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Article

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Determinants of Financing Obstacles of SMEs in Western Balkans

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Abstract: The main aim of this paper is to investigate the determinants of the financing obstacles and the effect of financial obstacles on the Small and Medium Enterprises (SME) growth in the Western Balkan region. The study employs OLS and probit models and using data from the Business Environment and Enterprise Survey (BEEPS V), conducted by EBRD and World Bank in the period 2012 – 2016. The econometric models used to achieve the main aim of this paper include the OLS and probit regression. From the results of the OLS, the study concludes that revealing the financial obstacles is an important determinant of SMEs' growth in the Western Balkan countries. Further, among the firm-specific determinants of the financial constraints of SMEs, the study concludes that large firms face fewer financing obstacles than small firms, while older firms are more financially constrained than new enterprises. In addition, in the context of the ownership, findings reveal that SMEs with high foreign ownership of the firms, report fewer financial constraints. Given the presented results, it is important to emphasize the vital role of SMEs as the main employer in the Western Balkans region, emphasizing the need for policymakers to address possible reforms in achieving better regulation, institutional development, and governance efficiency, accounting standards, business, and better credit environment.

Keywords: financial obstacles; SMEs; Western Balkans; probit; determinants.

Introduction

The growth of small and medium enterprises among other business obstacles depends on financial constraints. In addition, the accessibility to external funds represents one of the main firm-specific factors related to the financial constraints that SMEs face in their growth process. In addition to firm-specific factors, in developing countries, SME's are also facing country-specific factors regarding financial constraints. This is mainly due to the differences in legal, regulatory, and financial infrastructures among developed and developing economies.

It is widely accepted that SMEs play a crucial role in the economic growth of emerging and developing countries, thus it is important to analyze the effects of the lack of access to finance as an important financial constrain that these companies face during their growth process. Besides the evident vital role of SMEs for economic growth and employment creation in the emerging and developing countries, little empirical evidence exists in revising the effects of financial constraints on SME growth in the Western Balkan region.

Having into consideration the financial constrain context of a present bureaucracy, inefficient economic reforms, political instability, and immature financial development and on the other hand, the regulatory environment on Western Balkan region, this analysis represent a comprehensive empirical analysis regarding the determinants of the financial constraints on the SMEs growth, based on firm and country-specific factors. So having into consideration the vital role of the development and growth of SMEs in

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developing countries, the main focus of this paper relies on the determinants of the financial constraints for the SMEs growth in the Western Balkan countries: Albania, Serbia, North Macedonia, Montenegro, Bosnia and Herzegovina, and Kosovo. Thus the main research question of this paper is: Is financial constrain an obstacle for SMEs' growth in the Western Balkan region?

In developing economies, the key growth- obstacles to entrepreneurship are a lack of access to finance, a lack of access to markets, and a scarcity of "soft" skills (Coskun & Nizaeva, 2018). In addition, better access to financing results in employment growth in micro, small, and medium enterprises (Ayyagari et al., 2016; Coskun & Nizaeva, 2018).
Although the empirical analysis of the SME financing in Western Balkan can be met in several studies, severe of them have been involved in the context of a set of large developing countries, in most cases emphasized as SEE economies (Beck & Demirgüç - Kunt, 2006; Hashi & Toci, 2010; Ayyagari, Demirgüç-Kunt, & Maksimovic, 2011; Coskun & Nizaeva, 2018; 2019).

This paper follows the methodology used by Beck et al. (2006), Hashi and Toci (2010), and Nizaeva and Coskun (2019) when analyzing the determinants of the financial obstacles on the growth of SMEs in Western Balkans. In addition, in the first paper, only firm-specific determinants of financial constraints in South East European countries have been included in the model, while the second paper includes both firm-specific and country-specific determinants of financial constraints for Western Balkan countries. In addition, this paper uses OLS and probit model to determine the firm and country-specific determinants of financial constrain on the SMEs' growth in the Western Balkans, by using survey data collected from BEEPS – V.

Finally, the empirical findings suggest that financial constraints are significant for SMEs' growth in the Western Balkans. Results imply that a firm's age is positively correlated to the financial constraints faced by the SMEs in the Western Balkan. On the other side, a negative significant relationship was found among firm's size, ownership, and financial constraints ufaced by SMEs in Western Balkans. On the other side, among country-specific factors, bank concentration, regulation, inflation, and interest rate significantly determine the financial constraints that face SMEs in the region of Western Balkans.

Thus, the structure of this paper is as follows: relevant literature concerning the determinants of financial obstacles of SMEs growth is reviewed in the section "Literature Review" while the research methodology and data are presented in the section "Research Methodology and Data". In the section "Empirical findings and discussion" are included the empirical results and findings and discussed for similar and differenced findings among authors. Finally, conclusions and policy recommendations of the study are presented and discussed in the last section "Conclusion".

Literature review

There exist plenty of empirical papers discussing the access to finance as one of the main obstacles for the growth of SMEs in developing economies (Gertler, 1998; Devereux & Schiantarelli, 1990; Beck et al., 2005; Beck & Demirgüç-Kunt, 2006; Ayyagari et al., 2008; Hashiand Toçi, 2010; Hashi & Krasniqi, 2011; Coskun & Nizaeva, 2018, 2019).

By using logit and ordered logit model, Hashi and Toci (2010) have analyzed the relationship between financing constraints, credit rationing, and financing obstacles for firms in Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Romania and Serbia, and Montenegro, by utilizing firm-level survey data fro m BEEPS 2002 and 2005.

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They suggested that older firms are financially more constrained than the small and medium firms as well as a large part of their investment depends on internal funding.

In addition, by using the data from BEEPS V, Coskun and Nizaeva (2018) have been using the order Pooled OLS model, to investigate the firm and country-specific determinants of the financial constraint levels of SMEs in selected emerging Western Balkan economies. Their findings imply that firm size is a significant determinant of the financial constraint levels of SMEs in the selected economies and that older firms are financially more constrained compared to newly established enterprises.

The utilization of BEEPS –IV data was undertaken by Hashi and Krasniqi (2011), by employing ordinary least squares (OLS) regression for six countries dividing them into two country groups: 1st group - Poland, Hungary, Czech Republic and 2nd group - Albania, Macedonia, Serbia, and Montenegro: Their results claim that the differences in access to external financing between country groups were related to the growth stages of SMEs and levels of institutional development. In addition, firms – specific characteristics like age, size, ownership structure, and transparency have been found as a common that determine the financing status of SMEs (Beck, Demirgüç-Kunt, Laeven, & Maksimovic, 2006). Apart from firm-specific characteristics, also country-specific factors like institutional development, bank concentration, regulation, and level of economic development of countries represent crucial determinants of the financial constraints of SMEs (Barth et al., 2011).

Regarding the firm age, negative relationships between firm age and financial constraint level of SMEs in the developing countries have been revealed (Oliner & Rudebusch 1992; Akoten, et al., 2006; Beck et al., 2006; Berger & Udell, 2006; Ayyagari, Demirgüç-Kunt, & Maksimovic, 2013; Afandi & Kermani, 2014). In addition, Gertler (1988) stated that since creditors do not have enough time to monitor newly-established firms and build long-term relationships, young SMEs are likely to use informal financial sources, compared to older SMEs.

The size of the firm has been negatively associated with the level of their financial constrain (Beck et al., 2004; Angelini & Generale, 2005; Hashi & Toçi, 2010; Black, 2012). Thus, large firms face fewer financial constraints having access to many alternative financial sources. On the other hand, small represents a signal for relatively higher credit risk to the risk-averse banks, thus representing less incentive for fund lending (Winker, 1999; Hadlock & Pierce, 2010; Black, 2012).

Regarding ownership, it is discussed that foreign-owned firms have easier access to external financing because foreign parental ties induce a natural inclination toward lending to foreign firms (Schiantarelli & Sembenelli, 2000; Hashi & Toçi, 2010; Barth et al., 2011; Coskun & Nizaeva, 2018).

The higher the transparency of the firms, the less financially constrained the firms are, thus SMEs using external financial auditors of their fiscal year, assure their recordings to be in line with the GAAP standards. Thus, more transparent SMEs face fewer financial obstacles (Hope et al., 2009; Bart et al., 2011).

The level of GDP per capita is negatively correlated with the financial constraints met by the SMEs in the developing countries (Rajan & Zingales, 1998; Liedholm, 2002; Beck et al., 2006; Oberhofer, 2010; Fowowe, 2017). Thus, fewer financing constraints can be observed at SMEs operating in more developed countries with higher GDP ratios, compared with developing and less developed countries.

In addition, SMEs are adversely affected by a lack of cash flows, inadequate credit history, high-interest rates, a need for a special connection with banks, and high-risk premiums in obtaining commercial bank loans (Beck, Demirgüç-Kunt, & Maksimovic, 2005; Mateev et al., 2013).

Previous studies have argued that high inflation rates negatively affect the financial constrain and the firms' growth in the developing economies (Beck & Demirgüç - Kunt, 2006; Beck et al., 2008; Beck et al., 2009). Moreover, findings suggest that SMEs operating in fixed transaction costs environments SMEs face a high transaction costs burden of their loans, where high-risk premiums are accompanied by high inflation and instability. Scholars have associated the bank concentration to play an important role in the financial obstacles that SMEs face in the developed and emerging economies (Carbó-Valverde et al., 2009; Kira, 2013; Coskun & Nizaeva, 2018).

The regulatory and institutional environment also determines growth opportunities of firms, where previous analyses have demonstrated a negative relationship between regulation and financial constraints of SMEs in developing economies (Haltiwanger, Scarpetta, & Schweiger, 2006) and positive association of higher regulation and firms growth (Beck, Demirgüç-Kunt, & Maksimovic, 2005; Ayyagari, Demirgüç-Kunt, & Maksimovic, 2008; Hashi & Krasniqi, 2011).

The Western Balkan banking sector represents one of the main external financing suppliers for SMEs. In this regard, exiting empirical results claim a positive relationship between interest rates and financial constraints that SMEs observe during their operations in developing economies. Thus, the highest the interest rate, the more difficult it is for the SMEs to apply for bank credits (Beck et al., 2006; Ayyagari et al., 2008; Mateev et al., 2013; Mahmutovic & Coskun, 2016).

Research methodology

To accomplish this empirical analysis, this study uses cross-sectional data collected by the 5th Business Environment and Enterprise Survey (BEEPS V), selecting data only for Western Balkan countries. In addition, this survey is conducted as a joint project between World Bank and EBRD, undertaken for the period 2012 -2106 and updated in August 2017. The survey has included 32 countries, covering data for 16,600 firms, regarding the information on the characteristics and performance of firms and features of the business environment, while the sample counted are 1562 firms. Due to government price regulations and prudential supervisions, establishments operating in financial intermediation, mining and real estate, and all public or utilities sectors were excluded from the survey. It was stated that the available sampling weights accounted for the varying probabilities of selection across different strata, and sampling methodology and survey instruments lead to obtaining unbiased estimates for subdivisions with a known level of precision (European Bank for Reconstruction and Development and World Bank, 2013).

Small and Medium Enterprises are defined differently in different countries, yet most of the cross–country papers define SMEs as firms with up to 250 employees with full – time employment status (Ayyagari, Beck, & Demirgüç-Kunt, 2007; Beck et al., 2005; Hanedar, Broccardo, & Bazzana, 2014; Coskun & Nizaeva, 2018, 2019). In this context, large and micro firms are excluded from the sample, considering it is only from small and medium enterprises. The final SMEs sample counted 1562 firms, with the following distribution across countries: *Albania* - 334 firms (21.38% of the overall sample); *Bosnia and*

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Herzegovina - 307 (19.65%); *North Macedonia* - 308 (19.72%); *Kosovo* - 189 (12.1%); *Montenegro* - 128 (8.2%); and *Serbia* - 296 (18.95%).

In this paper, financing obstacles are set as a function of both firm-specific and country-specific determinants. Following Beck et al. (2006); Hashi and Toci (2010); Nizaeva and Coskun, (2018), to determine the determinants of the financial constraints of the SMEs in the Western Balkans, the following research model has been set to be estimated with Ordinary Least Square – OLS model:

$$\begin{aligned}\boldsymbol{Financial\ obstacles} &= \boldsymbol{\beta_0} + \boldsymbol{\beta_1\ FirmAge} + \boldsymbol{\beta_2\ FirmAge2} + \boldsymbol{\beta_3\ FirmSize} \\ &+ \boldsymbol{\beta_4\ ownership} + \boldsymbol{\beta_5\ transparency} + \boldsymbol{\beta_6} \log \boldsymbol{gdp} \\ &+ + \boldsymbol{\beta_7\ inflation} + \boldsymbol{\beta_8 bankconcentration} + \boldsymbol{\beta_9\ regulation} \\ &+ \boldsymbol{\beta_{10}\ domesticcredit} + \boldsymbol{\beta_{11}\ interest\ rate} + \boldsymbol{\varepsilon_t}\end{aligned}$$

The analysis uses a proxy variable for financial obstacles to identify whether and to what extent such obstacles affect the firm growth. Following Barth et al., (2011); Hashi and Toci (2010), and Nizaeva and Coskun (2019) methodology, the dummy variable **financial obstacles** were derived and measured from the following question and firm's manager answer: "Is access to finance, which includes its availability and cost, interest rates, fees, and collateral requirements, an obstacle to the operation of this establishment," which ranged from 0 (no obstacle) to 4 (very severe obstacle), yet converted to dummy variables where "major obstacle" and "very severe obstacle" were valued as 1; otherwise, the value was 0.

Firm Age is the number of years during which an enterprise has been operating in the selected country. Firm age was measured by subtracting the firm's year of establishment from the year when the survey was administered. **FirmAge2** is added as an independent variable, which is derived as the square of the Firm Age variable.

Firm Size is the number of full-time employees in the enterprise. The size of the firm was measured from the question: Sampling size, where following the definition of SMEs, larger firms have been excluded from the total sample of the firms.

The variable **ownership** is the percentage of a firm's shares that belongs to the foreign owners, derived from the question: % owned by private foreign individuals?; while **transparency** is scored as 1 if the firm has used an external auditor in the last fiscal year, and otherwise is scored as 0.

From country-specific factors, **bank concentration** is based on the assets of the three largest banks as a share of the assets of all commercial banks, while **log_gdp** is the GDP per capita converted into its logarithmic value. In addition, further country-specific determinants, such as **domestic credit** to the private sector as a percentage of GDP, **regulation, inflation,** and **interest rate** are also included in the model.

In addition, to analyze the impact of financial obstacles determinants on the SMEs growth in the Western Balkan region, the following model has been set, to be estimated with OLS and probit model:

$$\begin{aligned}\boldsymbol{Firm\ growth} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1\ financialobstacles} + \boldsymbol{\beta_2\ FirmAge} + \boldsymbol{\beta_3\ FirmAge2} \\ + \boldsymbol{\beta_4\ FirmSize} + \boldsymbol{\beta_5\ ownership} + \boldsymbol{\beta_6\ transparency} \\ + \boldsymbol{\beta_7} \log\_\boldsymbol{gdp} + \boldsymbol{\beta_8\ inflation} + \boldsymbol{\beta_9 bankconcentration} \\ + \boldsymbol{\beta_{10}\ regulation} + \boldsymbol{\beta_{11}\ domesticcredit} + \boldsymbol{\beta_{12}\ interest\ rate} + \boldsymbol{\varepsilon_t}\end{aligned}$$

Although firm growth rate can be measured in several ways, including by sales, total assets, and fixed asset values, employee growth and fixed asset growth are the most appropriate measurements of a firm's growth (Nizaeva & Coskun, 2019). In the OLS model, Firm growth as a dependent variable is measured by **employment growth** that is estimated as the difference between the logarithm of current full-time employee number and full - time employee number 3 years ago divided by the difference between survey years – 3, thus: **employment growth** =log (number of employee $_{i,t}$) – log (number of employee$_{s,t-3}$)/ 3. On the other hand, when firm growth is measured by the **fixed asset growth**, which is a dummy variable, a profit model has been estimated.

Some other country-specific factors that affect the SMEs growth in the model include **GDP per capita**, transferred into its logarithmic value, **inflation** - as % of consumer price index measured as the annual change in the cost of acquiring a basket of consumer goods and services. On the other hand, **regulation** shows the quality of government regulatory policies, with a mean value of 0 and a standard deviation of 1, ranged between –2.5 (weak regulatory governance policies) and + 2.5 (strong regulatory governance). **Domestic credit** refers to financial resources provided to the private sector by the financial sector, including finance and leasing companies, insurance firms, moneylenders, and other financial institutions. It is measured as total domestic credit to the private sector as a percentage of GDP and **interest rate** – representing the real interest rates, thus interest rate adjusted by inflation.

Table 1. Descriptive statistics of variables

Variables	Observations	Mean value	Standard Deviation	Minimum value	Maximum value
Firm growth	1484	1.098612	2.964808	1.098612	1.098613
Financial obstacles	1562	.1792574	.3836905	0	1
Firm Age	1562	15.45198	10.0276	1	105
Firm Age2	1562	339.2522	633.5792	1	11025
Firm Size	1562	1.302817	.4596238	1	2
Ownership	1562	4.074904	18.42648	0	100
Transparency	1562	1.550576	.7170052	0	2
log_gdp	1562	8.587722	.1772401	8.307	8.906
Inflation	1562	.5028406	1.169536	-.897	2.082
Bank concentration	1562	58.73032	15.10123	43.01	89.94
Regulation	1562	.0850941	.1607935	-0.07	0.33
Domestic credit	1562	45.31542	6.583336	34.93	54.85
Interstate	1562	6.14361	1.168402	4.203	8.099

Source: Author's source

Table 1 are presented the descriptive statistics of the variables that are included in the empirical analysis. Moreover, the set of SMEs undergoing the analysis consists of domestic (100% domestic ownership), foreign (100% foreign ownership), and partially foreign-owned (mixed ownership) SMEs. The mean value of the firm's age is 15.45 years. Mean value of inflation, bank concentration, and regulation is 0.5%, 58.73% and 0.085, respectively.

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Table 2. Cross-country factors in Western Balkan countries

Country	GDP per capita (current $)	Inflation (%)	Bank concentration (%)	Regulation	Domestic credit (%)	Interest rate (%)
Albania	4578.66672	1.62	56.58	0.21	39.78	7.001
Bosnia and Herzegovina	5329.63504	-0.897	44.42	-0.07	54.85	5.579
North Macedonia	5468.48086	-0.281	67.8	0.33	46.66	6.228
Montenegro	7378.34528	-0.71	67.11	0.061	53.05	8.099
Serbia	6600.05680	2.082	43.01	-0.064	43.56	4.203
Kosovo	4054.71697	0.428	89.94	-0.033	34.93	7.123

Source: Author's source

The country-specific variables of the Western Balkan economies that are incorporated in the model to accomplish this analysis are as follow GDP per capita, inflation, bank concentration, regulation, domestic credit, and interest rate. As can be noticed, during 2014, the GDP per capita in Kosovo and Montenegro is 4054.71697 and 7378.345289, respectively. In addition, inflation varies across countries, ranging from – 0.897 and 2.08 in Bosnia and Herzegovina, and Serbia. The lowest and highest level of bank concentration is observed in Serbia and Kosovo with 43.01% and 89.94%, respectively. Regulation of the private sector is seen at the highest in the Republic of North Macedonia while the lowest is present in Kosovo and Serbia. Regarding the domestic credit percentage, Bosnia and Herzegovina and Montenegro have experienced the highest percentage with 54.85% and 53.05%, while the lowest it is noticed in Kosovo, with 34.93%. Finally, the interest rate has scored the highest and lowest value in Albania and Serbia, 9.51% and 3.64%, respectively.

Research results

Table 3 (see page 339) are presented the regression results of the first model, thus the firm-specific and country-specific determinants of financial constraints of SMEs in the Western Balkan countries. In the first regression, it is determined only the effect of the firm-specific determinants on the SMEs. In addition, results reveal that larger firms face fewer financing obstacles than smaller firms. Moreover, a positive relationship is determined among the age of the firms and financial constraints in SMEs in Western Balkan, thus the older they get, the more financially constrained they became. Further, a negative significant relationship between ownership and financial obstacles, suggests that the more the percentage of the foreign ownership in the firms less financially constrained they are. This is mainly due to the access to international financial resources; thus they do not rely heavily on domestic bank loans in developing countries. These findings are in line with other authors' results using a similar methodology (Hashi and Toçi, 2010; Coskun and Nizaeva, 2018). From columns 2 to 6 are included one by one also the country-specific coefficient, where in the last model we have both firm-specific and country-specific determinants of the financial obstacles of the SMEs in the Western Balkan countries. Results from the second column model, imply a positive significant relationship between firm's age and financial constraints of the SMEs, while a positive but insignificant effect of firms size is highlighted on the financial constraints of the SMEs in Western Balkans. Moreover, a negative and significant association is seen between foreign ownership and transparency with the financial obstacles that face SMEs in Western Balkans. Finally, negative nexus is revealed among GDP per capita and financial obstacles met by the SMEs

in the Western Balkan countries. The third column includes the firm's specific factors and inflation from country-specific variables, where having similar results from the firm's specific indicators, inflation has a negative and significant effect on the financial obstacles that face SMEs in the Western Balkan region. From the results presented in column five and six, similar results regarding firm's specific determinants are noticed; while a negative relationship it has been suggested regarding regulation and domestic credit with the financial obstacles of the SMEs, respectively.

The last column includes both firms and country-specific determinants of the financial obstacles of SMEs. The regression results imply that from firm-specific determinants, only a firm's age is positively associated with the financial constraints of the SMEs in the Western Balkan region, while a negative and significant relationship between firms size, transparency, and ownership of the firms and their financial obstacles.

From the country-specific factors, bank concentration adversely affects the ability of the SMEs access to finance, thus the highest the bank concentration, the more financially constrained will become the SMEs. Moreover, regarding the negative relationship between domestic credit and financial obstacles of SMEs, SMEs operating in economies with higher domestic credit provided to the private sector as a percentage of GDP have lower financial constraints than the firms operating in countries with fewer credit provisions. The outcome makes sense both theoretically and practically, which means in countries with more domestic credit provided to private firms as a percentage of GDP, there are better credit opportunities, which makes SMEs relatively financially less constrained. A similar negative relationship is also observed between the levels of inflation and financial constraints of the SMEs in the region of the Western Balkans.

Table 4 (see page 340) presents the estimates of the determinants of financial obstacles of SME growth in the Western Balkan countries. For this purpose were conducted two different regressions –OLS and probit. In both of the models, firm-specific estimates with country dummies and estimates of firm-specific variables together with country-specific controls were given as outcomes of different regressions separately.

In addition, OLS results reveal that financing constraints have a negative impact on the firm growth, where here the dependent variable associating the firm growth is the employment growth of SMEs. In the probit regression where explanatory variables are firm-specific and country-specific characteristics, the dependent variable is fixed asset growth as a dummy variable, revealing a negative significant relationship between firm growth and financial constraint level.

In the first model, when included only firm-specific determinants, only firm age is negatively associated with the firm growth, while firms' size and ownership have a positive impact on the SMEs growth in the Western Balkans. In addition, transparency has no significant effect on the firm's growth. In the second OLS model, when both firm and country-specific determinants are included, apart from the similar results regarding the financial obstacles and firms specific indicators, from the country-specific variables, inflation, bank concentration, domestic credit, and regulation are negatively associated with the SMEs growth, while interest rate has a positive effect on the firm's growth in Western Balkan region. As to the GDP per capita, the results suggest insignificant nexus among these two variables

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Table 3. OLS regression results of the determinants of financial obstacles of SMEs in Western Balkan

Financial obstacles	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Firm Age	.0148(0.008) **	.0038(.0023) *	.0115(.0084)*	.01735(.0081) **	.0138(.0082) **	.0166(.0084) **	.0086 (.0084) *
FirmAge2	-.00012(.0001)	-.00001(.00003)	-.00008(.0001)	-.00013(00013)	-.0001(.0001)	-.0001(.0001)	-.00006(.0001)
Firm Size	-.0705(.0970)	.0265(.0265)	-.06796(.0973)	-.07674(.0965)	-.0907(.0969)	-.0729(.0969)	-.1473.0965) *
Ownership	-.0032(.0017) **	-.00103(.0003) **	-.0033(.0017)**	-.00251(00173)	-.0031(.0017) **	-.0030(.0017)*	-.0024(.0017)
transparency	-.1626(.0450) ***	-.0344(.0144) ***	-.1423(.0458) **	-.13049(.0441) ***	-.1739(.0454) ***	-.1621(.0447) ***	-.0879(.0439) **
log_gdp		-.1984(.0591) ***					(omitted)
Inflation			-.0918(.0324) **				-.2118(.1317)*
Bank concentration				.01128(.0031) ***			.0180(.0086) **
Regulation					-.6281(.2342) ***		-.6399(.2829) **
Domestic credit						-.0068(.0066)	-.0212(.0280)
Country_dummy	Yes						
Nr. of observations	1562	1562	1562	1562	1562	1562	1562
R^2	0.0143	0.0107	0.0151	0.0219	0.0146	0.0114	0.0485

Source: Author's source

Table 4. OLS and probit results of determinants of financial obstacles on SMEs growth in Western Balkan

Firm growth	**(1)**	**(2)**	**(3)**	**(4)**
Financial obstacles	-0.16437(0.0706) **	-0.1577(0.0652) **	-.03478(.02056) *	0.01370(0.0215)
Firm Age	-.03826(0.0060) ***	-0.0326(.00545) ***	-0.0113(0.0080)	-0.00043(0.0083)
Firm Age2	0.0005(0.00001)***	0.00044(0.00008) ***	.0002787 (.00014)**	-0.0001(0.0001)
Firm Size	0.7300(0.0629)***	0.7397(0.0540) ***	-0.54045(.0710) ***	-0.46773(0.0735)***
Ownership	0.0028(0.0016) ***	0.00313(0.0013) **	-.00071(0.00174)	-0.0011(0.0017)
Transparency	.02591(0.0345)	0.0224(0.03485)	.05071(.04474)	-.03066(0.0488)
log_gdp		(omitted)		-1.8816(0.8177) ***
Inflation		-0.2335(0 .0747)***		3.080(0.3477)***
Bank concentration		-0.0208415(0.0052) ***		0.1441(0.0184)***
Regulation		-0.3775(0.1698) **		0.7662(0.2326)
Domestic credit		-0.0601(0.0151)***		0.6556(0.0758)***
Interest rate		0.1288(0.0325) ***		(omitted)
Country dummy	Yes		Yes	
Nr. of observations	1562	1562	1557	1557
R^2 / Pseudo R^2	0.1323	0.1501	0.0997	0.0317
Log-likelihood			-966.046	-1038.94

*Note: Standard errors are reported in parenthesis and *, **, *** indicate significance levels of 10 %, 5 %, and 1 %, respectively. Source: author's calculations*

Source: Author's source

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In columns three and four (Table 4) are presented the results of the probit model when fixed asset growth is representing the dependent variable as the firm's growth. In addition, in column four, when we include country-specific variables together with the firm-specific variables, the relationship between financial constraint and SMEs growth becomes insignificant. Moreover, from firm-specific indicators, only firms' size has been shown to have a significant effect on the firm's growth, while the firm's age, ownership, and transparency are not seen as statistically significant for the SMEs growth in the Western Balkan. Regarding the country-specific indicators, the findings reveal that SMEs that experience access to finance as a major constrain to their activities have a lower growth rate than SMEs with no experience of financial obstacles. In addition, a statistically significant negative relationship revealed between ownership and firm growth, is in line with previous findings: Esrtrin and Uvalic (2014); Leitner (2016); Nizaeva and Coskun (2019). The size of the firm plays a significant role in the firm's growth, thus in all the models, it is estimated positive and significant relationship between firm size and firm growth. The findings are consistent with Hashi and Toci (2010); Hashi and Krasniqi (2011); Nizaeva and Coskun (2019), revealing that the larger the firm is, the more growth it is experiencing, although the firm size was not revealed as a significant determinant of financial constrain for SMEs.

Regarding the effects of the country-specific factors, it was estimated a negative significant relationship between GDP per capita and SMEs growth in the Western Balkan countries, while on the other hand inflation and domestic credit have a positive association with the SMEs growth in the Western Balkan countries. Thus, SMEs that are operating in economies with higher GDP per capita, experience a lower growth rate, whereas higher domestic credit is associated with a higher firm growth rate.

Conclusions

The main aim of this paper was to estimate the determinants of the financial obstacles of the SMEs and their effects on the SMEs growth in the Western Balkan countries: Albania, Bosnia and Herzegovina, North Macedonia, Kosovo, Montenegro, and Serbia. The data were collected from the BEEPS V Survey, undertaken as a joint project from World Bank and EBRD, for the period 2012 – 2016, updated in August 2017. To accomplish the objectives of this study, two models were conducted: the first model empirically investigated the determinants of the financial obstacles of the SMEs in the Western Balkan countries, by including both firm-specific and country-specific determinants. Later, an OLS and probit regression was conducted to investigate the effects of the determinants of the financial constraints on the SMEs growth in the Western Balkan, by using separately and together with the firm-specific and country-specific factors.

In the first model, results of the OLS were consistent with other related findings in the literature, revealing the financial obstacles as an important determinant of SMEs' growth in the Western Balkan countries. Further, among the firm-specific determinants of the financial constraints of SMEs, large firms face fewer financing obstacles than small firms, while older firms are more financially constrained than new enterprises. In addition, in the context of the ownership, findings reveal that SMEs with high foreign ownership of the firms, report fewer financial constraints.

In the step of analyzing the effects of the determinants of the financial constraints on the SME's growth in the Western Balkan region, two regression models were estimated: OLS and probit model. In addition, firm growth in the OLS regression was estimated by employment growth, while in the probit model as fixed asset growth as a dummy variable. Consistent with similar findings conducted for the SEE and Western Balkan, financial

obstacles are significantly associated with the growth of SMEs in the Western Balkan region, suggesting a negative relationship between financial obstacles and SMEs growth. Further, a negative relationship was reported among the firm size and firm growth, although the firm size was revealed as an insignificant determinant of the financial constraints of the SMEs. In addition, among the other firm-specific determinants, a negative association is reported between a firm's age, ownership, and firm's growth. Related to the country-specific factors, SMEs operating in economies with higher per capita GDP had less growth rate, whereas higher domestic credit was associated with a higher growth rate. In addition, when firm and country-specific variables are included in the model, results imply that financing obstacles of SMEs and firm growth are influenced more by macroeconomic factors than firm-specific indicators.

Having into consideration such results it is important to emphasize the vital role of the SMEs as the main employer in the Western Balkan region, highlighting the need for the policymakers to address the potential reforms in achieving better regulation, institutional development, and efficient governance, enforcing international accounting standards, better business and credit environment.

Finally, the main limitations of this paper are the lack of the availability of the data for recent years as well as the short comes regarding the level of the financial constraint of the SMEs, which are based on self-reported categories rather than on exact figures obtained from the financial statements of the firms. Yet, it is worth mention that BEEPS represents the only database available for cross-country and firm-level data.

References

Akoten, J. E., Sawada, Y., & Otsuka, K. (2006). The determinants of credit access and its impacts on micro and small enterprises: The case of garment producers in Kenya. *Economic Development and Cultural Change*, *54*(4), 927-944. http://dx.doi.org/10.1086/503585

Angelini, P., & Generale, A. (2005). Firm size distribution: do financial constraints explain it all? Evidence from survey data. Bank of Italy, Economic Research and International Relations Area. https://ideas.repec.org/p/bdi/wptemi/td_549_05.html

Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2008). How important are financing constraints? The role of finance in the business environment. *The World Bank Economic Review*, *22*, 483-516. https://doi.org/10.1093/wber/lhn018

Ayyagari, M., Demirguc-Kunt, A., & Maksimovic, V. (2011). Firm innovation in emerging markets: The role of finance, governance, and competition. *Journal of Financial and Quantitative Analysis*, *46*, 1545-1580.

Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2013). Size and age of establishments: Evidence from developing countries. World Bank Group. https://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-6718

Ayyagari, M., Juarros, P., Peria, M. S. M., & Singh, S. (2016). Access to Finance and Job Growth; Firm-Level Evidence across Developing countries. World Bank Group. https://openknowledge.worldbank.org/handle/10986/24146

Barth, J. R., Lin, D., & Yost, K. (2011). Small and Medium Enterprise Financing in Transition Economies. *Atlantic Economic Journal*, *39*(1), 19-38. https://doi.org/10.1007/s11293-010-9260-0

Beck, T., & Demirgüç-Kunt, A. (2006). Small and medium-sized enterprises: Access to finance as a growth constraint. *Journal of Banking & Finance*, *30*, 2931-2943. https://doi.org/10.1016/j.jbank fin.2006.05.009

Beck, T., Demirgüç-Kunt, A., & Honohan, P. (2009). Access to financial services: Measurement, impact, and policies. *The World Bank Research Observer*, *24*, 119-145. https://doi.org/10.1093/wbro/lkn008

Beck, T., Demirguc-Kunt, A., & Levine, R. (2004). Law and firms' access to finance: National *Bureau of Economic Research*. http://dx.doi.org/10.1596/1813-9450-319

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2005). SMEs, growth, and poverty: Cross-country evidence. *Journal of Economic Growth*, *10*, 199-229. https://doi.org/10.1007/s10887-005-3533-5

Beck, T., Demirgüç-Kunt, A., Maksimovic, V. (2005). Financial and legal constraints to growth: Does firm size matter?. *The Journal of Finance*, *60*, 137-177. https://doi:10.1111/j.1540- 6261.2005.00727.

Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2008). Financing patterns around the world: Are small firms different?. *Journal of Financial Economics*, *89*, 467-487. https://doi.org/10.1016/j. jfineco.2007.10.005

Beck, T., Demirgüç-Kunt, A., Laeven, L., & Maksimovic, V. (2006). The determinants of financing obstacles. *Journal of International Money and Finance*, *25*, 932-952. https://doi.org/10.1016/j. jimonfin.2006.07.005

Berger, A. N., & Udell, G. F. (2006). A more complete conceptual framework for SME finance. *Journal of Banking & Finance*, *30*, 2945-2966. https://doi.org/10.1016/j.jbankfin.2006.05.008

Black, S. F., Amy & Guttman, R. (2012). The financial characteristics of small business. *Small business finance roundtable*, 25-32.

Carbó-Valverde, S., Rodríguez-Fernández, F., & Udell, G. F. (2009). Bank Market Power and SME Financing Constraints. *Review of Finance, 13*(2), 309-340. https://doi.org/10.1093/rof/rfp003

Coskun, A. & Nizaeva, M. (2018). Determinants of the financing obstacles faced by SMEs: An empirical study of emerging economies. *Journal of Economic and Social Studies*, *7*, 81-99. https://doi.org/10.14706/JECOSS17725

Devereux, M., & Schiantarelli, F. (1990). Investment, financial factors, and cash flow: evidence from UK panel data. In Asymmetric information, corporate finance, and investment. *National Bureau of Economic Research*, 279-306

Dong, Y., & Men, C. (2014). SME financing in emerging markets: Firm characteristics, banking structure and institutions. *Emerging Markets Finance and Trade*, *50*, 120-149. https://doi.org/10.2753/REE1540-496X500107

Estrin, S., & Uvalic, M. (2014). FDI into transition economies. *Economics of Transition*, *22*, 281-312. https://doi.org/10.1111/ecot.12040

European Bank for Reconstruction and Development and World Bank (2013). Business Environment and Enterprise Performance Survey (BEEPS): A report on methodology and observations.

European Bank for Reconstruction and Development and World Bank (2014). Business Environment and Enterprise Performance Survey (BEEPS). http://ebrdbeeps.com/data/2012-2013/

Fowowe, B. (2017). Access to finance and firm performance: Evidence from African countries. *Review of Development Finance*, *7*, 6-17. https://doi.org/10.1016/j.rdf.2017.01.006

Gertler, M. (1988). Financial structure and aggregate economic activity: an overview. *National Bureau of Economic Research Cambridge*

Hadlock, C. J., & Pierce, J. R. (2010). New Evidence on Measuring Financial Constraints: Moving Beyond the KZ Index. *The Review of Financial Studies, 23*(5), 1909-1940.

Haltiwanger, J., Scarpetta, S., & Schweiger, H. (2006). Assessing Job Flows across Countries: The Role of Industry, Firm Size and Regulations. *Discussion Paper* 2450, IZA.

Hashi, I., & Krasniqi, B. A. (2011). Entrepreneurship and SME growth: Evidence from advanced and laggard transition economies. *International Journal of Entrepreneurial Behavior & Research*, *17*, 456-487. https://doi:10.1023/A:1013157127524

Hashi, I., & Toçi, V. Z. (2010). Financing constraints, credit, rationing, and financing obstacles: Evidence from firm level data in South Eastern Europe. *Economic and Business Review*, *12*(1), 29-60.

Hope, O. K., Thomas, W. B., & Vyas, D. (2009). Transparency, ownership, and financing constraints in private firms. *Journal of Accounting Research*, *46*(3), 591- 626.

Kira, A. R. (2013). Determinants of financing constraints in East African countries' SMEs. *International Journal of Business and Management*, *8*(8), 49-68.

Leitner, S. M. (2016). Financing constraints and firm growth in emerging Europe. *South East European Journal of Economics and Business*, *11*, 18-40. https://doi.org/10.1515/jeb-2016-0002

Liedholm, C. (2002). Small firm dynamics: Evidence from Africa and Latin America. *Small Business Economics, 18*(3), 227-242.

Mahmutovic, Z., & Coskun, A. (2016). The microfinance tale bright and dark side of the narrative Bosnia and Herzegovina experiences. Regional Economic Development in the Balkan Region, 322-340.

Mateev, M., Poutziouris, P., & Ivanov, K. (2013). On the determinants of SME capital structure in Central and Eastern Europe: A dynamic panel analysis. *Research in International Business and Finance*, *27*, 28-51. https://doi.org/10.1016/j.ribaf.2012.05.002

Nizaeva, M., & Coskun, A. (2019). Investigating the Relationship Between Financial Constraint and Growth of SMEs in South Eastern Europe. *SAGE open*, *9*(3), https://doi.org/10.1177/2158244019876269

Oberhofer, H. (2010). Firm growth, European industry dynamics and domestic business cycles. *FIW Working Paper*, 55.

Oliner, S. D., & Rudebusch, G. D. (1992). Sources of the financing hierarchy for business investment. *The Review of Economics and Statistics*, *7*(4) 643-654. http://dx.doi.org/10.2307/2109378

Rajan, R. G. and Zingales, L. (1998). Financial Dependence and Growth. *American Economic Review*, *88*, 559-586.

Ruziev, K., & Midmore, P. (2015). Connectedness and SME financing in post-communist economies: Evidence from Uzbekistan. *The Journal of Development Studies*, *51*, 586-602. https://doi.org/10.108000220388.2014.989991

Schiantarelli, F. & Sembenelli, A. (2000). Form of ownership and financial constraints: Panel data evidence from the flow of funds and investment equations. *Empirica 27*, 175-192.

Winker, P. (1999). Causes and Effects of Financing Constraints at the Firm Level. *Small Business Economics*, *12*, 169-181.

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