

FINANCIAL CONSTRAINTS OF SMALL AND MEDIUM ENTERPRISES: CASE OF ALBANIA

Besa SHAHINI^a

Abstract

The main goal of this paper is focused on analyzing the main factors that affect financial constraints of small and medium enterprise (SME), in case of a developing country as it is Albania. The main analysis is concentrated in factors such as: Sector of activity of the SME (production or service), percentage of financing by credits, percentage of financing by its own capital, number of employers and the age of the firm. These factors are 'measured' through a survey undertaken at Albanian SMEs. A logistic regression is used to understand the impact of these factors on enterprise financial constraints. The sample consists of almost 420 SMEs spread all over territory of the country. The main finding of the research shows that factors such as: sector, age of the company and number of employers are not statistical significant, which means that these factors do not impact significantly the fact that an enterprises "suffers" or not from financial constraints. While factors such as: annual turnover, percentage of financing by bank credits and by its own capital impact significantly the financial constraints situation of the firm itself.

Keywords: Financial Constraints, Enterprise, Turnover, Credits, Employer

JEL Classification: C18, C32, D24, G21

Author's Affiliation

^a - Lecturer of Applied Statistics and Quantitative Research Methods, Department of Applied Statistics and Informatics, Faculty of Economy,, University of Tirana-, Albania, Tel: +355684018309, email: besa.shahini@unitir.edu.al besashahini@yahoo.com

1. Introduction

Transition process in Albania came up with a business sector dominated by small and medium enterprises (SME), considering around 71% share of the whole official employment in Albania (Progress report of European Commission 2013). Whatever the progress is in this concern, the access on financing still remains the main challenge for SMEs in the country.

There is a smooth progress in financing issues and the own resources is considered as the most important resource of financing for the majority of the enterprises in Albania. This is the case of micro and small enterprises as well as the young ones, which are facing hard conditions of borrowing, mainly in rural area.

Banking system, mainly finance big enterprises and tend to be more conservative toward SMEs. The increase of credits turn down in 7.4% in 2012, comparing with 11.7% in 2011, while the decrease used to be more rapid lastly, resulting in an annual increase of credits of 1.6% during first part of 2013 and only 0.7% at the second part of the year (Progress report of European Commission 2013)

The decrease initiative of credits by banking system, which hurts the families and businesses as well, is the mirror of the upgraded criteria asked by the banks, due to increase of the bad loans and the low loan's demand, based on the national and international economic insecurity environment.

There are three indicators in Europe referring to the definition of SMEs:

- Micro enterprises up to 10 employers;
- Small enterprises with 11 to 50 employers;
- Medium enterprises with 51-250 employers

According to European context, small and medium-sized enterprises are defined in the EU recommendation 2003/361 . The main factors determining whether an enterprise is SMEs are:

1. Staff headcount
2. Either turnover or balance sheet total.

Table 1: European definition of SMEs

Company category	Staff headcount	Turnover	or	Balance sheet total
Medium-sized	< 250	≤ € 50 m		≤ € 43 m
Small	< 50	≤ € 10 m		≤ € 10 m
Micro	< 10	≤ € 2 m		≤ € 2 m

Source: http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition/index_en.htm

These ceilings apply to the figures for individual enterprises only. A firm that is part of larger group may need to include staff headcount/turnover/balance sheet data from that group too.

According to Albanian legislation on SMEs (Law no. 10042, dated on 22.12.2008 on “Small and medium Enterprises”, article 2)

- Enterprises are classified as: micro, small and medium enterprises
- Medium enterprise includes all small and medium enterprises with up to 250 staff headcounts and turnover or balance sheet total of up to 250 mln Albanian leke (ALL).
- Small enterprise is considered the one which has 11-49 staff headcounts and turnover or balance sheet total of up to 50 mln ALL.
- Micro enterprise is considered the one which has 0-9 staff headcounts and turnover or balance sheet total of up to 10 mln ALL.

Albania is a good case to be considered on this topic, due to the fact that the market is dominated by SMEs and there are serious problems in financing system issue.

Table 2, refers to the division of the SMEs according to their economic activity, and number of staff headcounts in the whole country.

Table 2: Active enterprises according to economic activity and staff headcounts

Economic activity	Total	Grouped by staff headcounts			
		1-4	5-9	10-49	50+
Total	104,275	94,025	5,396	3,898	956
Goods	16,249	12,433	1,746	1,635	435
Agriculture	1,777	1,687	38	41	11
Industry	10,003	7,956	926	814	307
Construction	4,469	2,790	782	780	117
Services	88,026	81,592	3,650	2,263	521
Trade	45,273	42,680	1,695	808	90
Hotel, Bars and Restaurants	16,888	15,828	831	207	22
Transport and Communication	10,351	9,919	220	168	44
Other services	15,514	13,165	904	1,080	365

Source: INSTAT, Statistical register of enterprises, 2013

Financial constraints refer to the lack of possibilities for enterprises to finance the desired level of investments being in the perfect capital market condition.

it is an important issue concerning micro and macroeconomic perspective to be aware of the effects of financial constraints.

There are two main points of views regarding this issue: one theory (Fazzari, Hubbard, Petersen, 1988) argues that the expenditure of investments of the enterprise is affected by the internal level of its own funds. The other theory (Kaplan, Zingales, 1997) argues that the sensitivity of the investments of the liquidities cannot be used as a method of measuring the financial constraints. A firm is considered to be under financial constraints, if it asks for external funds, but it finds it difficult to find them available at the capital market. We can consider the fact that a firm can find itself in a more severe financial constraint than another one, if the first one manages to borrow more capital or if the firm faces a higher cost of borrowing the same financing amount (Povel 2001).

2. Literature review

Numerous studies highlight “access to financing” as one of the driving factors of an enabling economic environment. The World Bank and the International Finance Cooperation rank economies according to their ease of doing business; in this framework, it is an important criterion to consider the business’s ability to attract credits (World Bank 2011).

The Global Entrepreneurship Monitor (GEM) Entrepreneurship Framework Condition also highlights “entrepreneurial financing”, defined as the availability of financial resources for SMEs in the form of debt and equity, as one of the key factors for stimulating and supporting entrepreneurial activity (GEM, 2010).

Access to financing helps all enterprises to grow and prosper (Dalberg 2011).

The Investment Climate Surveys of the World Bank show that access to financing improves firm performance. It not only facilitates market entry, growth of companies and risk reduction, (Beck et al 2008) but also promotes innovation and entrepreneurial activity (Kappler et al 2006). Furthermore, enterprises with greater access to capitals are more able to exploit growth and investment opportunities. (Beck et al 2006).

In other words, aggregate economic performance will be improved by increasing the access to capital. (World Bank 2008)

SMEs comprise an important share of economic activity in advanced economies. In the non-government sectors of advanced economies, SMEs account for over 95% of the total number of enterprises, 60% of total employment and over 50% of value added. The SME sector is often considered an important engine of economic growth (Helfand et al, 2007; de Kok et al, 2011). However, recent academic research, has identified that young rather than

small enterprises are the main contributors to employment growth (Haltiwanger et al 2010; Dixon and Rollin, 2012; Lawless, 2013; Criscuolo et. 2014).

The study paper is closely related to Beck et al (2006) and Beck et al (2007) who examine the impact of financing conditions on firm growth. However, they focus on the impact of financial constraints on SMEs rather than young enterprises, while the research is focused on the impact of the annual turnover of the SMEs on the financial constraints phenomenon.

The paper is also related to Ferrando and Griesshaber (2011) and Artola and Genre (2011) who examine whether SMEs are more likely to experience financial constraints compared to larger enterprises. They found that firm age, rather than firm size is a more important factor which decides whether a firm is facing financing constraints or not. In contrast to Ferrando & Griesshaber (2011) and Artola& Genre (2011), we find that, in Albanian case, the firm age is not a significant factor influencing the financial constraint of a firm.

Ryan Bannered (2014) found that in 2013, financing constraints might have reduced profit growth in older enterprises aged between 2 and 10 years. Although, their results suggested that there is a linkage between financial constraints and firm growth that varies across the age distribution of enterprises. However, it lacks enterprise level balance sheet data and quantitative data on firm activity such as the percentage growth of sales, profits and employment to improve the results.

Considering the limitations of the studies offered by literature review, it is made an effort to go through the balance sheet of 420 SME's in Albania, and to include in the analyses the age, annual turnover, age and percentage of financing for the respective enterprises.

3. Data and Methodology

A survey undertaken in 420 Albanian SMEs, helps to study the effects of financial constraints in investment decisions of private enterprises, as well as to fill the frame of a quantitative and qualitative analysis for this issue. The questionnaire is addressed to the general managers of the enterprises and rarely, in case of their absences, to the respective financial managers.

The main aim of the survey is to ensure dull information referring to the business environment, types of the constraints faced by the enterprises as well as the effects of each constraint to the enterprises' investment decision. Statistically we confirm that:

$$\Delta = z \cdot \sqrt{\frac{p(1-p)}{n}} \sqrt{\frac{N-n}{N-1}} \quad (1)$$

According to Albanian National Institute of Statistics (INSTAT), there are 104,275 enterprises at the end of 2013. Considering a margin error of 5%, and the lack of any previous study of this type for Albania, it is assumed a 50% probability that a firm can face a financial constraint. Applying this figures in the equation (1) of finding the sample size, it is found that an $n \approx 320$ enterprises, is fine to go on with the study. As far as being skeptic referring to missing response, the survey is dedicated to 420 enterprises, which reduces the margin of error to around 4 %.

The questionnaire is distributed through points of contacts with workers of the Second Level Banks, General Taxes Directorate and General Custom Offices with a three months period, which covers September- December 2014.

The selection process of the main cities where the selected enterprises have their field activities is focused on the data gathered from INSTAT. The procedure of selection is vased on the reference to the statistical register of economic enterprises, and the active selected enterprise is done in proportional to the level proposed by that registrar.

Based on the literature review the main factors which affect the financial constraints are: type of the SME (micro, small or medium); the sector where the firm has its activity (production or service); firm's age, number of firm's employers ect.

The first part of the empirical analysis of the paper is focused on descriptive analyze, while the second one refers to a logistic regression, trying to explain the effect of each above-mentioned factors to the financial constraints faced by the firm itself.

This analytical relation between the factors and the financial constraint phenomenon is explained by the equation:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 \quad (2)$$

where:

Y = A dichotomy dummy variable (Do you think that your firm is facing right now a financial constraints? 0 = Yes, 1 = No);

X₁ = Activity sector (dummy variable: 0 = Production, 1 = Service);

X₂ = Annual Turnover (mln ALL);

X₃ = Percentage of financing by bank;

X_4 = Percentage of financing by its own capital;
 X_5 = Number of employers (staff headcounts);
 X_6 = Age of the enterprise (in years)

As Y is a categorical dichotomy variable (0 = Yes, 1 = No), it is used a multivariable binary logistic regression, through which the original regression is transformed as:

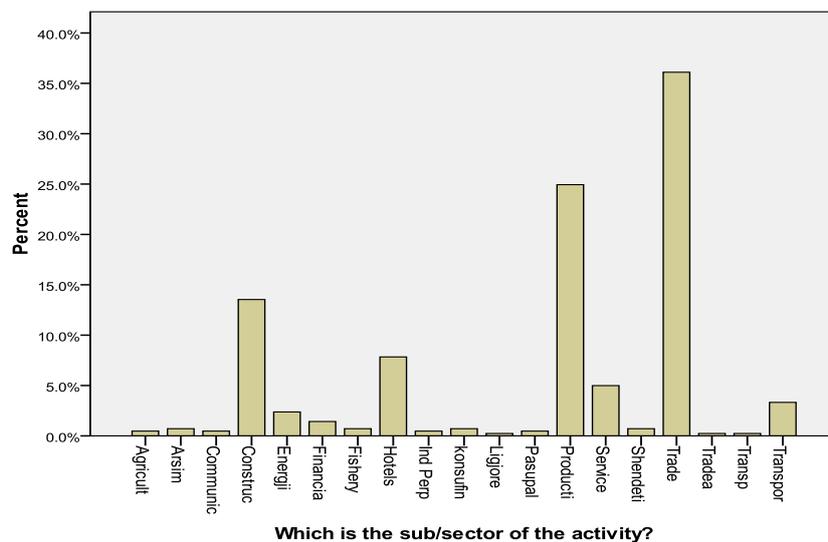
$$\ln \text{ possibilities} = L_i = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 \quad (3)$$

As it is previously explained, the codification for the sector variable (Service=1 and Production =0). Considers as a reference the group of enterprises whose activity is in production sector, and the proportion of the possibilities according to the sectorial division will show as if the service enterprises have a greater or a lower possibility to don't face a financial constraints (No = 1).

4. Results

First part of the result refers to descriptive statistical findings, while working with the SPSS 20, on survey data. Considering the sample of 420 SMEs, the distribution of selected enterprises, according to activity is shown in graph no. 1.

Graph 1: Distribution of enterprises based on activity sector



Source: Author's calculation

Referring to the distribution of our sample, the producers of goods are represented mainly by the enterprises whose activity falls under industry and construction. Meanwhile, the dominated enterprises, under the service activity “umbrella”, are those which are focused in trade.

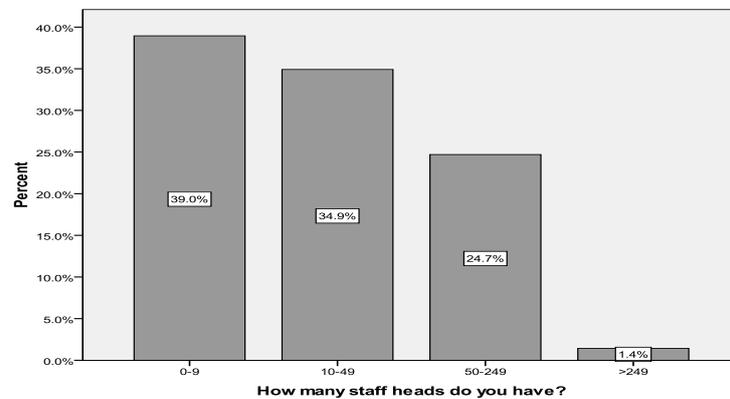
As it is already mentioned, the classification of the enterprises according to their size is done accordingly to number of staff headcounts and turnover or balance sheet total.

The Albanian legislation is already harmonized with the European one, based on employer’s number criteria, but it is not done on annual turnover or balance sheet total, due to the gap between respective economic developments.

We can see the discrepancy between these two classification criteria in our survey (Graph 2 and Graph 3). The grouping of enterprises is done based on staff heads (number of employers criteria). It is chosen to make this kind of grouping in order to fulfilling some statistical needs assumptions.

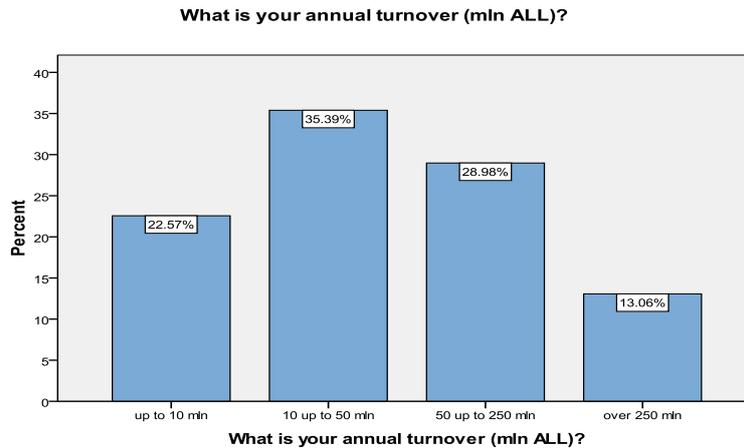
Referring to this study background and the fact that second level banks consider annual turnover, as the main criteria when assessing the enterprise’s application for financial credits, it is seen as more relevant to consider the annual turnover as the main criteria for enterprise classification size.

Graph 2: Classification of enterprises base on number of employers



Source: Author’s calculation

Graph 3: Classification of enterprises based on annual turnover



Source: Author's calculation

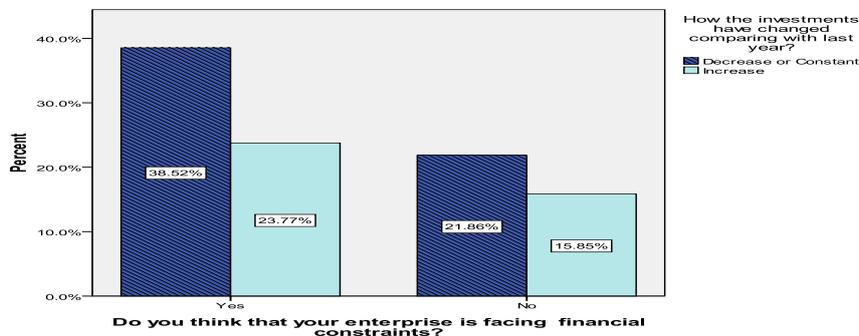
Consequently, within our survey, we have 22.57% micro enterprises, 35.39% small enterprises, 28.98 % medium sized enterprises and 13,06% large sized ones (Graph 3) Asked about the trend of the investments that enterprises (SMEs) have undertaken comparing with last year , it resulted that around 39.6% of the enterprises declared that their investment are increased, while 60.4% declared that their investments have decreased or remain constant.

Graphically the questionnaire results referring to the trend of investments and the fact of facing or not financial constraints are shown in Graph 4.

The following part of the study is an empirical analyze of factors that affect the financial constraints existence.

Table 3, assures that the logistic model used in this case, does not suffer from multicollinearity, so we can further go on with interpretation of the results.

Graph 4: Investment attitude toward financial constraints



Source: Author's calculation

The overall model is statistical significant ($\chi^2 = 14.270$, $p = 0.036 < 0.05$ (table 4). $R^2_{Cox \& Snell} = 0.149$ and $R^2_{Nagelkerke} = 0.166$ (table 5) shows for a strong relationship among independent variables of the model (6 of them: Age, Employers, Turnover, Percentage of financing by bank, Percentage of financing by its own capital, Sector of activity) taken altogether as a whole and the dependent one (Y= Financial constraints: 0 for Yes and 1 for No).

Table 3: Matrix of correlations

	Constant	Sector(1)	Annual turnover (mln ALL)	% Bank Credits	% Own Capital	Number of Employers	Age
Step1 Constant	1.000						
Sector (1)	-.118	1.000					
Annual turnover(mln ALL)	-.023	.011	1.000				
% Bank Credits	-.678	.081	-.119	1.000			
% Own Capital	-.849	-.178	.036	.550	1.000		
Number of Employers	-.077	-.016	-.532	-.097	.068	1.000	
Age	-.261	.072	-.015	-.066	-.081	-.110	1.000

Source: Author's Calculation

Table 4: Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
Step 1 Step	14.270	6	.036
Block	14.270	6	.036
Model	14.270	6	.036

Source: Author's Calculation

Table 5: Summary table of the model

Step	Cox & Snell R Square	Nagelkerke R Square
1	.149	.166

Source: Author's Calculation

As results, binary logistic multivariable regression (table 6), can be written as:

\ln (possibilities if financial constraints)= $-0.988 + 0.054 * \text{Sector} + 0.002 * \text{Annual Turnover} - 0.003 * \% \text{ Bank Credits} + 0.01 * \% \text{ Own Capital} - 0.003 * \text{No. of Employers} - 0.0038 * \text{Age}$

Or in codification variable format, it can be written:

$$\ln Y = -0.988 + 0.054 * X_1 + 0.002 * X_2 - 0.003 * X_3 + 0.01 * X_4 - 0.003 * X_5 - 0.0038 * X_6 \quad (4)$$

Table 6: Variables in the equation

	B	Wald	Sig.	Exp(B)
Step 1 ^a Sector(1)	.054	.036	.850	1.055
Turnover	.002	6.160	.013*	1.002
BankCredits	-.003	3.381	.0537**	.997
OwnCapital	.010	3.0571	.061**	1.010
Employers	-.003	1.097	.295	.997
Age	-.0038	.039	.844	0.996
Constant	-.988	2.927	.087	.372

Source: Author's Calculation *Statistical significant at 5% ** Statistical significant at 10%

Considering the fact of working with a dichotomy dummy variable for the activity sector (service and production), the model shows that there are not statistical significant difference in the possibility of facing financial constraints between the enterprises focused on service sector and the ones focused on production sector ($\chi^2 = 0.036$, $p = 0.85 > 0.05$). Meanwhile, $\text{Exp}(\beta)$ for “Sector” variable is $1.055 \approx 1$, which stands for, the possibilities of not facing financial constraints (No=1) are almost the same for the enterprises in service sector and the ones in production sector (50% to 50%)

Referring to the other variable, we can say that “Number of employers” does not significant statistically affect the possibility of financial constraints of enterprises ($\chi^2 = 1.097$, $p = 0.295 > 0.05$). In this case, $\text{Exp}(\beta) = 0.997 \approx 1$, which shows that a average increase by 1 of the number of employers has an equal affect on the possibilities of facing or not the financial constraints (around 50% (No=1) to 50% (Yes=0)

Change of the age of the enterprise “Age”, which measures the number of activity years of the enterprise) does not statistically significant affect the possibilities of financial constraints of enterprises ($\chi^2 = 0.039$, $p = 0.844 > 0.05$). Referring to “Age” variable, $\text{Exp}(\beta) = 0.996 \approx 1$, so the increase of the “Age” of the enterprise by average of 1 year, will equally affect the change of possibility of facing and not facing the financial constraints (50% to 50%)

Chi-square Test applied for the coefficient of “Annual Turnover” variable, shows that this variable is statistically significant at 5 % significance level ($\chi^2 = 6.16$, $p = 0.013 < 0.05$). $\text{Exp}(\beta)$ for “Annual Turnover” is $1.002 > 1$, which tells us that each 1mln ALL average increase of the Annual Turnover will result in an average increase of 0.2% for the forecasted possibility of not facing financial constraint ($\text{no}=1$), and this is statistically significant.

Chi-square Test applied for the coefficient of “Percentage of financing by bank credits” variable, shows that this variable is statistically significant at 10 % level ($\chi^2 = 3.381$, $p = 0.0537 < 0.1$). $\text{Exp}(\beta)$ for this variable is $0.997 < 1$, which tells us, that each 1% average increase of the percentage of financing by bank credits will averagely decrease by 0.3% the possibility of not facing financial constraints, and this is statistically significant.

Referring to the Chi-square test for the other variable, “Percentage of financing by its own capital” we can say that this is statistically significant at 10% level ($\alpha = 10\%$) while $\chi^2 = 3.057$, $p = 0.061 < 0.1$. $\text{Exp}(\beta) = 1.01 > 1$, which means that an average increase of 1 % of the percentage financing by its own capital, will make that the possibility of not facing financial constraints to be increased by an average of 0.1%.

5. Conclusions

This paper provides further evidence about the factors affecting financial constraints of SMEs, using a large sample of 420 SMEs in Albania. Based on literature review and in Albanian circumstances, there are analyzed six main factors possibly affecting the financial constraints. In consistence with the results of other studies, we proved that smaller firms generally face higher level of financial constraints and vice versa. Those results are pretty much the same even for the most developed countries, indicating that the process of relaxing financial constraints for SME is still an ongoing one. However, the difference between the level of financial constraints for small and large firms is different in each country and it depends on the development of the country itself. We all are aware of the Albanian efforts to be integrated in European Union, so hopefully even the problem of financial constraints would be less severe, during upcoming years..

Within this point of view, this paper offers an effort to study the investment’s financing in scope of financial constraints for SMEs.

Being different from other studies in this field, this paper is based on testing the perceptions supplied by the enterprises themselves and its main purpose is not to study the sensitivity of money flows and investments as well.

The results of this paper shows that, factors such as: activity sector, age of the enterprise as well as the number of employers do not have a significant impact on the possibility of the firm to face financial constraints or not. While factors such as: annual turnover and percentage of financing by its own capital impact significantly the possibility of facing or not the financial constraints. Their trend is positively related, which proves that, the higher the level of turnover and the percentage of financing by its own, the higher the possibility of not facing the financial constraints. This finding gives strengths to the fact that, the turnover is the best criteria in Albanian case to define SMEs compared with number of employers as the other alternative.

The unexpected results refer to the impact of percentage of financing by bank credits on reducing the financial constraints. The results show that, the higher the level of percentage of financing by bank credits the lower the possibility of not facing a financial constraint. These results are statistical significant. Either way this result is a surprise, because it is thought that better relations with banks would result in lower financial constraints for enterprises. This finding proves the fact that, dealing with banks is the last chance for SMEs to survive. Why does this happen? Maybe because banks have so many bureaucracies while granting loans, as well as the high interest rate they charge might be another good reason.

It is recommended to have better financial policies undertaken by the second level banks, in order to make the option of financing of SMEs by bank credits a more attractive alternative. In this way, the banks will not only help the development of SEMs, but they will help themselves through diversification of their portfolio investments.

Our results from this study further strengthens results from previous researches and offers a guideline for policy makers in their attempt of offering a better business environment for companies. Better development of financial institutions and higher life standard are important for relaxing the level of financial obstacles for companies. This is of course a long term process of country development on all aspects, which has already begun in Albania.

References

- Artola, C. and Veronique, G. (2011). Euro area SMEs under financial constraints: belief or reality? *CESifo Working Paper No 3650*.
- Banerjee, R. (2014). SMEs, financial constraints and growth. *Working Papers, NO.475*.
- Beck, T., Demirguc-Kunt, A, Laeven, L. and Maksimovic, V. (2006). The determinants of financing obstacles. *Journal of International Money and Finance, 25*, pp. 932–952.

- Beck, T., Demirguc-Kunt, A. and Maksimovic, V. (2005). Financial and legal constraints to growth: does firm size matter? *Journal of Finance*, 60(1), pp. 137–177.
- Beck, T. and Demirgüç-Kunt, A. (2008). Access to Finance: An Unfinished Agenda. *The World Bank Economic Review*, 22(3), pp. 383-396.
- De Kok, J., Vroonhof, P., Verhoeven, W., Timmermans, N., Kwaak, T., Snijders, J., and Westhof, F. (2011). *Do SMEs create more and better jobs?* European Commission Study on the SMEs impact on the EU labour market.
- Dixon, J. and Rollin, A. (2012). Firm dynamics: employment growth rates of small vs large enterprises in Canada. *The Canadian Economy in Transition Series No 25*.
- Fazzari, S. M., Hubbard, R. G. and Petersen, B. C. (1988). Financing Constraints and Corporate Investment. *Brookings Papers on Economic Activity*, pp. 141-206.
- Ferrando, A. and Griesshaber, N. (2011). Financing obstacles among euro area enterprises, who suffers the most? *ECB Working Paper No 1293*.
- Global Entrepreneurship Monitor (2010). *GEM 2010 Global Report*.
- Galber (2011). *Report on Support to SMEs in Developing Countries Through Financial Intermediaries*. November 2011.
- Haltiwanger, J.C., Jarmin, R.S., and Miranda, J. (2010). Who creates jobs? Small vs large vs young. *NBER Working paper No 16300*.
- Helfand, J., Sadeghi, A. and Talan, D. (2007). Employment dynamics: small and large enterprises over the business cycle. *Monthly Labor Review*, 130, pp. 39–50.
- Kaplan, S.N. and Zingales, L. (1997). Do Investment-Cash Flow Sensitivities Provide Useful Measures of Financing Constraints? *Quarterly Journal of Economics*, 112, pp. 169-215.
- Klapper, L., Laeven, L. and Raghuram, R. (2006). Entry Regulation as Barrier to Entrepreneurship. *Journal of Financial Economics*, 82(3), pp. 591–629.
- National Institute of Statistics (Albania). <http://www.instat.gov.al/al/home.aspx>.
- Povel, P. and Raith, M. (2001). *Optimal investment under financial constraints: the roles of internal funds and asymmetric information*. www.researchgate.net.
- Progress Report of European Commission for Albania 2013.
- World Bank, IFC (2011). *Economy rankings*. <http://www.doingbusiness.org/rankings>.
- World Bank, Chapter 2: *Enterprises' Access to Finance: Entry, Growth, and Productivity*
http://siteresources.worldbank.org/INTFINFORALL/Resources/4099583-1194373512632/FFA_ch02.pdf