contrast, firms that expect growth in their operations or have an outstanding loan are more likely to obtain credit with reasonable conditions. The results obtained are mostly in line with the literature, with the exception that no significant effects of certain ownership characteristics such as foreign or state ownership can be found.

A comparison of banking sector, macroeconomic and micro-level determinants and analysis based on the countries' policy responses reveal that most countries in the Western Balkans acknowledge that access to finance constraints exist. To tackle these constraints, especially for SMEs, they are planning or have already implemented concrete measures, such as setting up state-funded loan facilities or guarantee schemes in collaboration with commercial banks. Furthermore, there are a number of other structural measures planned (e.g. non-performing loan (NPL) resolution, improving public governance, strengthening property rights, increasing judicial efficiency), which might also be conducive to improving access to finance in the medium-to-long run.

# 1 Introduction and motivation

**Chart 1**  
Major obstacles for firms located in the Western Balkans

(percentage of respondents)



Sources: EBRD BEEPS V and authors' calculations.

Access to finance is a major concern in Western Balkan economies<sup>1</sup> as well as in many other emerging economies. In a survey of top managers and business owners in the Western Balkans conducted between 2012 and 2014 (the EBRD's BEEPS survey, which is discussed in detail below), the issue ranked amongst the biggest obstacles to doing business, with 16% of respondents reporting "Access to finance" to be the most severe obstacle to their daily operations, being more serious than problems such as taxation and corruption (Chart 1). More recently, the World Economic Forum's Global Competitiveness Report 2016-2017 (World Economic Forum, 2016) has confirmed that in a global comparison, most Western Balkan countries rank relatively poorly in the categories "Ease of access to loans" and "Affordability of financial services" (Table 1).

Access to finance typically refers to the availability of good-quality financial services at a reasonable cost (Claessens and Tzioumis, 2006). Firms or households seek financing to overcome liquidity constraints, use it as a buffer for daily operations or finance short and/or long-term investments, or – more generally – to realise growth potential. Companies may resort to either internal financing by utilising existing profits as a source of capital for new projects, or external financing from outside the firm.

**Table 1**  
World Economic Forum Global Competitiveness Ranking 2016-17

(rank out of 138 countries)

	Albania	Bosnia and Herzegovina	FYR Macedonia	Montenegro	Serbia
<b>Ease of access to loans</b>	106	68	45	97	73
<b>Affordability of financial services</b>	92	115	60	104	124

Source: World Economic Forum (2016).

Notes: Kosovo is not included in the ranking. "Ease of access to loans" refers to the question "In your country, how easy is it for businesses to obtain a bank loan?" and "Affordability of financial services" refers to the question "In your country, to what extent does the cost of financial services (e.g. insurance, loans, trade finance) impede business activity?"

When internal financing is not possible for whatever reason, bank lending becomes the only viable channel for firms to access funds in countries with underdeveloped financial markets, given the absence of the option to issue corporate bonds. Therefore, a restriction in terms of access to finance can severely constrain a firm's

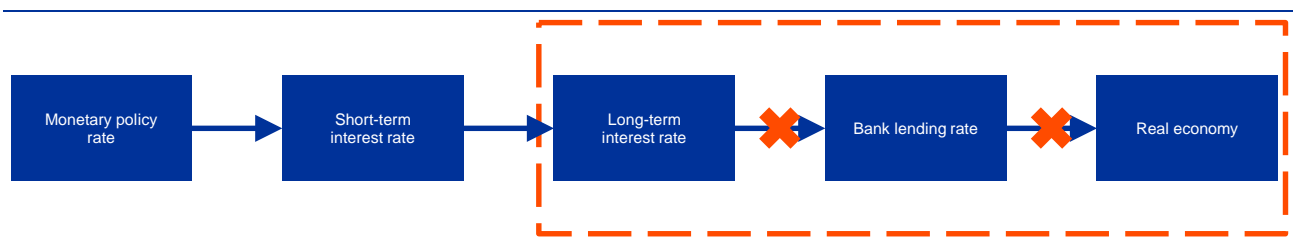
<sup>1</sup> Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Montenegro, Kosovo\* and Serbia. \* This designation is without prejudice to positions on status and is in line with the United Nations Security Council Resolution 1244 and the International Court of Justice's Opinion on the Kosovo Declaration of Independence.

operations and its ability to expand and serve more markets. Easing credit constraints therefore constitutes a pressing challenge for policymakers, as limited financial access has broader implications on the macroeconomic side.

First and foremost, limited access to finance represents a major hurdle for economic development, particularly in emerging economies that are often characterised by underdeveloped financial markets. The interplay between finance and growth has been subject to a wide academic debate dubbed the “finance-growth nexus”. Finance, as a whole, plays a range of different roles which support economic growth. It mitigates market frictions by reducing transaction costs and facilitates the exchange of goods and services via improved payment mechanisms. Moreover, it promotes the efficient allocation of resources within and across markets as it pools savings across various sectors and channels those funds through borrowing schemes to support investment opportunities that in turn stimulate economic development (see Levine, 2005; Lawrence, 2006). While the recent literature suggests that there might be some threshold above which financial depth no longer has a positive effect on growth (see e.g. Arcand et al., 2015, who estimate a private sector credit-to-GDP threshold of 100%), empirical evidence mostly supports the positive relationship between finance and growth for emerging markets, where the private sector in terms of GDP is usually much smaller (Barajas et al., 2013). Therefore, if for some reason enterprises experience finance constraints, this can have major economic consequences (see e.g. Leitner, 2015, who finds that credit-constrained firms have a lower employment growth rate than unconstrained firms). Unlocking credit and enabling firms to access credit facilities might have positive implications for economic development (see e.g. Levine and Warusawitharana, 2014, who argue that an increase of debt can lead to future increases in total factor productivity). Furthermore, it has been found that countries with a higher level of economic development report lower financing obstacles (see e.g. Beck et al., 2005, and Afandi and Kermani, 2014), which points to the existence of a virtuous circle in which finance prompts growth which then enables even more access to finance in the economy.

Besides having a direct effect on growth, limited access to finance might indirectly constrain economic development by hampering the transmission of monetary policy. Figure 1 below depicts in simplified form the credit channel of the monetary policy transmission mechanism.

**Figure 1**  
Simplified depiction of the credit channel of the monetary policy transmission mechanism



The impact of monetary policy decisions on the real economy is transmitted in several stages. In the case of an expansionary monetary policy shock, standard theory suggests that more and cheaper credit is provided to the economy to stimulate output growth. However, if a change in the monetary policy rate does not smoothly transmit through to lower bank lending rates and/or an expansion of the loan volume, the credit channel can be regarded as hampered, irrespective of any changes on the loan demand side. Hence, if banking institutions are for some reason reluctant to lend, they may de facto constrain the transmission mechanism in an environment of favourable monetary conditions, limiting, on the one hand, firms' access to financial resources hampering their ability to spur economic growth and, on the other hand, a central bank's monetary policy effectiveness.

The aim of this paper is to conduct an in-depth analysis of access to finance constraints and policy responses in the Western Balkans, or, more specifically, the EU candidate countries and potential candidate countries that are located in this region. Besides touching upon macro-financial factors that influence access to finance at the industry and country levels, a detailed analysis of the firm-level factors that determine whether a firm operating in the Western Balkans is credit-constrained is undertaken. At the banking sector and macroeconomic levels, the Western Balkans score poorly on many factors that have been found in the literature to be conducive to easier financing conditions. Based on survey data from the EBRD, this paper finds that, in line with the literature, size, age and geographical location are all significant firm-level determinants of access to finance constraints in the Western Balkans. Moreover, expected future operational growth, being audited and already having an outstanding loan improve the ability to obtain external finance with reasonable conditions. Additionally, connecting the empirical findings with the countries' policy responses suggests that most countries are aware of access to finance constraints and are trying to remove them through concrete measures.

This paper is structured as follows: Section 2 reviews the relevant literature, Section 3 gives an overview of the banking sector and country-level determinants in the Western Balkans compared with the euro area and the EU11<sup>2</sup>, Section 4 consists of an empirical assessment of firm-level determinants, Section 5 analyses how access to finance is currently being addressed on the policy side and Section 6 concludes.

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<sup>2</sup> The EU11 refers here to the EU Member States that joined the European Union in 2004, 2007 and 2013, excluding Cyprus and Malta, i.e. Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia.



## 2 Literature review

Empirically measuring access to finance is not straightforward due to the complexity of capturing the multiple dimensions of access to finance (IMF, 2015). By definition, firms are financially constrained when they are unable to support future investments via internal mechanisms and are required to seek funds elsewhere (Beck et al., 2006). In evaluating access to finance, it is therefore necessary to identify constrained firms as those which are unable, for any reason, to actually gain access to credit, rather than those which merely do not seek such access or even use external financing (EBRD, 2014). The somewhat broad definition has made it difficult to establish a robust method to measure the level of financial restrictions for research purposes.

For large firms with more than 250 employees, this could be easier as financial statements might provide sufficient data to assess the level of financial outreach (Claessens and Tzioumis, 2006; Kaplan and Zingales, 1997). However, SMEs are not required to publish as much information as larger companies, thus rendering data scarcer, particularly in economies dependent on SMEs and with low levels of financial development. Hence, using publicly available information may bias results, as data would put greater emphasis on larger firms. In the last decade, however, the literature has expanded to include cross-country firm-level surveys, providing an increasingly reliable source of information for measuring the depth of the problem. In fact, surveys facilitate the retrieval of a broad range of data, notably factual or attitude-based, which can be easily replicated to an infinite number of respondents. Furthermore, given the low levels of available financial data in many emerging transition economies, survey-based research becomes vital, particularly with regard to SMEs.<sup>3</sup>

A considerable body of literature has been devoted to assessing the micro- and macro-level characteristics of access to finance constraints. The most influential research in the past few years has been the extensive work carried out by the World Bank (see Beck et al., 2004, Beck et al., 2005, and Beck et al., 2006). By using firm-level data on a global sample of over 40 developed and developing countries, it was repeatedly found that out of all of the firm-level characteristics, small, young and domestically owned firms are the most affected by financial constraints, regardless of the geographical location of operation. Small firms (either measured as the number of employees or in terms of sales) tend to face larger obstacles in obtaining finance than medium-sized or large firms (see e.g. Schiffer and Weder, 2001, and Kuntchev et al., 2014). This seems to be the case especially in emerging markets, whereas the

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<sup>3</sup> Since 2009 the ECB has run the biannual “Survey on the Access to Finance of Enterprises” (SAFE) in order to assess financing conditions for SMEs in comparison to large enterprises during the previous six months in the European Union. A more comprehensive survey has been run every year since 2013 in cooperation with the European Commission. Details of the SAFE can be found on the [ECB's website](#). The SAFE is complemented by the “Euro area bank lending survey” (BLS), which collects data on the supply and demand conditions in the euro area credit markets and provides information on the lending policies of euro area banks. It was launched in 2003 and is conducted four times a year. Details of the BLS can be found on the [ECB's website](#).

effect is smaller in developed economies (see Beck et al., 2006). In addition to the size of a company, age is a significant determinant, but the correlation with access to finance is not straightforward. Younger firms are considered to be the most exposed category typically because they tend to be small and to have larger information asymmetries, although this relationship appears to weaken as age increases, hence not following a perfectly linear pattern. In fact, Leitner (2015) finds that age has a non-linear U-shaped trend, meaning that age may turn out to have a negative effect, increasing overall financing constraints, as firms become older. Unlike for firm size, age also appears to be a more important determinant for developed economies (see e.g. ECB, 2015). Another significant characteristic is ownership, where it has been found that foreign-owned firms fare better than domestically owned ones, as these are usually more capable of signalling to banks their capacity to innovate (Gorodnichenko and Schnitzer, 2013) or have easier access to finance through international sources (see Beck et al., 2005). Similarly, government-owned enterprises also seem to be less constrained as a result of their special status (see Beck et al., 2005).

Besides these characteristics, Thomadakis (2016) finds that publicly listed and single-owned enterprises are more likely to face obstacles in obtaining external finance, whereas audited and innovative firms are less likely. Additionally, a change in a firm's outlook (with respect to sales or profit) seems to have asymmetrical effects: while a deteriorating outlook increases access to finance constraints, an improvement does not seem to matter in the credit approval process (Leitner and Stehrer, 2015). Last but not least, there is evidence that banks rely on previous bank loan histories in their approval processes, as SMEs that previously obtained a bank loan are almost 80% less likely to face stronger funding constraints (Leitner and Stehrer, 2015).

Firm-level determinants cannot, however, entirely explain the situation regarding access to finance: the structure and condition of the banking sector also affect how easily firms can obtain credit. A higher share of NPLs, proxied by the ratio of loan-loss reserves to total loans, leads to a lower probability of banks being willing to lend to firms (Thomadakis, 2016). With regard to the degree of banking sector competition, Beck et al. (2004) find that in more concentrated banking systems, small firms in particular face higher access to finance constraints; however, this relationship seems to weaken if more foreign-owned banks are present in the market. On the contrary, according to Thomadakis (2016), firms face less difficulty if they operate in a more concentrated banking system. Furthermore, tighter capital requirements as well as a larger presence of foreign banks worsen access to finance, as foreign banks might engage in "cherry-picking" behaviour and only lend to the largest and most transparent firms (Thomadakis, 2016). On the other hand, innovative banks which are able to drive monitoring and information asymmetry costs down through micro-finance tools, for example, can expand lending operations to opaque small and micro establishments (Kerr and Nanda, 2009).

Furthermore, at the country level, a survey of EU firms developed by the European Central Bank (ECB, 2015), called the "Survey on the Access to Finance of Enterprises" (SAFE), finds that access to finance obstacles diminish as financial

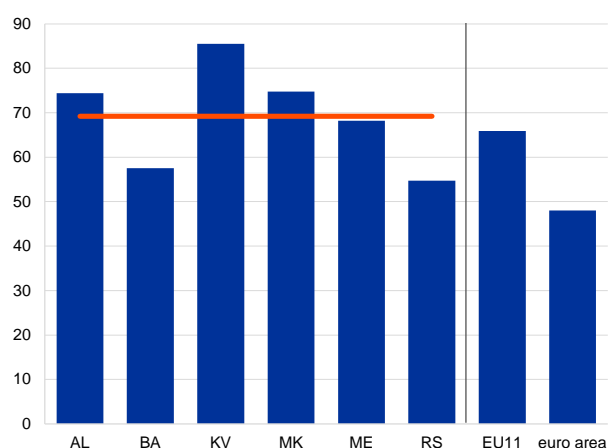
systems become more developed. In fact, firms which operate in countries with high levels of financial intermediary development and high levels of GDP per capita encounter lower financing obstacles overall (Beck et al., 2005; Afandi and Kermani, 2014). Similarly, higher levels of private credit-to-GDP ratios result in overall greater financial access (Kuntchev et al., 2014). Besides the level of economic development, changes in the business cycle and monetary policy decisions naturally also shape the availability of credit at a specific point in time (see e.g. Kashyap et al., 1993). Furthermore, a country's institutional development, degree of corruption, strength of legal rights (e.g. collateral and bankruptcy laws) and other structural factors determine the degree to which the rights of borrowers and lenders are protected (Leitner, 2015; Beck et al., 2005; Beck et al., 2006).

### 3 Overview of macroeconomic and banking sector indicators

The model used for the econometric analysis in the remainder of the paper focuses on micro-level firm characteristics and controls for cross-country heterogeneity only by including country dummies.<sup>4</sup> However, as discussed in the literature review above, banking sector and macroeconomic conditions also shape the ability of firms to obtain external finance. Therefore, a few banking sector and macroeconomic indicators are depicted in order to get a glimpse of the current macro-financial conditions in the Western Balkans compared with the euro area and the EU11.

**Chart 2**  
Bank concentration

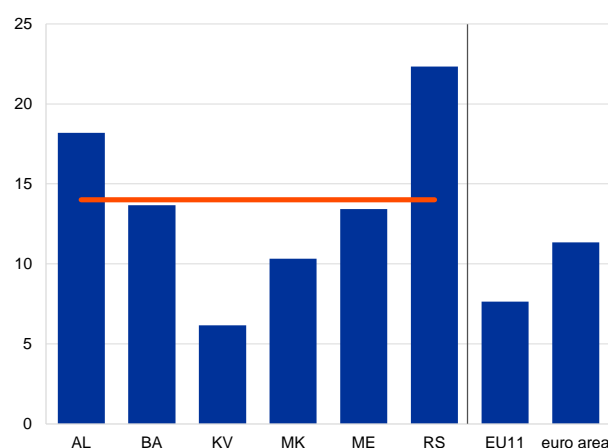
(unweighted average of the share of assets of the five largest banks as a percentage of total assets, 2016)



Sources: ECB banking structural financial indicators (SSI dataset), national authorities and authors' calculations.  
Note: AL stands for Albania, BA for Bosnia and Herzegovina, KV for Kosovo, MK for the former Yugoslav Republic of Macedonia, ME for Montenegro and RS for Serbia.

**Chart 3**  
Non-performing loans

(unweighted average of non-performing loans over total loans in percentages, 2015)



Sources: World Bank World Development Indicators (WDI) and authors' calculations.

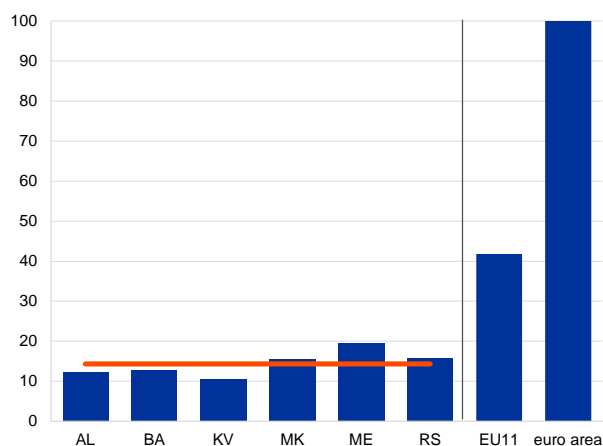
As previously discussed, the effect of banking sector concentration on access to finance is ambiguous in the literature. On average, concentration measured as the share of assets of the five largest banks in total assets is denser in the Western Balkans than in the EU11 and especially the euro area (Chart 2), despite the fact that in some countries the number of banks present in the market is fairly large compared with population size. In the Western Balkan countries, the concentration rates are heterogeneous, ranging from 55% in Serbia up to almost 86% in Kosovo. With regard to NPLs, which might impinge on banks' willingness to provide credit in the Western Balkans, especially to riskier companies or younger firms with no credit history (Thomadakis, 2016), the ratio in the Western Balkans was elevated in 2015 at an average of 14% (Chart 3), which is higher than the level of both the euro area

<sup>4</sup> As only the Western Balkans are covered, the sample size of six countries is too small to control for country and industry-level characteristics.

and the EU11. Again, in the Western Balkans the ratio of NPLs to total loans varies to a considerable extent, with the highest ratio in Serbia (22% at end-2015).

**Chart 4**  
GDP per capita

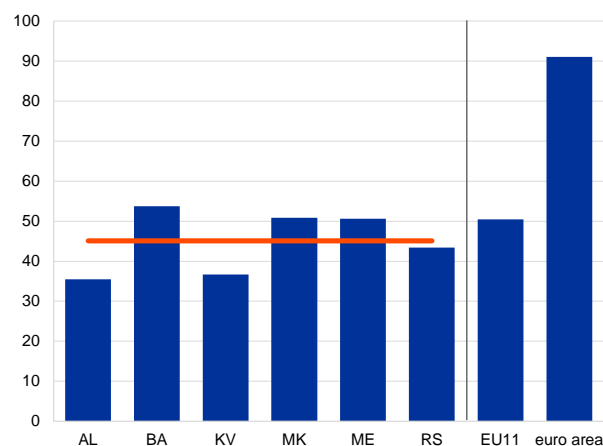
(unweighted averages as a % of average euro area GDP, 2016)



Sources: IMF World Economic Outlook (WEO) and authors' calculations.  
Note: For Kosovo, GDP per capita as of 2015.

**Chart 5**  
Domestic credit to the private sector

(unweighted averages as a % of GDP, 2015)



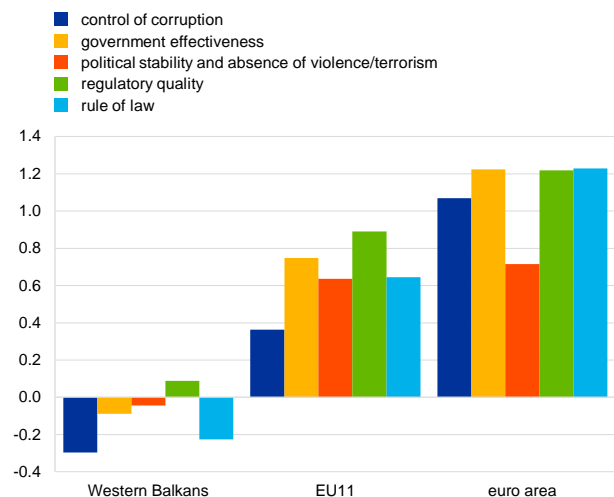
Sources: World Bank WDI and authors' calculations.  
Note: Cyprus is excluded from the euro area aggregate.

With regard to the macroeconomic indicators mentioned in Section 2, higher levels of GDP per capita and greater financial deepening (particularly in terms of higher ratios of domestic credit to the private sector) are significant factors that contribute to reducing financing constraints. GDP per capita in the Western Balkans is relatively similar across countries and is, on average, only 14% of the euro area average (as opposed to 42% for the EU11; see Chart 4), which might have negative effects on access to finance (Beck et al., 2005; Afandi and Kermani, 2014). Similarly, the level of financial intermediation in the Western Balkans, with an average of 45% of GDP for domestic private sector credit, is just a little more than half as deep as in the euro area (Chart 5), where it accounts for 82%<sup>5</sup>, thus leaving ample room for financial deepening in the convergence process, especially for Albania and Kosovo which have the lowest levels within the Western Balkans. For this indicator, the difference of the average value in the Western Balkans from the average of the EU11, where credit to the private sector equals 50% of GDP, is only minor.

<sup>5</sup> This aggregate excludes Cyprus, which has a ratio of 248% and thus can be regarded as an outlier.

**Chart 6**  
Governance indicators

(unweighted average of units of a standard normal distribution, 2015)



Sources: World Bank Worldwide Governance Indicators and authors' calculations.

As a proxy for structural factors and institutional development, the World Bank's Worldwide Governance Indicators are included as unweighted averages for each country aggregate and the average of all sub-categories. Here, the euro area scores best on the overall measure, with a score of 1.8 points, followed by the EU11 with 0.7 point and the Western Balkans with -0.1 point<sup>6</sup> (see Chart 6; for a more detailed benchmarking and discussion on structural indicators, see Alvarez Ortiz and Savelin, 2017). This shows that there is room for catching up in terms of improving structural factors, which could positively affect access to finance at a macroeconomic level. This holds especially true for the rule of law and corruption, which are the indicators where the Western Balkans score worst. Weaknesses in the rule of law and an elevated level of corruption increase banks' reluctance to lend, as under such circumstances the execution of collateral might be hampered, leading to higher borrowing costs

to account for the increased risk as well as high collateral requirements (see also average lending rates and collateral as a percentage of loans in Section 4.2).

<sup>6</sup> The scores are expressed in units of a standard normal distribution, which ranges approximately between -2.5 and +2.5.

## 4 Empirical assessment of firm-level determinants

### 4.1 Data

In order to empirically assess the firm-level determinants of access to finance constraints, the BEEPS dataset is used. It is based on a comprehensive cross-country firm-level survey (surveying either business owners or top managers), jointly developed by the EBRD and the World Bank. Since 1999 it has been published every three to four years. The geographical coverage spans across 30 countries in central, eastern and south-eastern Europe as well as in central Asia. Similarly to other firm-level surveys such as the Enterprise Surveys conducted by the World Bank, there is an emphasis on interviewing small and medium-sized firms, particularly given the fact that small firms tend not to be publicly listed and thus balance sheet information for them is not as easily available as for large enterprises.

For the purpose of this paper, the available data sample is restricted to the Western Balkans, since the focus is on the determinants of access to finance for this specific region. The survey, on the one hand, ascertains the business environment of the firm in terms of actual restrictions and, on the other hand, collects respondents' subjective opinions regarding a range of topics to assess the business environment and overall performance perceptions. Access to finance is studied along these two avenues, distinguishing between barriers through either a subjective perception-based approach or a more sophisticated actual credit constraint approach. Up to now, five waves of the survey have been conducted in the years 1999, 2002, 2005, 2009 and 2012-14. Since a stocktake of the current situation is the primary interest here, only data from the latest wave are used in this paper, unless indicated otherwise.

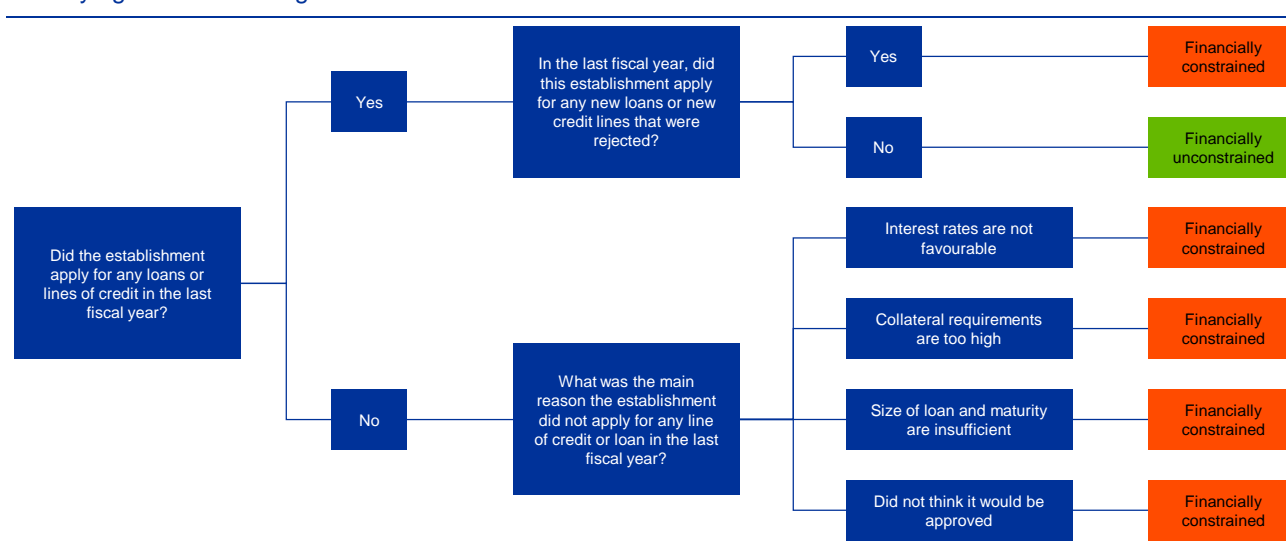
In order to construct the binary measure of actual access to finance constraints, the approach chosen follows the EBRD<sup>7</sup> (2015) and defines credit-constrained firms as those that in the last year either had a loan rejected by the bank<sup>8</sup> or did not apply for

<sup>7</sup> BEEPS question K16 asks: "Did the establishment apply for any loans or lines of credit in the last fiscal year?" For firms that answer "No", question K17 asks: "What was the main reason the establishment did not apply for any line of credit or loan in the last fiscal year?" For firms that answer "Yes" to K16, question K18a asks: "In the last fiscal year, did this establishment apply for any new loans or new credit lines that were rejected?" Firms that answer "Yes" to K16 and "No" to K18a are considered to be unconstrained, as they were approved for a loan, while firms are credit-constrained if they answer "Yes" to K18a (that is to say, they were rejected) or they answer "Interest rates are not favourable", "Collateral requirements are too high", "Size of loan and maturity are insufficient" or "Did not think it would be approved" to question K17.

<sup>8</sup> A word of caution is necessary here. Possible reasons for a rejection of a loan could include the fact that the respective firm is over-indebted, that it does not have a convincing business model, bad corporate governance or a problematic track record in repaying loans. In these cases, it would only be natural and even preferable from an economic and financial stability point of view if such a company would not obtain loans. Conversely, it would be problematic and an indication of insufficient risk management in a bank if such a company would gain access to credit, as was the case in the run-up to the global financial crisis which created the legacy of high NPL ratios among most Western Balkan countries. However, as depicted in the stylised facts below, the number of firms whose loan applications were actually rejected is very small.

specific reasons, those being “Application procedures were complex”, “Interest rates were not favourable”, “Collateral requirements were too high”, “Size of loan and maturity were insufficient” and “Did not think it would be approved”.<sup>9</sup> The control group of firms that are considered as being financially unconstrained is constructed by taking firms that successfully took out a loan in the last year (see Figure 2). One disadvantage of the BEEPS is that it does not survey the credit volume for new loans or credit lines. Therefore, it is only possible to cover the extensive margin (whether or not a firm obtained or applied for a loan), while the intensive margin (how much credit was granted) cannot be included.

**Figure 2**  
Identifying actual financing constraints



Apart from identifying actual financing constraints, the BEEPS survey also allows access to finance to be measured from a different subjective dimension, which is called perceived financing constraints (see Figure 3)<sup>10</sup>. Similarly to the actual constraints and following Canton et al. (2012), the perceived financing constraint measure is recoded into a binary form, where “No perceived obstacle” has a value of 0 and “Perceived obstacle” has a value of 1. More specifically, the answers “No obstacle” and “Minor obstacle” are pooled into the perceived unconstrained category, while the remaining answers are regarded as “Perceived obstacle”.<sup>11</sup>

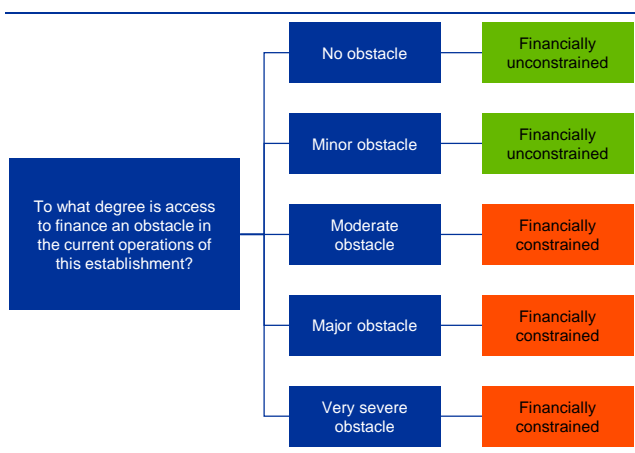
<sup>9</sup> Despite the fact that this measure is based on actual events and is thus called “actual constraints”, it still carries some element of perception and judgement as respondents themselves define what in their opinion is “too high”, “complex”, “not favourable” and “insufficient”. Additionally, if respondents did not apply for a loan because they did not think it would be approved, this decision was based on a subjective judgement.

<sup>10</sup> In particular, question K30 asks “To what degree is access to finance an obstacle to the current operations of this establishment?”, with a multiple-choice selection, including “No obstacle”, “Minor obstacle”, “Moderate obstacle”, “Major obstacle” and “Very severe obstacle”.

<sup>11</sup> For the robustness tests of the econometric analysis, the variable is also recoded to an ordinal variable in a ranking of [1-5], with 1 being “No obstacle” and 5 being “Very severe obstacle”.



**Figure 3**  
Identifying perceived financing constraints



It is important to note that the two constructed measures of access to finance differ considerably. In the actual financing case, the sample is restricted to account for only those firms which have actually applied for a credit or considered applying, and in this context can be regarded as financially constrained or unconstrained. With regard to the perceived measurement, the question is addressed to the entire population in the survey and thus additionally includes firms that did not seek external finance in the past fiscal year. Furthermore, it has to be kept in mind that the measures differ with regard to their time horizon. In the former case, access to finance is measured only by assessing the actual financing constraints of the last fiscal year of operations. This includes firms within the sample which have either had a loan application

rejected or were discouraged from applying. In the latter case, perceptions are linked to a more general question, which has a different construction and interpretation from the actual measurement in place. In fact, past experiences have a direct effect in shaping current perceptions, whereas the actual measure reflects only the current snapshot of the constraints registered in the last fiscal year.

The data for the stylised facts and the empirical assessment are processed by undertaking a list-wise deletion of any “Don’t know” or ambiguous responses, and recoding any Yes/No/N/A answers into a binary format (Artola and Genre, 2011). The independent variables used in the regressions are defined/constructed as follows:

To account for firm size, in line with the BEEPS methodology, dummies are created for small (1 to 19 employees), medium (20 to 99 employees) and large (100+ employees) firms, respectively. The latest wave of the survey also includes micro firms, which are regrouped for simplicity into the “Small” category. Regarding the age of the firm, it is measured as the difference between the period of establishment and the survey year and treated as a continuous variable. Furthermore, a range of sector-level controls is taken into account to understand whether certain industries are more prone to being constrained. In particular, the dataset is sub-divided into the main five industries of the sample (retail, wholesale, hotels and restaurants, construction and food manufacturing) and the sectoral distribution is analysed in the stylised facts.

“Capital city” identifies whether the city where the firm is located is the capital city. As the banking sector is usually headquartered or mainly operates in capital cities, the geographical location is a useful indicator to measure the extent to which firms are remotely located in a country and have difficulty in either physically accessing or maintaining financial relationships with banking institutions. Moreover, banking competition might be higher in capital cities.<sup>12</sup>

<sup>12</sup> In the Western Balkan countries, capital cities are at the same time the main business cities, so no specific category for main business cities is included.

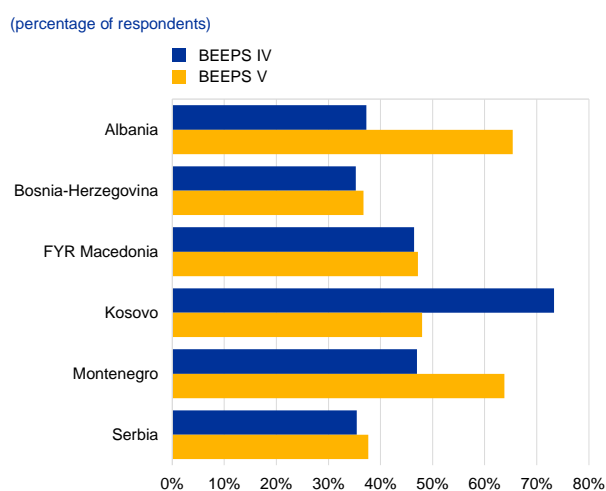
As audited firms have been found in the literature to be less likely to face obstacles in obtaining external finance, a dummy variable on whether a firm has been audited is included. The ownership structure of the company interviewed is controlled for by creating dummies for firms that are part of a larger conglomerate (subsidiaries), and for firms of which a majority is state or foreign-owned.

“Increase in expectations” is a dummy that controls for respondents believing their firm will expand its operations in the next fiscal year. “Loan holder” identifies firms which already had a loan before the last year.

Lastly, the continuous variable “Collateral (% loan)” is added to control for whether the collateral amount as a percentage of the loan granted has an impact on access to finance constraints. Unfortunately, the collateral question is not asked for the most recent loan taken out (in the last year), but only for past loans, and thus relates to the variable “Loan holder”.

## 4.2 Stylised facts

**Chart 7**  
Actual financing constraints



Sources: BEEPS IV, BEEPS V and authors' calculations.

For a visual overview, Chart 7 shows the developments in actual access to finance constraints by country over time. Considering the results of the most recent survey conducted in 2012-14 (BEEPS V), Albania appears to suffer from the most severe access to finance constraints in the region, while Bosnia and Herzegovina as well as Serbia are the least affected countries. Comparing this with the outcome of the previous survey in 2008 (BEEPS IV), it can be seen that access to finance worsened in Albania and, to a lesser extent, in Montenegro. However, financing conditions improved considerably for Kosovo, which was the most constrained country in 2008, and remained roughly unchanged for Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia and Serbia.

Actual credit-constrained firms are decomposed into the characteristics as they were reported in the BEEPS V survey wave in Table 2. Taking the whole sample, it can be seen that almost 75% of firms in the Western Balkans are credit-constrained by means of high interest rates.<sup>13</sup> This is followed by too complex application procedures (around 10%), while actual loan rejections make up only 6%. At the individual country level, it seems that high interest rates are an important concern especially for firms operating in Kosovo (where this is the only reason respondents indicated for not having applied for a loan), Montenegro and Albania. Out of the remaining characteristics, complex application procedures appear to be a particular concern for Bosnia and

<sup>13</sup> Nominal interest rates might be high because of high inflation and a credit risk premium. Unfortunately, no distinction is made between nominal and real interest rates in the survey.

Herzegovina and the former Yugoslav Republic of Macedonia, while collateral requirements seem to be another significant obstacle for the latter.

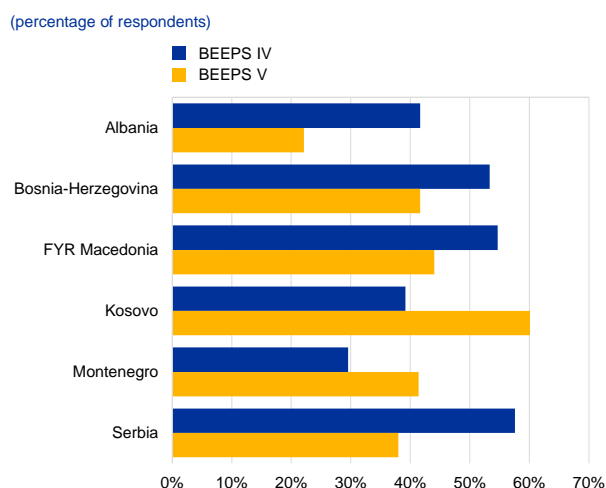
**Table 2**  
Characteristics of actual credit constraints by country

(percentage of total constraints)

	Western Balkans total	Albania	Bosnia and Herzegovina	FYR Macedonia	Kosovo	Montenegro	Serbia
Loan was rejected	6.0	2.0	13.8	4.5	4.3	6.8	4.9
<i>Did not apply for loan because...</i>							
... application procedures too complex	10.6	11.8	20.7	16.4	0.0	2.3	8.6
... interest rates were not favourable	73.0	80.4	55.2	58.2	95.7	84.1	74.1
... collateral requirements were too high	4.9	3.9	5.2	13.4	0.0	2.3	2.5
... size of loan and maturity insufficient	2.6	2.0	1.7	4.5	0.0	4.5	2.5
... did not think it would be approved	2.9	0.0	3.4	3.0	0.0	0.0	7.4

Sources: BEEPS V and authors' calculations

**Chart 8**  
Perceived financing constraints



Sources: BEEPS IV, BEEPS V and authors' calculations.

Turning to the country-level averages of perceived financing constraints (as depicted in Chart 8), the most pessimistic perception in the latest survey was observed in Kosovo, while respondents in Albania perceived access to finance as less constrained than in other countries. Over time, it has particularly improved in Serbia and Albania, whereas it has worsened in Kosovo and Montenegro.

The difference between the actual and perceived measures at the country level is striking. Therefore, a correlation matrix of perceived and actual credit constraints by country is displayed in Table 3. For the individual countries, the highest correlations between the two variables can be observed for Serbia, followed by Bosnia and Herzegovina, but the magnitude of the correlations is still relatively small. Linking perceived constraints to the characteristics of actual constraints,

in the Western Balkans as a whole the correlation of firms that perceive access to finance to be constrained is the highest with firms that did not apply because interest rates were not favourable, or because they did not think that the loan application would be approved. The striking differences at the cross-country level and the relatively low correlation coefficients suggest that the two measures of access to finance should be regarded as complements rather than substitutes.

**Table 3**

Correlation matrix for perceived and actual credit constraints by country

(Pearson correlation coefficient)

Correlation of perceived constraints with	Western Balkans total	Albania	Bosnia and Herzegovina	FYR Macedonia	Kosovo	Montenegro	Serbia
Loan was rejected	0.0877	-0.1584	0.1279	-0.0965	0.1361	0.1336	0.1913
<i>Did not apply for loan because...</i>							
... application procedures too complex	0.0858	0.0407	0.0616	0.1746	n/a	0.1393	0.0908
... interest rates were not favourable	0.1751	0.1775	0.1302	0.0522	0.0713	0.1609	0.3667
... collateral requirements were too high	0.0849	0.1593	0.1452	0.1005	n/a	0.1393	-0.0687
... size of loan and maturity insufficient	0.0743	0.1124	0.0835	0.0574	n/a	0.0417	0.1355
... did not think it would be approved	0.1012	n/a	0.1183	0.1050	n/a	n/a	0.1774
Actual credit constraints (all of the above)	0.0596	-0.0944	0.1000	-0.0197	-0.0298	0.0577	0.2070

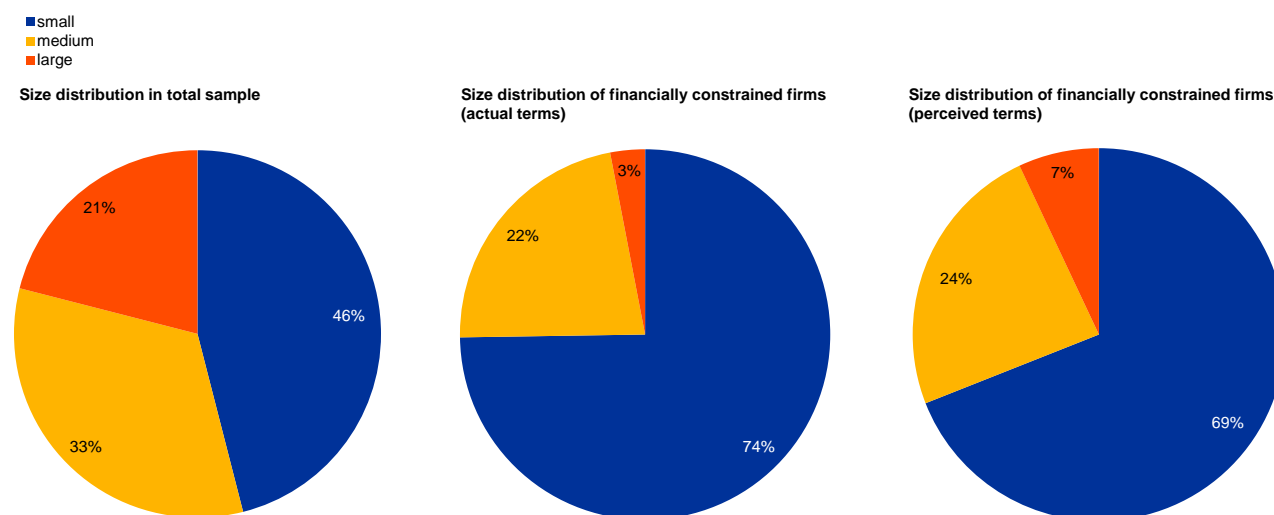
Sources: BEEPS V and authors' calculations.

The descriptive analysis is extended by proxying for firm size, investigating whether a relationship between access restrictions and the size of the establishment is possible. In the total sample of firms interviewed, there is an emphasis on small firms, with almost half of the respondents belonging to that specific category, as can be seen in the left-hand figure of Chart 9. If compared with the distribution of companies in the sample of actual (figure in the middle) and perceived (right-hand figure) financing constraints, it can be seen that small firms are disproportionately affected, with 74% and 69% of firms having access to finance constraints in reality or perceiving them as an obstacle, respectively.

**Chart 9**

Distribution of company size among actual and perceived credit constraints

(percentage of total firms)



Sources: BEEPS V and authors' calculations.

The BEEPS survey also includes information about the sectoral distribution, which is summarised in Chart 10. In this case, sector representation does not disproportionately deviate in the actual or perceived constraint case from the total

sample distribution. Approximately one-third of firms participating in the fifth survey wave operate in the retail sector, followed by wholesale, hotels and restaurants, construction and manufacturing.<sup>14</sup> Comparing the distribution of sectors in the survey with the distribution among credit-constrained firms, it can be inferred that none of the sectors covered are particularly affected by access to finance constraints. For this reason, the different firm-level sectors are not included in the empirical model, neither for the actual nor for the perceived case.

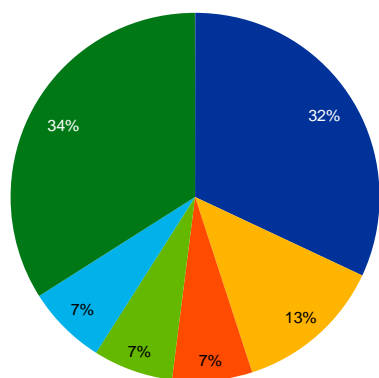
**Chart 10**

Distribution of sectors among actual and perceived credit constraints

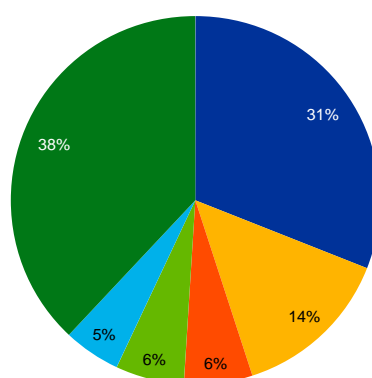
(percentage of total firms)

- retail
- wholesale
- hotels and restaurants
- construction
- food manufacturing
- other

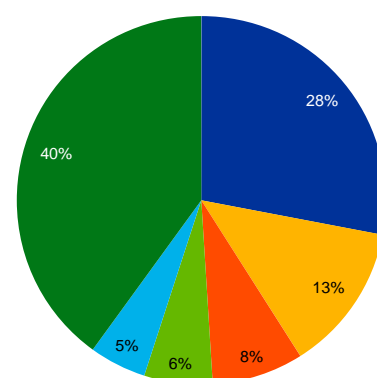
Sector distribution in total sample



Sector distribution of financially constrained firms (actual terms)



Sector distribution of financially constrained firms (perceived terms)



Sources: BEEPS V and authors' calculations.

As outlined in the introduction (Table 1), the Western Balkan countries score badly when it comes to the affordability of financing costs. Therefore, high nominal interest rates can be regarded as the major constraining factor for credit in the Western Balkans (Table 2). In the survey, loan holders are asked what annual nominal interest rate has been charged for their most recent loan (Chart 11). For the most recent survey wave (BEEPS V) between 2012 and 2014, it can be seen that in Kosovo respondents had to pay an interest rate of 12% in median terms. At the other end of the spectrum, borrowers in Serbia were charged 7%, which is the region's lowest rate. Comparing the interest rate differences between survey waves IV (conducted in 2009) and V (conducted between 2012 and 2014), average lending rates have remained roughly unchanged or have even increased slightly for all countries except Serbia. However, real interest rates are the more relevant indicator when it comes to assessing financing costs, as nominal interest rates also depend

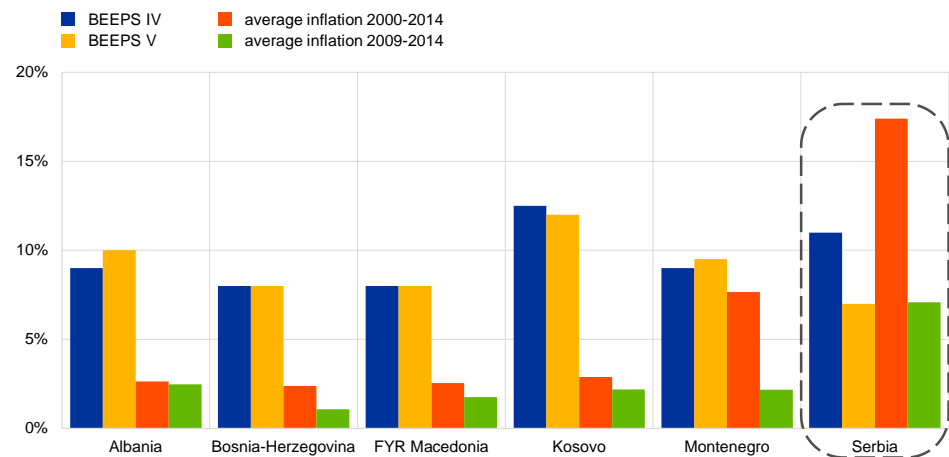
<sup>14</sup> Anecdotal evidence for some Western Balkan countries suggests that small firms operating in the agricultural sector are especially constrained. Unfortunately, the BEEPS survey covers firms classified using ISIC Rev 3.1 and excludes the agricultural sector; thus, it is not possible to assess whether this is the case.

on expected and actual inflation developments. Since the timing of when the respective loan was taken out varies among the respondents, the real interest rate cannot be calculated. However, average inflation rates from 2000 to 2014 and from 2009 to 2014 suggest that inflation was relatively low in most of the countries, especially from 2009 to 2014, which in turn indicates that average real lending rates were indeed high. The notable exception is Serbia, where the significant disinflationary process between 2008 and 2014 might be the cause of the observed drop in median nominal interest rates. High real lending rates might be linked to high bank concentration (Chart 2), but also to a number of other factors like higher credit risk premia.

### Chart 11

#### Median nominal interest rate and average consumer price inflation

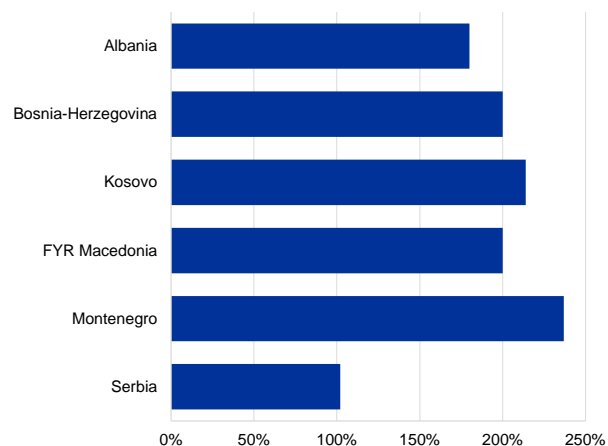
(percentages p.a.)



Sources: BEEPS IV, BEEPS V, IMF WEO and authors' calculations.

**Chart 12**  
Median value of collateral

(percentage of loan amount)



Sources: BEEPS V and authors' calculations.

The median value of collateral as a percentage of the total loan amount that was provided is depicted in Chart 12. It shows that the collateral value was almost twice the loan amount granted in most of the countries, with the exception of Serbia where the median value of collateral as a percentage of the loan amount approached 100%.<sup>15</sup> The high amount of collateral requested by banks can be explained by an environment where the rule of law does not always prevail and an elevated level of corruption can be observed (Chart 6), making the execution of collateral cumbersome and thus prompting banks to demand high collateral as security.

### 4.3 Econometric model

To confirm the findings of the stylised facts and to check for further firm characteristics while controlling for cross-country heterogeneity, the empirical model is set up as follows:

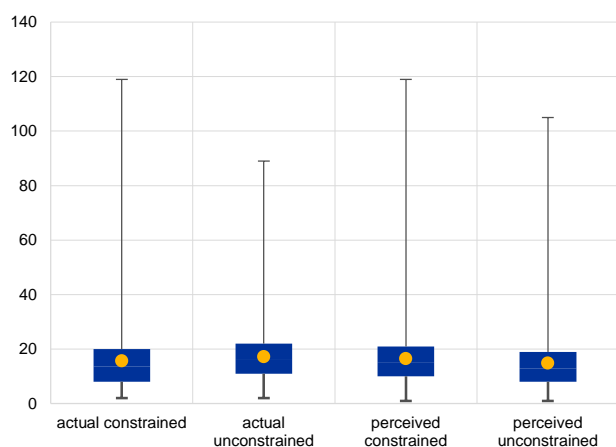
$$Constraint_{i,c} = \alpha + \beta Firm\ characteristics_{i,c} + \gamma Interactions_{i,c} + \mu Country_c + \varepsilon_{i,c} \quad (1)$$

*Constraint* (actual or perceived) is the dependent variable that captures those firms which face either actual or perceived financial constraints, as outlined in Section 4.1. The dependent variables *Firm characteristics* are measured and constructed as previously explained. The distribution of binary explanatory characteristics among the dimensions of the dependent variables can be found in Table 4, while the range and distribution of the continuous variable *Age* is depicted in Chart 13. *Interactions* of the company size with the dummy for previous loan holders are included to see whether the effect of previous loan holders differs with respect to company size. *Country* includes country dummy variables and makes it possible to control for any country heterogeneity. In all of the regressions, due to multicollinearity issues, the dummy for Albania is omitted (base category) and therefore it is the benchmark with which the group of other countries should be compared. Finally, following Thomadakis (2016), for the error term  $\varepsilon_{i,c}$  standard errors are clustered at the country level, thus allowing the calculation of correlated standard errors within each country to account for unobservable country-specific characteristics.

<sup>15</sup> The results should be interpreted with caution, however. The survey only asks about the collateral pledged for the loan. Firms might pledge more collateral than actually required. According to the survey responses, the most frequent forms of collateral utilised have been highly valuable physical assets such as land or buildings of the firm, machinery and equipment, followed by accounts receivable and inventories.

**Chart 13**

Range and distribution of the variable Age



Sources: BEEPS V and authors' calculations.

Since the status quo of firm-level determinants of access to finance constraints is being assessed, only the latest survey wave that was conducted from 2012 to 2014 is used. Therefore, the dataset is cross-sectional and, given the binary nature of the dependent variable, it is estimated with a probit model.<sup>16</sup> In assessing the perceived constraints, the estimation is additionally run with a polychotomous dependent variable as a robustness check (see Section 4.5). Based on the above equation, the coefficient results along with their significance levels are estimated and the marginal probabilities are directly derived from the output of the initial probit regression, enabling a better interpretation of each independent variable.

**Table 4**

Distribution of binary explanatory variables among actual and perceived constraints

(percentages)

	Total	Small	Medium	Capital city	Audited	Subsidiary	Foreign majority	Government majority	Increase in expectations	Loan holder
<b>Actual credit constraints</b>										
Yes	45.8	52.0	39.1	43.1	34.9	54.2	51.7	66.7	40.2	24.1
No	54.2	48.0	60.9	56.9	65.1	45.8	48.3	33.3	59.8	75.9
<b>Perceived credit constraints</b>										
Yes		55.1	50.5	55.2	51.0	37.5	55.2	100.0	37.6	49.5
No		44.9	49.5	44.8	49.0	62.5	44.8	0.0	62.4	50.5

Sources: BEEPS V and authors' calculations.

## 4.4 Results

With regard to actual financing constraints, the standard model with the variables discussed above is depicted in the first column of Table 5, and the corresponding marginal probabilities can be found in the first column of Table 6. Since the dependent variable indicates whether a firm is financially constrained, a negative (positive) coefficient indicates a factor that is weakening (reinforcing) access to finance constraints. As already pointed out in the stylised facts, the results confirm that firm size actually plays an important role given the size and significance of the obtained marginal probabilities. Small firms appear to have a 36% higher probability of being financially constrained compared with larger-sized entities, and medium-

<sup>16</sup> A probit model is a binary response model where the response probability is estimated by the standard normal cumulative distribution function (Wooldridge, 2009). The probit model is particularly effective in this case as it allows the estimation of probabilities conditional on a vector of explanatory variables (Artola and Genre, 2011). Moreover, probit models overcome numerous limitations of the linear probability model (LPM), namely that the estimated coefficients may result in probabilities below or above the interval [0; 1].



sized firms have a somewhat smaller but still very significant probability of being more financially constrained than large firms.

**Table 5**  
Results of the probit model regression

	(1) Credit-constrained/ unconstrained firms	(2) Only previous loan holders	(3) All firms	(4) Only loan holders
<i>Dependent variable</i>	Actual financing constraints		Perceived financing constraints	
Small	1.321***	0.537	0.326***	-0.293
Medium	0.947***	0.439	0.364***	-0.221
Age	-0.024***	-0.026**	0.007	-0.001
Age squared	0.000***	0.000***	-0.000	0.000
Capital city	-0.377**	-0.430*	0.144	0.392***
Audited	-0.218**	-0.278***	-0.088	-0.249*
Subsidiary	-0.099	-0.102	-0.243	-0.146
Foreign majority	0.409	0.558	0.081	-0.386
Government majority	1.556	1.792	<i>omitted</i>	<i>omitted</i>
Expect operational increase	-0.194**	-0.381***	-0.208**	-0.166
Loan holder	-0.843***		0.776***	
Collateral (% of loan)		1.047		0.579
Collateral (% of loan) squared		-0.081		-0.041
Loan holder*small	-0.915***		-0.359***	
Loan holder*medium	-0.504***		-0.378***	
Albania	<i>omitted</i>	<i>omitted</i>	<i>omitted</i>	<i>omitted</i>
Bosnia and Herzegovina	-0.417***	-0.502***	0.445***	-0.298***
Kosovo	-0.096*	-0.012	0.933***	0.020
FYR Macedonia	-0.528***	-0.404*	0.513***	-0.347***
Montenegro	0.146*	0.176	0.436***	-0.579***
Serbia	-0.602***	-0.687***	0.330***	-0.284***
Constant	0.617	-3.323*	-1.210***	-1.238
Observations	729	288	1,641	502

Notes: Probit regressions with the dependent variable being actual credit constraints (columns 1 and 2) and perceived credit constraints (columns 3 and 4), respectively. Columns 1 and 3 are based on the whole dataset, while columns 2 and 4 only include firms that are currently holding a loan. Robust standard errors are clustered by country. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Financing obstacles decrease with every extra year of operations as captured by the variable *Age*, although the impact seems to be considerably smaller than for the size of a company. When including the *Age squared* variable, the relationship becomes non-linear, indicating that age has a positive effect in reducing financing constraints but with a decreasing marginal return, in line with the findings of Leitner (2015).

**Table 6**

Marginal probabilities of regressions in Table 5

Dependent variable	(1)	(2)	(3)	(4)
	Credit-constrained/ unconstrained firms	Only previous loan holders	All firms	Only loan holders
	Actual financing constraints		Perceived financing constraints	
Small	0.359***	0.163	0.118***	-0.111
Medium	0.257***	0.133	0.132***	-0.084
Age	-0.007***	-0.008**	0.003	-0.001
Age squared	0.000***	0.000***	-0.000	0.000
Capital city	-0.102**	-0.130*	0.052	0.148***
Audited	-0.059**	-0.084**	-0.032	-0.094*
Subsidiary	-0.027	-0.031	-0.088	-0.055
Foreign majority	0.111	0.169	0.029	-0.146
Government majority	0.423	0.542	<i>omitted</i>	<i>omitted</i>
Expect operational increase	-0.053**	-0.115***	-0.076**	-0.063
Loan holder	-0.229***		0.282***	
Collateral (% of loan)		0.317		0.219
Collateral (% of loan) squared		-0.024		-0.015
Loan holder*small	-0.248***		-0.131***	
Loan holder*medium	-0.137***		-0.137***	
Albania	<i>omitted</i>	<i>omitted</i>	<i>omitted</i>	<i>omitted</i>
Bosnia and Herzegovina	-0.113***	-0.152***	0.162***	-0.113***
Kosovo	-0.026*	-0.004	0.339***	0.008
FYR Macedonia	-0.143***	-0.122**	0.186***	-0.131***
Montenegro	0.037*	0.053	0.159***	-0.219***
Serbia	-0.163***	-0.208***	0.120***	-0.107***

Notes: Marginal probabilities corresponding to the regressions of Table 5. \* p&lt;0.1, \*\* p&lt;0.05, \*\*\* p&lt;0.01.

The physical location of the establishment becomes a significant factor in accessing credit resources. Firms which are headquartered in the capital city of the country in which they operate have a 10% probability of being less financially constrained than firms located in other urban or rural areas. Banking institutions are generally located in the capital city of the country and in the sample of countries considered, the capital coincides with the major financial city. With this in mind, firms may find it easier to access credit, given higher banking competition in the capital city. Moreover, firms in the capital city may be more likely to engage in relationship banking, enabling establishments with a sound credit history to access finance more swiftly and with more favourable loan terms and conditions. On the other hand, firms with a sound credit history might also tend to gather in the capital, implying that there could be some sort of self-selection bias present.

Firms audited by an external party enjoy a significant beneficial effect compared with those that are not, a sign that banks may grant a loan to an establishment with more credit information on more favourable terms, alleviating any asymmetrical information problem. In an environment of high informality, which characterises many Western Balkan countries, being audited by an external party might be crucial in obtaining a loan.

Contrary to what one might expect, no significant impact of the ownership structure on firms' access to finance is found. First, the results suggest no benefits for firms that are deemed to be subsidiaries of a parent company. Furthermore, foreign ownership also does not play a role in the regressions, and the same holds true for government ownership as government-owned firms do not seem to be different from privately owned firms when it comes to financial constraints.<sup>17</sup>

The large negative and significant coefficient of expectations suggests that firms which expect to have an increase in operations in the next fiscal year have lower constraints. This may be an indication that firm growth has an underlying positive effect on banks' willingness to lend, as expanding firms may have a better chance of repaying the loan granted or, vice versa, that firms that have been granted a loan have a more positive outlook.

One of the most important determinants of access to finance is whether a firm already had an outstanding loan before it applied (or considered applying) for the most recent loan. According to the estimations, firms with an outstanding loan have a 23% probability of lower financing constraints. This result suggests that autocorrelation is present as the degree of access to finance experienced by a firm is sticky to some extent. This result is not surprising given the fact that business models of firms and the industry-specific conditions (i.e. expected industry growth, degree of competition) probably change only slowly over time. Moreover, this result might indicate an insider-outsider effect, implying that once an enterprise has been granted a loan, it is easier for it to take out an additional loan. However, linking the firm size with outstanding loan holders suggests that among loan holders, small and medium-sized companies were less likely to experience access to finance constraints than large corporations. This might indicate over-leveraged large corporations finding it harder to secure additional financing and being subject to higher interest rates or collateral requirements.

Lastly, the coefficients of the country dummies suggest that there is significant country heterogeneity in column 1 of Tables 5 and 6, with all countries except for Montenegro registering lower financing constraints than Albania, which confirms the finding of the stylised facts that Albanian firms are currently among the most financially constrained, even when controlling for firm-level determinants.

In column 2 of Tables 5 and 6, the regression of the first column is rerun with a restricted sample of enterprises that already had an outstanding loan when applying (or considering applying) for the most recent loan, in order to see whether for "insiders" the same determinants apply as before, and how the other determinants change if one of the most important determinants (i.e. loan holder) is not applicable any more. Moreover, this specification enables the inclusion of the amount of

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<sup>17</sup> 55% of government-owned firms in the sample are located in Serbia, of which many are considered to be unproductive and loss-making and thus are potentially constrained. This effect, however, is wiped out in the regression by the robust standard errors clustered at country level.

collateral provided as a control variable, since this was surveyed in connection with the previous outstanding loan.<sup>18</sup>

The restriction of the sample to “insiders” weakens some of the results of the standard regression depicted in column 1. In fact, firm size turns into a statistically insignificant predictor of access to finance constraints, which is in line with the interaction terms of loan holders and firm size in the first regression, where it was found that among loan holders large firms are more finance-constrained than small or medium-sized companies, counteracting the coefficients of the size dummies. For age and age squared, the marginal probabilities remain broadly unchanged in the restricted sample. The impact of being located in the capital city, of being audited and of expecting an increase in operations, on the other hand, increases when the sample includes only previous loan holders, suggesting that these factors improve the chances of obtaining an additional loan.

To test the effect of collateral on access to finance which is possible in the restricted sample of loan holders, the collateral amount of the previous loan as a percentage of the loan granted is added as an additional explanatory variable. As the effect of collateral on access to finance might be of a non-linear nature, the squared collateral amount is also included. The resulting coefficients are not significant, indicating that the amount of collateral provided for a previous loan does not significantly change the probability of being credit-constrained in the most recent year. At the country level, the reduced sample suggests that the characteristics of access to finance for loan holders are not very different from the first regression, with the exception of Kosovar (Montenegrin) firms, which are now not significantly less (more) constrained compared with Albanian firms (which is the omitted country dummy), when controlling for firm-level determinants.

In the third and fourth columns of Tables 5 and 6, the same models are replicated, but as a dependent variable perceived financing constraints instead of actual constraints are used. The sample includes a larger number of firms, since the question is addressed to all respondents of the fifth BEEPS cross-sectional wave, irrespective of whether they applied or considered applying for a loan in the past year. Moreover, the definition of loan holder is slightly different. While in the first two regressions loan holder was defined as a company holding a loan that was taken out *before* applying or considering applying for an additional loan in the past year, loan holders are now all firms that are currently holding a loan.<sup>19</sup>

As can be noticed, the results differ to a certain extent from the actual financing case, suggesting that perceptions are not necessarily shaped by companies' experiences in actually applying or considering applying for credit. More specifically, in the third regression which includes all firms regardless of whether they are loan holders, the firm's age, location and whether it is audited are losing their significance in predicting access to finance constraints as compared with the first regression. However, firms that are loan holders perceive access to finance to be *more*

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<sup>18</sup> Question K15a asks: “Referring only to the most recent line of credit or loan, what was the approximate value of the collateral required?”

<sup>19</sup> In fact, the results for regressions (3) and (4) are robust to both definitions.

constrained compared with firms that do not hold a loan, which indicates that after being through the application process, firms become more pessimistic about the availability of credit.

Perceptions vary widely across countries. The results confirm that, as previously observed in the stylised facts, Albanian companies (the omitted country dummy) perceive that they have the least financing constraints, which stands in sharp contrast to the actual credit constraints they are facing. Kosovar firms, on the other hand, perceive access to finance to be a large obstacle for their operations.

In the last columns of Tables 5 and 6, the determinants of perceptions of access to finance constraints are reported for a restricted sample of loan holders. Almost all firm-level characteristics are insignificant, with the exception of companies that are located in the capital city, which turn into having a pessimistic perception of credit availability despite the outcome of the regressions in the first two columns, which indicated that firms in the capital city have less access to finance constraints. Also, firms that have been audited still perceive access to finance to be less constrained compared with non-audited companies. As was the case for the determinants of actual credit constraints, the amount of collateral provided does not significantly influence the perceptions of access to finance constraints. With regard to the country dummies, the perceptions of firms that are loan holders are the worst in Albania, which is in line with the outcome of the actual credit constraints.

## 4.5 Robustness checks

In this section, the baseline results are subjected to two robustness checks. First, all four models of Tables 5 and 6 are re-estimated by excluding each country one at a time, in order to test whether the results are driven by one specific country. The results obtained are qualitatively robust and confirm the previous findings.<sup>20</sup>

Furthermore, the results of regressions (3) and (4) are re-estimated with an ordered probit model to account for the natural (ordinal) ranking of the responses.<sup>21</sup> The results are displayed in Table 7 with the two columns replicating regressions (3) and (4) with an ordered probit model instead of the probit model as in Table 5. In the sample of all firms in regression (3), the dummies for firm size become less significant compared with the original model. Conversely, the coefficients for company age gain in significance. Comparing this result with that for the model for actual credit constraints (Table 3, regression (1)), it seems that despite the fact that older firms have easier access to finance, they become more pessimistic about the availability of finance at the same time. Apart from these differences, the results of the ordered probit model confirm the results obtained earlier. Similarly, the results of an ordered probit estimation of regression (4) do not qualitatively change compared with the original probit model output.

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<sup>20</sup> For brevity reasons, the results are not displayed here but are available upon request.

<sup>21</sup> Perceived financing obstacles are coded as a polychotomous variable in the following way: No obstacle (1); Minor obstacle (2); Moderate obstacle (3); Major obstacle (4); Very severe obstacle (5).

**Table 7**

Estimation of perceived financing constraints with an ordered probit model

	(3) All firms	(4) Only loan holders
<i>Dependent variable</i>	Perceived financing constraints	
Small	-0.011	-0.191
Medium	0.136*	-0.212
Age	0.006***	0.004
Age squared	-0.000**	0.000
Capital city	0.057	0.266***
Audited	-0.119	-0.278**
Subsidiary	-0.194	-0.133
Foreign majority	-0.014	-0.325
Government majority	<i>omitted</i>	<i>omitted</i>
Expect operational increase	-0.154*	-0.167*
Loan holder	0.462***	
Collateral (% of loan)		0.728
Collateral (% of loan) squared		-0.051
Loan holder*small	-0.043	
Loan holder*medium	-0.259***	
Albania	<i>omitted</i>	<i>omitted</i>
Bosnia and Herzegovina	0.379***	-0.094
Kosovo	1.015***	0.420***
FYR Macedonia	0.446***	-0.173**
Montenegro	0.411***	-0.196***
Serbia	0.333***	-0.024
Cutpoint 1	0.335	1.556
Cutpoint 2	0.811	2.038
Cutpoint 3	1.493*	2.604
Cutpoint 4	2.122*	3.365
<i>Observations</i>	1,641	502

Notes: Ordered probit regressions with the dependent variable being perceived credit constraints. Column 1 is based on the whole dataset, while column 2 includes only firms that are currently holding a loan. Robust standard errors are clustered by country.  
\* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

## 5 Policy responses to access to finance constraints

Following the discussion of banking sector and macroeconomic causes, the descriptive statistics have confirmed that access to finance constraints are a major obstacle for firms' operations and the empirical model has identified major firm-level determinants of access to finance constraints in the Western Balkans. This section contains a review of how access to finance is currently being dealt with at the policy level and the actions that have been or are planned to be undertaken.

For that purpose, the latest available Economic Reform Programme (ERP)<sup>22</sup> of each country is assessed against a number of benchmarks (Table 8). In particular, it is assessed whether national governments acknowledge that access to finance is a problem for the economy, whether there is a detailed analysis of access to finance constraints, whether improving access to finance is a structural reform priority (as outlined in the ERP) and whether there are concrete measures to tackle the problem (Table 9).

**Table 8**  
Review of Economic Reform Programmes

Country	Detect problem	Analysis of access to finance constraints	Structural reform priority	Concrete list of planned measures
Albania	✓	✓	✗	✗
Bosnia and Herzegovina	✗	✗	✗	✓ (for Federation only)
FYR Macedonia	✓	✓	✓	✓
Kosovo	✓	✓	✓	✓
Montenegro	✓	✓	✓	✓
Serbia	✓	✓	✓	✓

Sources: Economic Reform Programmes of the respective countries.

The **Albanian** ERP mentions finance constraints as being one of the key obstacles to competitiveness and provides a detailed analysis of the causes and the affected firms (especially SMEs) that is in line with the empirical findings (e.g. a lack of collateral, limited coverage of rural areas and a high level of informality in the economy). Despite the analysis, no concrete reform measures to improve access to finance are included. However, one reform priority is the high level of NPLs which is tackled by a dedicated strategy, which might improve access to finance once banks' balance sheets have been cleaned up (see also Section 3).

<sup>22</sup> Economic Reform Programmes (ERPs) are yearly strategical reports submitted by the respective national governments to the European Commission, which lay out the current fiscal and macroeconomic situation of the country and present an agenda of priorities and a list of upcoming structural reforms.

In the case of **Bosnia and Herzegovina**, neither of the two entities<sup>23</sup> acknowledges in the ERP that companies face access to finance obstacles. Despite this, the Federation of Bosnia and Herzegovina includes concrete measures to improve access to finance. More specifically, the ERP mentions the setting-up of a credit guarantee fund and additional loan funds financed by the budget.

The ERP of the **former Yugoslav Republic of Macedonia** discusses access to finance constraints both from the perspective of (potential) lenders and that of banks, based on an analysis undertaken by the European Investment Bank (EIB). The analysis is in line with the findings of this paper, including the fact that many SMEs cannot provide sufficient collateral, which is an especially pressing issue compared with other countries (see Table 2). The ERP links the analysis to the detailed “Competitiveness Strategy and Action Plan of the Republic of Macedonia 2016-2020”, which includes several measures to improve access to finance such as establishing a national credit guarantee scheme or improving the financial literacy of owners of SMEs. As a structural reform priority in the ERP, the adoption of a “National Strategy for SMEs (2017-2022)” is foreseen for 2017, which specifies improving access to finance as one of the objectives.

For **Kosovo**, the ERP identifies limited access to finance, particularly for SMEs, as one of the main obstacles to competitiveness and growth, and discusses the causes and constraints at several points. At the macroeconomic level, it mentions the high concentration of the banking sector and the high level of lending rates, which have however somewhat decreased in the past years. In 2016 a credit guarantee fund was established that issues portfolio loan guarantees for financial institutions to cover up to 50% of loans to micro enterprises and SMEs. The ERP foresees a further financial and organisational expansion of the fund in the years ahead.

The ERP of **Montenegro** also includes an analysis of access to finance constraints, according to which SMEs often lack a high-enough creditworthiness and collateral. As one structural reform priority, the ERP foresees increased financial support for SMEs by the existing Investment and Development Fund of Montenegro, the implementation of the European Commission’s programme for SMEs (COSME) with one commercial bank and the extension to additional commercial banks, and the setting-up of equity financing within the framework of a World Bank facility.

In the case of **Serbia**, inadequate access to finance is cited as one of the main challenges for SMEs in doing business. The ERP includes the continuation of a number of measures, such as the signing of additional loan agreements with the EIB, drawing on additional tranches of a loan for financing small and medium-scale projects provided by the EIB and drawing on funds from the European Commission’s Instrument for Pre-Accession Assistance (IPA).

The ERPs highlight the priority of national governments to address access to finance constraints. The overview reveals that most countries detect and analyse the problem, include it in the structural reform priorities and list measures aimed at

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<sup>23</sup> Bosnia and Herzegovina consists of two entities, namely the Republika Srpska and the Federation of Bosnia and Herzegovina.



removing financial constraints, particularly for SMEs.<sup>24</sup> The measures foreseen or already implemented are mostly the setting-up of state-funded loan facilities or of guarantee schemes in cooperation with commercial banks. Furthermore, some countries also plan measures to improve financial literacy among SME owners in order to support the credit application process. At the macro level, several ERPs outline macroeconomic priorities like NPL resolution, improving public governance, strengthening property rights or increasing judicial efficiency. These measures are linked to the macroeconomic and banking sector access to finance constraints that were highlighted in Section 3, and might create an environment more conducive to firms obtaining external financing.

**Table 9**  
Planned measures to improve access to finance in the period 2017-19

Country	Selected measures as outlined in the ERP or other strategic documents linked to the ERP
<b>Albania</b>	<i>No dedicated measures foreseen to improve access to finance, but reform priority of resolving NPLs includes:</i> Improving the Credit Registry Framework agreement on out-of-court restructuring of debt Treating 35 groups/companies with high debt Lending based on tax declarations
<b>Bosnia and Herzegovina</b>	Establishing the SME Fund compatible with IPA funds (credit guarantee fund and loan fund) in the Federation of Bosnia and Herzegovina
<b>FYR Macedonia</b>	<i>Measures foreseen in the existing "Competitiveness Strategy and Action Plan of the Republic of Macedonia 2016-2020"</i> Establishing a fund financed by the EBRD/commercial banks to increase SMEs' investments in innovation Establishing a national credit guarantee scheme for SMEs Expanding financial literacy among SME owners Supporting the development of equity and mezzanine funding for the SME sector
<b>Kosovo</b>	Operationalising the existing Kosovo Credit Guarantee Fund Financially expanding the existing fund Continuing with signing agreements with commercial banks for their inclusion in the Credit Guarantee Fund Developing and disseminating training and promotion programmes for SMEs
<b>Montenegro</b>	Improving financial support for business start-ups and SMEs from the Investment and Development Fund by providing favourable terms and procedures for credit lines and factoring arrangements Providing financial support for setting up new clusters and improving the operation of existing ones through a grant model Implementation of the COSME guarantee arrangement for SMEs by CKB bank; extension to other financial agents Application of the financial tool of equity financing through the WB EDIF-ENIF Facility
<b>Serbia</b>	Realisation of the second tranche of the (World Bank) Apex loan III/B and signing of the financial agreement on the third tranche of the Apex loan Implementing projects establishing financial instruments financed from IPA 2016

Sources: Economic Reform Programmes of the respective countries.

<sup>24</sup> However, the ERPs can only provide a snapshot that reviews policy actions at the domestic level and do not contain information on whether the proposed measures are actually implemented, or whether they are effective in removing access to finance obstacles.

## 6 Conclusions

Limited access to finance is one of the biggest obstacles firms in the Western Balkans face in doing business, as credit restrictions significantly limit the ability of existing firms to seek capital externally, which in turn has implications for growth and the transmission of monetary policy. This paper aims to investigate which macro- and micro-level determinants constrain access to finance in the Western Balkans, and to see whether these constraints are tackled by national policy measures.

Stylised facts based on the EBRD's BEEPS survey reveal that access to finance in the Western Balkans is indeed a serious constraint in doing business, which has even worsened over time for some countries. With regard to macro factors that influence access to finance at the country and banking sector levels, we find that most of the macro characteristics in the Western Balkans fare worse than those in the euro area and the EU11. Furthermore, empirical regressions help to identify which firm characteristics play a fundamental role in explaining both actual and perceived credit constraints. To investigate whether access to finance constraints are tackled by national authorities, this paper also includes a review of the Economic Reform Programme of each country, which finds that most Western Balkan countries have identified limited access to finance as an obstacle and have planned or already implemented policy responses. There is still ample room for future research. In particular, notwithstanding the survey's emphasis on smaller business activities, it would be interesting to control for early stage start-ups or young entrepreneurs who wish to access financial resources to start a business. Moreover, the results of firm-level surveys could be complemented by and benchmarked against bank lending surveys (which are not yet undertaken in each of the respective countries) in order to discuss micro-level supply-side factors.

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# Abbreviations

<b>AL</b>	Albania
<b>BA</b>	Bosnia and Herzegovina
<b>BEEPS</b>	Business Environment and Enterprise Performance Survey
<b>BLS</b>	bank lending survey
<b>COSME</b>	EU programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises
<b>EBRD</b>	European Bank for Reconstruction and Development
<b>ECB</b>	European Central Bank
<b>EIB</b>	European Investment Bank
<b>ENIF</b>	Enterprise Innovation Fund
<b>ERP</b>	Economic Reform Programme
<b>EU</b>	European Union
<b>EU11</b>	Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia
<b>GDP</b>	gross domestic product
<b>IMF</b>	International Monetary Fund
<b>IPA</b>	Instrument for Pre-Accession Assistance
<b>KV</b>	Kosovo
<b>ME</b>	Montenegro
<b>MK</b>	former Yugoslav Republic (FYR) of Macedonia
<b>NMS</b>	new Member States
<b>NPL</b>	non-performing loan
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>RS</b>	Serbia
<b>SAFE</b>	Survey on the Access to Finance of Enterprises
<b>SMEs</b>	small and medium-sized enterprises
<b>SSI</b>	ECB banking structural financial indicators
<b>WB EDIF</b>	Western Balkans Enterprise Development & Innovation Facility
<b>WDI</b>	World Development Indicators
<b>WEO</b>	World Economic Outlook

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