THE INFLUENCE OF THE MACROECONOMIC ENVIRONMENT ON THE FINANCING DECISION IN SMES

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Abstract: Small and medium-sized enterprises are considered the engine of economic growth, as they play an important role in a country's economy by significantly contributing to its economic growth and job creation. However, one of the biggest problems SMEs face is the lack of access to finance. Lack of access to finance affects the existence of SMEs and the possibility of their speedy recovery from a crisis. The present study aims to conduct an empirical analysis of the influence of macroeconomic variables on the performance of small and medium enterprises. The study also includes the credit indicator granted to the private sector by banks, to analyze whether SMEs performance is influenced by access to finance, especially in a competitive economy. The main objective of the study is to investigate the determinants for improving the SME's performance and the impact of access to finance on it among the Member States of the European Union located in south-eastern Europe. The economic theory states that access to finance influences a company's performance. The present study is based on the secondary data on the macroeconomic environment of the states under study and is obtained from the Eurostat and the World Bank. The study is empirical cum qualitative in nature and based on Panel data. The analysis period is 11 years from 2010 to 2020. The data analysis is done with the help of the econometric software "EViews". The findings of the study indicates that the macroeconomic environment influences the financing decisions of most small and medium- sized enterprises. Also, due to the pandemic of COVID-19, the macroeconomic environment has deteriorated, and access to finance is especially a vital issue for the SME sector. The results confirm that the real GDP growth rate influences the financing decision of SMEs. Considering the vital importance of the SMEs in a country's economy and the devastating impact of the COVID-19 pandemic on small and medium-sized enterprises, the paper is of high interest in solving the problems of access to finance.

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Introduction

Small and medium-sized enterprises play a vital role in a country's economy, significantly contributing to its growth and job creation. Over the years, the institutions in the European Union have recognised the role of SMEs in the national economy. Therefore, there are more than 24 million SMEs in the European Union, which account for about 99.8% of all the enterprises in the region.

However, one of the biggest problems facing this sector, especially during a crisis, is the lack of access to finance. It is also well known that SMEs play a vital role in economic development; therefore, an extensive literature is available that analyzes the factors that determine financial constraints and growth rates, with important implications for decision makers. Several factors, such as insufficient financial development, excessive bureaucracy and ineffective economic reforms, contribute to the lack of access to finance.

Thus, the SMEs in a country contribute the maximum in its GDP, generate employment opportunities, and are one of the most important sources of income for the state budget. Finally, the importance of access to finance is highlighted by the fact that this sector is an important source of competition for large companies, thus helping to control the monopoly of the big companies. Therefore, the economic performance is conditioned by the performance of its SMEs (Abbasi & Wang, 2017; Anton & Nucu, 2020).

COVID-19 has severely affected small and medium-sized businesses globally. The new working conditions imposed by the pandemic have created a problematic situation for SMEs worldwide, many being forced to cease their activity, thus affecting the national economy. Thus, the member states of the European Union have adopted a series of measures for improving access to finance to support this vital sector of the economy. Therefore, the study points out that between April and September 2021, eurozone SMEs an increase in turnover, reflecting a slight improvement in economic growth. Also, eurozone SMEs no longer perceive the economic outlook as an obstacle in accessing sources of funding (The European Commission, 2020/2021).

Due to the adverse economic impact of the pandemic and the desire to remain competitive, the SME sector is still relying on external financing to refine, innovate and adapt to the digitalisation process. Competitive sustainability is the driving force for Europe, and achieving a resource-efficient digital economy requires full mobilization of the SMEs.

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Literature review

Supporting entrepreneurship and SME development, as well as facilitating access to appropriate sources of funding, is a national and international priority. For example, governments in Romania after 1990 started giving great importance to strategies for supporting SMEs, especially access to finance (Anton & Onofrei, 2016). A Small Business Act has also been enforced in the European Union to facilitate SMEs' access to finance.

Ipinnaiye and Lenihan (2016) stated that the performance of SMEs is influenced by both internal and external factors (inflation rate, level of competitiveness, etc.).

Hashi and Krasniqi (2011) have analysed the issue of access to finance, concluding that differences in external financing are driven by rising SMEs and levels of institutional development in Central and Eastern European countries. Leitner (2016) investigated the impact of financing barriers on the growth process of SMEs in Turkey and Western Balkan countries during the pre and post-before and after the financial crisis. The results of the study show that barriers to access to finance are causing major problems for employment growth in SMEs, especially in Western Balkans countries. The specialised literature highlighted the problem of access to financing, indicating that the financing constraints are country-specific and are determined by the characteristics of the companies. Several authors (Barth et al., 2011; Hashi & Toci, 2010) analysed internal constraints on SME financing and concluded that access to external finance is influenced by firm size, transparency of accounting information, age, and the type of property.

The financing obstacles that companies face hinder the growth of developing economies but hold no significance in developed economies. Moder and Bonifai (2017) concluded that many indicators in the macroeconomic environment (GDP per capita) contribute to lowering funding constraints.

Despite the fact that a number of authors (Mateev et al., 2013) consider that differences in financing decisions in different industries are due to the characteristics of the company and not because of the differences in the industry; savings, and access to finance have the most significant impact on the performance of companies. Beck and Demirgüç-Kunt (2006) concluded that firms in production, agriculture, and construction face many considerable constraints than firms in terms of access to finance. Beck et al. (2013), concluded that SMEs in countries with higher GDP per capita face lower financing barriers. Fowowe, (2017) also found that for SMEs in the developed countries, access to finance is not as big an issue as for SMEs in the developing countries, where it is of vital importance not only to this sector but also to the economy. GDP per capita levels significantly reduce financing constraints (Moder & Bonifai, 2017).

Nizaeva and Coskun (2018) conducted a cross-sectional study at the company and country level based on secondary data from the Bank for Reconstruction and Development (EBRD) and the World Bank Group. The data analysis period was 2012-2016, and 16,600 SMEs from 32 countries were covered under the study. The study offered empirical evidence on the determinants of financing constraints for SMEs, and the effects of barriers on their growth in emerging economies. The study concluded that barriers in access to finance are a significant obstacle to the growth of SMEs.

Beck et al. (2004) analysed the determinants of financial constraints based on a survey of 10,000 firms in 80 countries. The study found that older and big firms reported fewer obstacles in the financing process. The results also demonstrated the impact of institutional development (which may be the most important feature of the country) on access to finance, which explains the variations among countries in terms of funding barriers. The study concluded that tax rates and access to finance are the most significant constraints for small and medium-sized enterprises.

Finally, a series of studies (Bancu, 2017) analysed the relationship between the competitiveness of SMEs and access to finance. The literature has also highlighted the relationship between indicators of microeconomic competitiveness and a company's characteristics (human capital, company age, size, financial constraints). Frederick and Selase (2014) analysed a crucial determinant i.e., the impact of electricity fluctuations on the profitability and competitiveness of SMEs. The study reported that without the electricity supply, SMEs could not operate at the desired capacity, which will considerably reduce their profitability. Consequently, SMEs' return on assets (ROA) and return on investment (ROI) will be impacted. The study concluded that the higher the profits, the more competitive SMEs are and will not encounter problems in accessing finance.

The COVID-19 pandemic is a major shock to the global economy. It posed a huge challenge to SMEs in the last thirty years. Brault, Signore and Note (2020) stated that credit guarantees are the main policy initiative to support SMEs. Hence, SMEs are receiving support from the IMF in meeting their short-term liquidity needs.

Given the significant role that SMEs play in growth and job creation, the delicate situation of this sector is a matter of concern. Acs et al (1999) concluded that SMEs contribute to the competitive advancement of economies through diversification of ideas and entrepreneurial support.

Data and methodology

The study aimed to analyse the influence of the macroeconomic environment on SMEs' performance, with special reference to the impact of COVID-19 pandemic. The main objective of the study is to empirically analyse how the changes in the macroeconomic environment influence the performance and financing decisions of SMEs, and to find solutions for improved access to finance, especially under the conditions of competitiveness.

The sampling unit of this research is the Member States of the European Union, located in South-Eastern Europe: Bulgaria, Cyprus, Croatia, Greece, Romania, and Slovenia.

The literature review highlighted the indicators measuring the performance of SMEs as ROI, ROA, ROE, net profit margin, EBITDA, etc. Additionally, there are a few alternative indicators also to measure the performance of small and medium-sized enterprises: the number of SMEs, the added value created by SMEs, the number of employees in SMEs.Out of all these identified indicators from the literature review to measure the performance of SMEs, the present study uses the number of SMEs.

For accurate analyse of the influence of macroeconomic environment on the performance and financing decisions of SMEs, the data analysis period is 11 years (2010-2020), covering the pandemic crisis. The independent variables considered in the study are level of investment, tax rate, foreign direct investment, inflation rate, interest rate, and domestic credit to the private sector by banks. Table 1 presents the variables used in the study.

Table 1: Description of the variables included in the study

Name	Symbol	Description	Unit	Data source
Dependent variable				
Number of SMEs	NS	Number of SMEs	%	Eurostat
Independent variables				
The economic activity	GDP_growth	annual real GDP growth rate	%	World Bank
Investment level	GCF	Gross capital formation	%	World Bank
Tax rate	TAX	Total tax	%	World Bank
Inflation rate	Infl.	Inflation rate	%	World Bank
The interest rate	RINR	The interes rate (real interest rate)	%	World Bank
Internal lending to the private sector by banks	Domestic credit	Domestic credit	%	World Bank

Source: Authors

The vital importance of SMEs in the economy has led to a large number of studies (Ayyagari, Demirguc-Kunt and Maksimovic, 2011; Bravo-Biosca, Criscuolo and Menon, 2013, Rusu and Roman 2016) to analyze the growth of this sector and its performance that can be measured by indicators like the number of SMEs, value added by them and the number of employees in SMEs. Based on all these previous studies and the impact of the pandemic on SMEs that has resulted in the closure of a large number of SMEs, the present study uses the number of small and medium enterprises in terms of annual percentage change as a dependent variable. The economic growth rate is measured by the annual growth rate of real GDP i.e., the value of goods produced in a country. Several studies like Leitner (2016) have shown that access to finance is the biggest problem for SMEs. Other authors like Bekeris (2012) have analysed the macroeconomic environment's impact on the profitability of SMEs. In line with that, the present study highlights how a number of macroeconomic factors influence the performance of SMEs. The variables

considered in the analysis are the population, GDP, unemployment, inflation, taxes, imports, and exports. The results of the study showed that most of these variables (inflation, wages, number of SMEs) are not statistically significant and do not have a strong correlation with the profitability of SMEs.

Unemployment and changes in interest rates have had the most significant impact on the profitability of SMEs. The level of investment is measured by the gross capital formation, an indicator that includes all the investments made by a company and can influence its performance. The tax rate measures the amount of taxes and compulsory contributions by the companies. The inflation rate is defined as the general increase in prices (expressed as a percentage) over a certain period. The real interest rate is the inflation-adjusted interest rate and is measured by the GDP deflator. Also, the study considers the percentage of bank loans granted to the private sector by banks, an indicator that can be used a proxy for access to finance.

Results and Discussion

The data for the study has been analysed using EViews econometric software. Table 2 illustrates the independent variables used in the study, the annual growth rate of real GDP was the lowest signifying that during the period under review, the economy was going through a recession. The standard deviation for Internal credit granted to the private sector by banks was the highest (62.61%), demonstrating the significant differences among the countries under review. Thus, the results in table 2 highlight the impact of the pandemic on all macroeconomic variables.

Table 2: Descriptive statistics of the independent variables used in the study

Variable	Min.	Max.	Mean	Median	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Obs.
GDP_ Growth	-10.15	7.32	0.67	1.74	3.89	-0.87	3.21	8.48	66
GCF	11.89	28.13	19.65	20.17	4.09	-0.38	2.57	2.10	66
TAX	11.17	41.81	27.72	28.84	8.61	-0.43	2.12	3.83	60
Infl.	-2.10	6.09	1.23	1.23	1.91	0.37	2.57	2.05	66
RINR	0.65	10.30	5.14	6.55	3.58	-0.20	1.56	2.53	27
Domestic_ credit	24.74	255.31	85.53	65.56	62.61	1.62	4.64	36.34	66

Source: Authors

Table 3 presents the descriptive statistics of the dependent variable, and the minimum value shows a considerable decline in the number of SMEs in all the countries under study. The highest standard deviation (0.29%) was recorded for Bulgaria, signifying that country recorded the biggest changes in the number of SMEs during 2010-2020.

Table 3: Descriptive statistics on the change in the number of SMEs (by country)

The country	Observation	Min.	Max.	Mean	Std.Dv.
Bulgaria	11	- 0.00	0.99	0.10	0.29
Cyprus	11	- 0.03	0.06	0.01	0.03
Croatia	11	- 0.08	0.01	- 0.01	0.03
Greece	11	- 0.07	0.20	0.01	0.08
Romania	11	- 0.09	0.05	0.00	0.05
Slovenia	11	0.02	0.06	0.03	0.01

Source: Authors

Table 4 reports the correlation coefficients of the analysed variables. The data represent a positive correlation between the increase in the number of SMEs and the level of financial constraints for small and medium enterprises. As per the results, inflation is positively related to the performance of SMEs, having a statistically significant effect on it, with a p-value of less than 0.01.

A cause-and-effect analysis is performed by using the Granger test. For the purpose, the variables are grouped as two by two, as can be seen in Table 5. In the first test applied D (NI) and (D) GDP Growth, the value of the test is 0.89, so null hypothesis is accepted that independent variable do not influence the dependent one).

Regarding the relationship between the number of SMEs and economic activity, the value of 0.59 state that null hypothesis is accepted and the dependent variable does not influence the independent one.

As per the results of the Granger test, the independent variables do not influence the dependent variables in the study.

Table 4: Correlation matrix

	NE	**GDP_Growth**	**GCF**	**TAX**	**Infl.**	**RINR**	**Domestic_ credit**
NE	1.0000						
GDP_ Growth	0.1041**	1.0000					
GCF	- 0.0080	0.1934	1.0000				
TAX	0.0583	0.6441	0.7246	1.0000			
Infl	- 0.0490	- 0.1871	0.4151***	0.0980	1.0000		
RINR	0.1786	- 0.7630	0.0904	- 0.4555	0.0780	1.0000	
Domestic_ credit	0.1659	- 0.6562	- 0.6899	- 0.8483	- 0.1246	0.5365	1.0000

*, ** and *** indicate that the coefficients are significant at 90%, 95% and 99%

Source: Authors

Table 5: The Granger test

Null Hypothesis	Obs	F-Statistic	Prob.
D(GDP_GROWTH) does not Granger Cause D(NI) D(NI) does not Granger Cause D(GDP_GROWTH)	48	1.5051 0.1091	0.2335 0.8968
D(GCF) does not Granger Cause D(NI) D(NI) does not Granger Cause D(GCF)	48	0.1652 0.5184	0.8482 0.5991
D(TAX) does not Granger Cause D(NI) D(NI) does not Granger Cause D(TAX)	42	2.3117 0.3948	0.1132 0.6766
D(INF) does not Granger Cause D(NI) D(NI) does not Granger Cause D(INF)	48	0.6222 0.0338	0.5415 0.9668
D(RINR) does not Granger Cause D(NI) D(NI) does not Granger Cause D(RINR)	18	0.3055 0.0933	0.7418 0.9115
D(Domestic_credit) does not Granger Cause D(NI) D (NI) does not Granger Cause D(Domestic_credit)	48	0.2193 0.1292	0.8040 0.8791

Source: Authors

Next, linear regression was performed based on the work of Andrei and Bourbonnais (2008). This model was used because it has its applications at the microeconomic and macroeconomic levels. For this extensive literature review was performed followed by identifying the variables and creating a panel database.

Table 6 presents the results of the regression analysis to find the determinants of financial constraint on SMEs located in EU member states in Southeast Europe. As per the table, the annual growth rate in the real GDP (GDP Growth) is statistically significant. Based on the statistical results, it can be concluded that the real GDP growth rate is the primary determinant of improving the performance of SMEs. The performance of the SME sector, expressed by the number of small and medium enterprises, is considered a dependent variable.

Table 6: Regression Analysis

Variable	**Coefficient**	**Std. Error**	**t-statistic**	**Prob.**
Constanta	- 0.4007	0.9747	- 0.4110	0.6859
GDP_Growth	0.0597*	0.0297	2.0069	0.0600
GCF	- 0.0360	0.0456	- 0.7905	0.4395
TAX	0.0197	0.0131	1.5040	0.1499
Infl	0.0209	0.0248	0.8436	0.4099
RINR	0.0470	0.0276	1.6981	0.1067
Domestic_credit	0.0063	0.0062	1.0165	0.3228
R-squared	**0.3454**		**Adj. R-squared**	**0.1272**

*, ** and *** indicate that the coefficients are significant at 90%, 95% and 99%

Source: Authors

The results of the regression analysis indicate that the internal credit granted to the private sector by the banks highlights an inverse relationship between access to finance and the performance of SMEs. Thus, decreasing loans to the private sector is not an obstacle for SMEs. Also, the variables like gross capital formation, tax rate, inflation rate, and interest rate are not statistically significant, so they do not influence access to finance.

The R-squared value indicates that the variations in the independent variables explain 34.54% of the variation in the dependent variable.

It must be highlighted that the present study is subject to shortcomings and due to the unavailability of data on the dependent variable, the study includes only a few member countries of the European Union, located in the south-eastern part of Europe. Therefore, future studies including all the countries of the European Union should be undertaken.

Conclusion

In the market economy, SMEs compete to expand their market share, therefore, competition is an incentive for companies as it encourages them to offer high-quality services. This sector relies on external financing to refine, innovate, and adapt to the digitalisation process to remain competitive. The lack of financial support for SMEs is due the high costs of carrying out business activities, which means that external financing is expensive for SMEs. Therefore, the high cost of business can be an obstacle to economic competitiveness. Research has shown that access to finance is the most important factor for SMEs in determining regional competitiveness.

Small and medium-sized enterprises are the backbone of the European economy and are therefore very important for the EU's transition to a sustainable digital economy. The importance of the SME sector in national economies highlights the need to ensure access to finance, which is crucial because it influences their creation, survival, and development. As the access to finance is one of the most important issues facing SMEs, it becomes crucial to identify the determinants affecting access to finance. The study concludes that the growth rate of real GDP (GDP_Growth) is the main factor contributing to the SME sector's improved performance.

During the analysis period, the performance of the SMEs sector registered a significant decrease in all the countries (except Slovenia) under study, the highest decline e being registered in Romania (-0.09), due to the pandemic. The crisis has left many SMEs with a choice to either go bankrupt or restrict their business activities, which resulted in a significant decrease in the establishment of new companies. The value obtained by R-squared demonstrates that the variations of the independent variables explain 34.54% of the variation of the dependent variable.

Finally, it may be concluded that the SMEs performance is linked to their access to finance. Furthermore, a conducive macroeconomic environment can significantly contribute in improved performance of this sector, especially under the challenges posed by the pandemic crisis.

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