ACCESS TO FINANCE BY MOLDOVAN SMALL AND MEDIUM ENTERPRISES: MAIN OBSTACLES AND SOLUTIONS

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Abstract: The small and medium-sized enterprise sector is one of the main elements of the modern national economy and is the guarantor of the existence of competition. It contributes to increasing the percentage of the middle class and the creation of new jobs in the state. Finance plays a crucial role in the activities of small and medium-sized enterprises. One of the main obstacles to the development of SMEs in the Republic of Moldova is limited access to finance. The article presents the results of the analysis of the evolution of the main indicators of business activity of enterprises. The object of this study is to describe the experience of Moldovan small and medium-sized enterprises in accessing finance, highlighting the main obstacles. Using the software package EViews 9, an econometric model was developed for the dependence of the total credits given to the small and medium-sized enterprises on the follow factors: Consumer Price Index, base rate, non-performing credits and the volume of redemption government securities. Based on the results of the study, measures have been developed to improve access to finance for small and medium-sized enterprises in Moldova.
Key words: small and medium-sized enterprise, access to finance, main sources of finance, barriers for access to finance.
JEL classification: G00, M20.

1. Introduction

Small and medium-sized enterprises (SMEs) play a substantial role in the growth of the national economy. They contribute to increasing the standard of living, reducing poverty, and are an important source of creating new places of jobs. The contribution of SMEs to the formation of total Gross Domestic Product (GDP) per economy was 48,0% in 2020 (year of COVID-19) and 50,9% in 2019. At the same time, its contribution to the formation of net tax on products is 44.7% in 2020 and 46.8% in 2019.

One of the main barriers to SMEs growth is limited access to finance. The most common source of finance is the bank credit. That is why the study is focused on the factors that influence the volume of the credit granted by the banks to SMEs. An econometric model was developed to describe the dependence of the total volume of the credit by four variables, such as Consumer Price Index, base rate, non-performing credits and the volume of redemption securities. Because the main impediment to the development of SME in Moldova is the access to finance, the survey on this obstacle is relevant. The primary goal of this study is to develop solutions for expanding access to finance.

2. Literature review

Many foreign and domestic scientists are concerned with studying the peculiarities of the development of the small and medium-sized enterprise sector. Of the total number of studies, a few have the object of research – access to finance. E. Godjaeva (2021) argues that the primary solution in the development of the SMEs sector is "credit stimulation". Taking into account that we are in the period of a new industrial revolution, the scientist G. Ciobanu (2020) from Romania researched through the prism of value management the finances of the enterprise in the conditions of the digital economy. In the Republic of Moldova, economist A. Balan (2014, 2018) studied the priorities for the development of

this sector, and A. Ianioglo (2021) in his paper focused on the difficulties of financing small and medium enterprises.

In the world economic literature, there are some works on the elaboration of an econometric model for the development of SMEs in the Republic of Moldova. These models take into account the number of enterprises, the number of employees, sales revenues, and profits (losses) before tax (Ganciucov et al., 2021), but do not include finances. The novelty of this research consists in the elaboration of the econometric model of the credits obtained by enterprises in the Republic of Moldova.

3. Evolution of SMEs in the Republic of Moldova

According to Law no. 179/2016 on small and medium-sized enterprises, SMEs are categorized into three categories depending on the average annual number of employees, the sales revenue, or the total assets (Table no. 1). After the entry into force of this Law, the National Bureau of Statistics of the Republic of Moldova changed the calculation methodology. Data for 2015 were recalculated according to the new criteria in the Law. Therefore, this chapter analyzes the evolution of SME activities for 2015-2020.

Table no. 1. Clasification of small and medium-sized enterprises in the Republic of Moldova

Classification criteria	SMEs categories		
	Micro enterprise	Small enterprise	Medium-sized enterprise
Average annual number of employees	1 – 9 employees	10 – 49 employees	50 – 249 employees
Annual turnover	up to 9.0 mil. MDL	up to 25.0 mil. MDL	up to 50.0 mil. MDL
Total assets	up to 9.0 mil. MDL	up to 25.0 mil. MDL	up to 50.0 mil. MDL

Source: Systematized by the authors based on the Law no. 179/2016 on small and medium-sized enterprises.

In 2020, the number of SMEs accounted for 98.6% of the total number of enterprises, the most of them are micro-enterprises (fig. no. 1). The average number of employees – 60.1% in total, and sales revenues – 39.3% of the total sales revenues per economy.
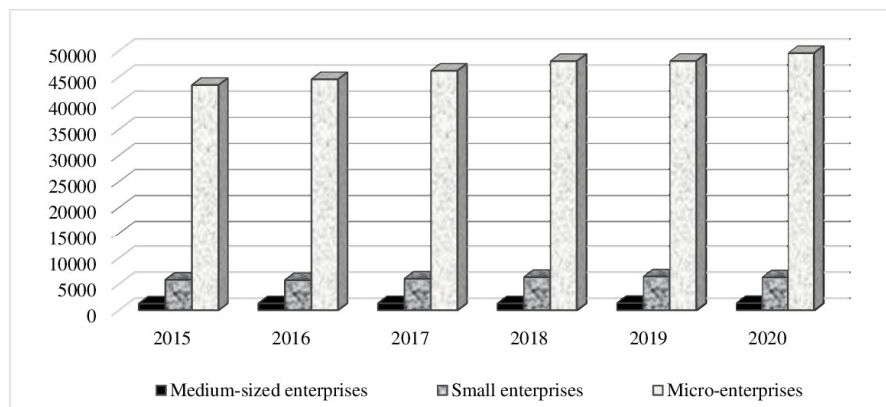

Figure no. 1. The evolution of the number of SMEs in the Republic of Moldova
Source: Authors processing based on statistical databank "Statbank" provided by the National Bureau of Statistics of the Republic of Moldova, published on the websites https://statistica.gov.md/pageview.php?l=en&idc=407.

Five thousand enterprises were created in 2020; and the rate of creation of start-ups was 13.8%. However, in this year, 10.5 thousand enterprises were liquidated. At the same time, 45.9% from new enterprises created in 2019 and 44.3% in 2018 were active in 2020. In 2019 compared to 2015, the number of medium enterprises increased by 8.44%, small enterprises by 10.91%, and micro-enterprises by 10.63%. The following year, due to the collapse caused by the COVID-19 pandemic, the number of medium-sized enterprises decreased by 0.87%, and the number of small enterprises by 2.54%. Only the number of micro-enterprises remained growing by 3.13%.

Sales revenue of small and micro enterprises increased annually from 2015 to 2019 but decreased in 2020 (fig. no. 2). Although the number of micro-enterprises increased in 2020 and turnover decreased. The number of medium-sized enterprises decreased in 2018 and 2020. As a result, the sales revenue of this category of enterprise decreased too.
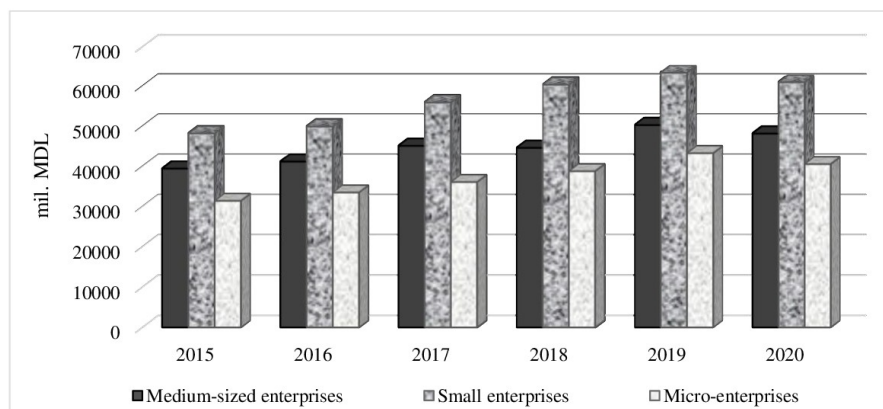

Figure no. 2. The evolution of the sales revenue of SMEs in the Republic of Moldova
Source: Authors processing based on statistical databank "Statbank" provided by the National Bureau of Statistics of the Republic of Moldova, published on the websites https://statistica.gov.md/pageview.php?l=en&idc=407.

The analysis of the structure of the number of SMEs by types of activity showed that in 2020 the highest share belongs to wholesale and retail trade (35.73%), followed by professional, scientific, and technical activities (8.70%), manufacturing (8.45%), agriculture, forestry and fishing (8.13%) and real estate activities (6.65%). The share of wholesale and retail trade SMEs is decreasing by 3.97 percentage points, the enterprises of the professional, scientific and technical activities by 0.22 p.p., and the manufacturing enterprises by 0.09 p.p. in 2020 compared to 2015.

The number of SMEs that received a profit increased every year from 2015 to 2019 and decreased in the following year because there was a recession of entrepreneurial activity caused by drought and a state of emergency during the COVID-19 pandemic in 2020 (fig. no. 3). The impact of the second cause is the greatest. The number of SMEs that have suffered losses decreased in 2017-2019 because there was a relatively stable economic growth in the Republic of Moldova.

Gross Domestic Product (GDP) at constant prices increased by 4.7% in 2017, 4.3% in 2018, and 3.7% in 2019, and the national currency in these years appreciated. The average annual exchange rate was 20.83 lei / Euro in 2017, 19.84 lei / Euro in 2018, and 19.67 lei / Euro in 2019.
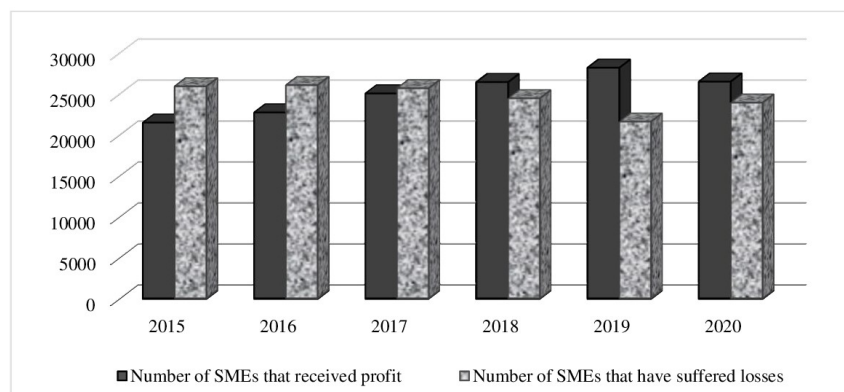
Figure no. 3. The evolution of the number of SMEs that received profit (suffered losses) in the Republic of Moldova

Source: Authors processing based on statistical databank "Statbank" provided by the National Bureau of Statistics of the Republic of Moldova, published on the websites https://statistica.gov.md/pageview.php?l=en&idc=407.

Analysis of the evolution of net profit (net losses) SMEs showed that all tipes of enterprises recorded cumulatively net profit from 2016 to 2020, and micro-enterprises posted cumulatively net losses in 2015 (fig. no. 4). This year (2015) is the year of economic recession, banking crisis, and stagnation of reforms in Moldova.
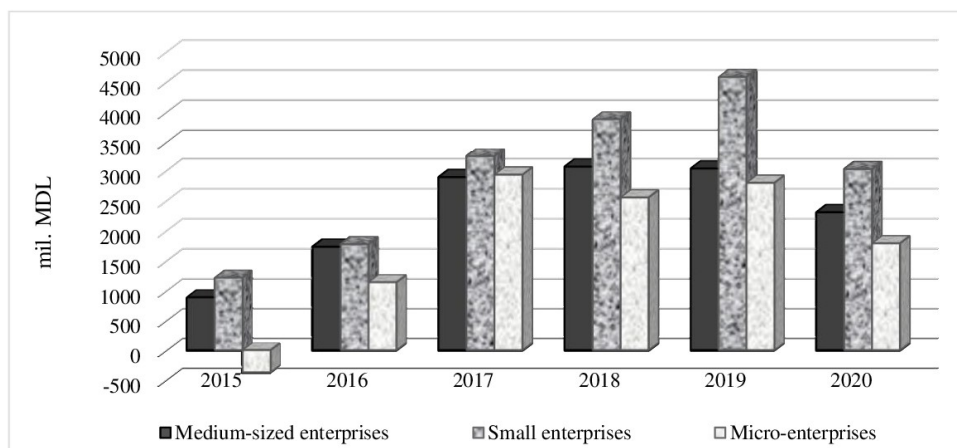

Figure no. 4. The evolution of the net profit (net loss) of SMEs in the Republic of Moldova

Source: Authors processing based on statistical databank "Statbank" provided by the National Bureau of Statistics of the Republic of Moldova, published on the websites https://statistica.gov.md/pageview.php?l=en&idc=407.

Even though the sales revenues of medium-sized enterprises increased (by 12.73%) in 2019, however, the net profit of these enterprises decreased (by 1.00%). To discover the reasons for the discrepancy in the economic results obtained by SMEs, the obstacles to SME development are analyzed in the next chapter.

4. Access to finance by SMEs
The World Bank surveyed enterprises in Moldova in 2009, 2013, and 2019. As 2009 is the year of the global financial crisis, this chapter provides a comparative analysis of the business environment in the Republic of Moldova in 2019 compared to 2013. The World

Bank uses a methodology for classifying enterprises different from the one practiced today in Moldova. The main criterion is the number of employees: from 5 to 19 (small), from 20 to 99 (medium), and 100 or more (large). Since there are relatively more small enterprises in Moldova, the authors focus on the activities of this particular category of SMEs in the analysis carried out.

The latest World Bank survey showed that in the top of the biggest obstacles to the business environment of small businesses are workforce qualification, political instability, informal sector, tax rates, and access to finance. Therefore, access to finance for the development of SMEs is vital. The main sources of financing for the activity of SMEs are represented in the figure below (fig. no. 5). In 2013, corruption was considered the biggest obstacle in the activity of small businesses, and in 2019 it ranked sixth. This fact shows that tangible results of the National Integrity and Anticorruption Strategy (NIAS) 2017-2020 have been achieved.
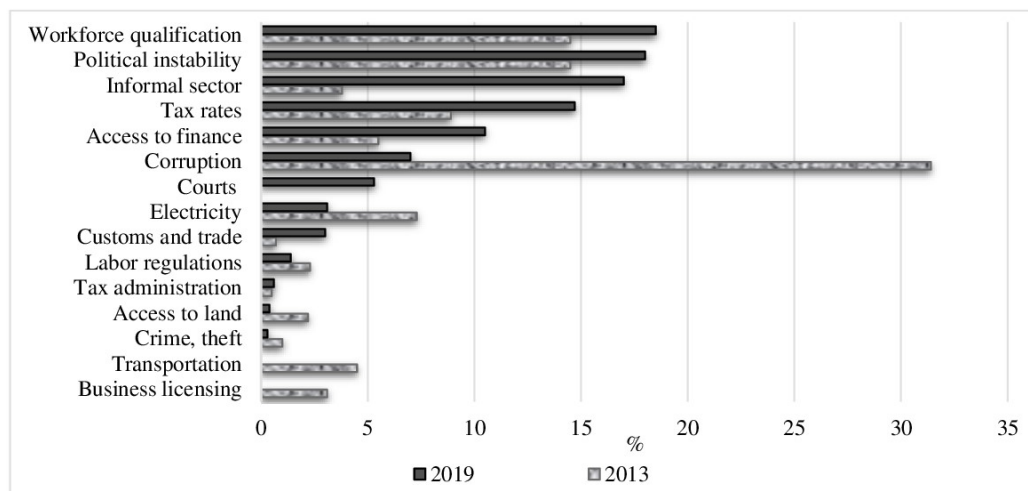

Figure no. 5. The Biggest Obstacles for small enterprises (5-19) in the Republic of Moldova

Source: Authors processing based on results of enterprise surveys provided by the World Bank, published on the websites https://www.enterprisesurveys.org/en/custom-query#moldova.

The survey of medium-sized enterprises shows that 8.7% of respondents say that the biggest obstacle is access to finance, which is 1.8 percentage points higher than the share of respondents from small enterprises who share the same opinion (10.5%) in 2019. In Europe & Central Asia, 9.6% of respondents from all enterprises believe that in promoting policies to support entrepreneurship, the state has to improve access to finance. On average in 153 countries the biggest obstacle was considered access to finance in 2019 (the first place).

The main sources of funding for SME activity can be grouped into primary, secondary, and alternative sources (fig. no. 6).
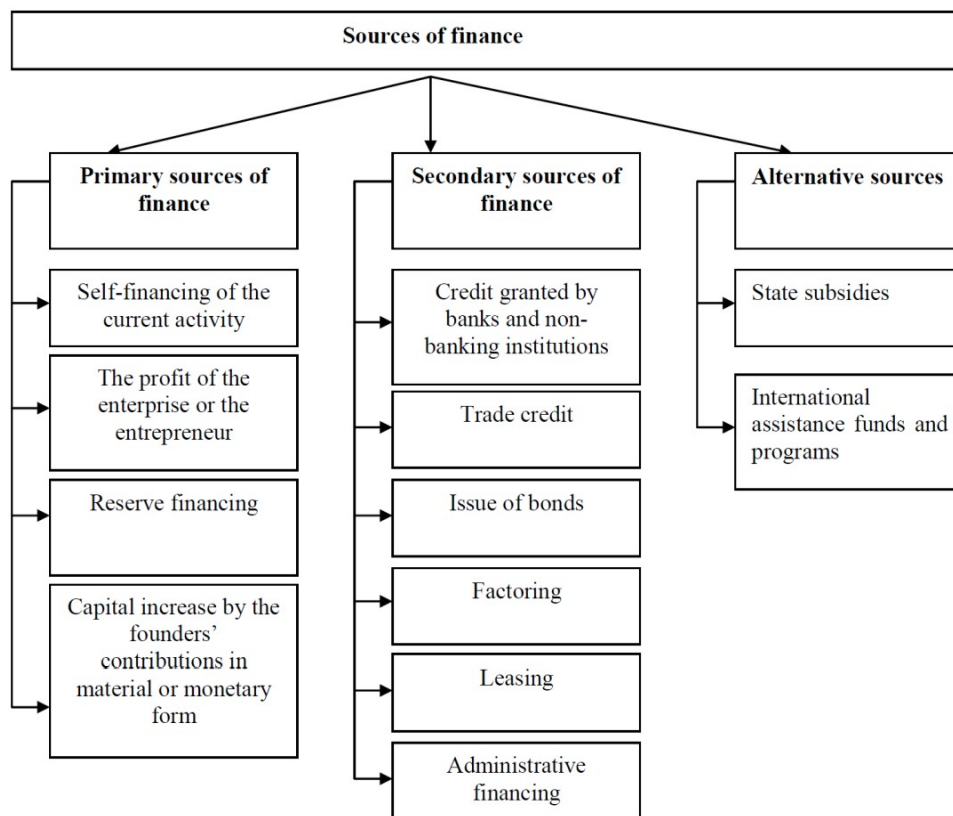
Figure no. 6. The main sources of finance SMEs
Source: Organization for Economic Co-operation and Development (OECD), 2014.
Fostering SME Development in the Republic of Moldova: Access to Finance.

According to enterprise surveys, the percent of firms whose recent loan application was rejected was 56.1% in 2019, increasing by 32.3 percentage points compared to 2013 (fig. no. 7).
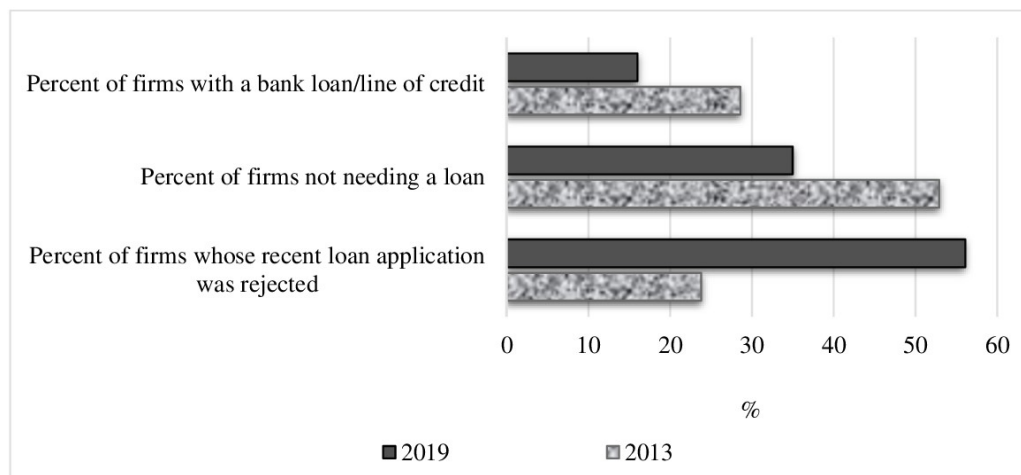

Figure no. 7. Access to finance for small enterprises (5-19) in the Republic of Moldova
Source: Authors processing based on results of enterprise surveys provided by the World Bank, published on the websites https://www.enterprisesurveys.org/en/custom-query#moldova.

During the analysis period, the percent of firms not needing a loan and the percent of firms with a bank loan/line of credit decreased respectively by 17.9 and 12.3 percentage points. Companies are turning to banks to finance their activities less and less. The percent of firms using banks to finance investments decreased by 18.6 percentage points, and the percent of firms using banks to finance working capital decreased by 14.6 percentage points in 2019 compared to 2013 (fig. no. 8).
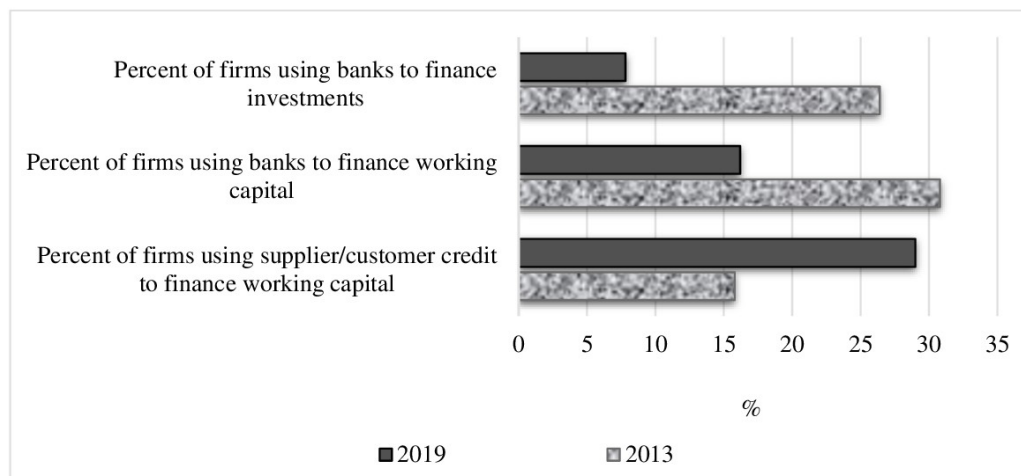

Figure no. 8. Use of financial services by small enterprises (5-19) in the Republic of Moldova

Source: Authors processing based on results of enterprise surveys provided by the World Bank, published on the websites https://www.enterprisesurveys.org/en/custom-query#moldova.

One of the reasons why enterprises are becoming more reluctant to apply for loans from banks is the increase in the value of collateral needed for a loan by 64.7 percentage points for medium enterprises and 46.3 percentage points for small enterprises from 2013 to 2019 (fig. no. 9).
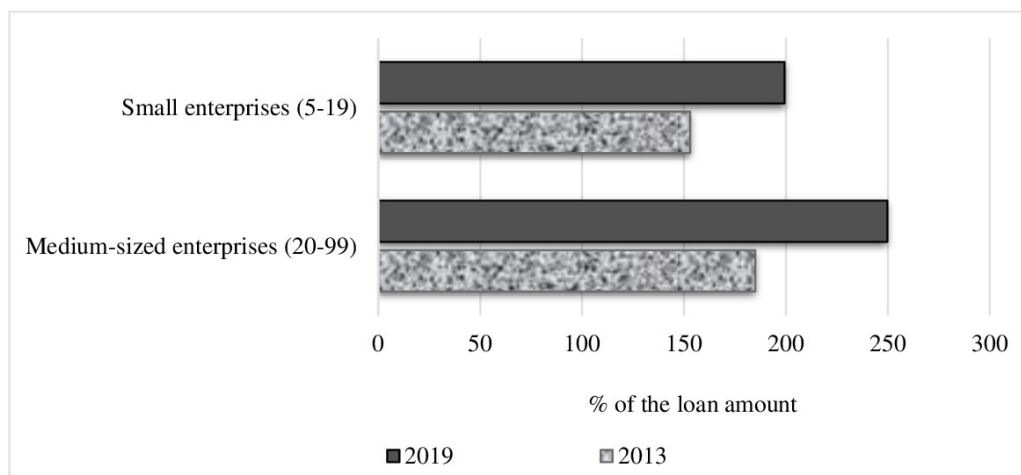

Figure no. 9. Value of collateral needed for a loan in the Republic of Moldova

Source: Authors processing based on results of enterprise surveys provided by the World Bank, published on the websites https://www.enterprisesurveys.org/en/custom-query#moldova.

The authors summarized the results of the research and concluded that there are three main pillars of access to finance by SMEs (fig. no. 10), and the main barriers to accessing finance are the following:

➤ Interest rates;
➤ Charges and commissions;
➤ Preparing the loan application;
➤ Requirements of collateral;
➤ Risk associated with borrowings;
➤ Financial education.

Figure no. 10. Three main pillars of access to finance by SMEs
Source: In the authors' vision.

5. The econometric model of the total credits given to SMEs

The purpose of research is to analyze the factors affecting the access of SMEs to loans. To develop an econometric model, the authors used monthly data from the National Bank of Moldova, the National Bureau of Statistics, and the Ministry of Finance from January 2018 to February 2022. In total the number of observations is 50. The endogenous and exogenous variables of the econometric model are presented in Table no. 2.

Table no. 2. Description of the variables

Symbol	Variable	Description	Units
TC	The total credits to SMEs	The total credits given to the small and medium-sized enterprises.	mil. MDL
CPI	Consumer Price Index	The Laspeyres Price Index.	%
BR	Base rate	Is approved by the Central Bank as the reference rate for the main short-term monetary policy operations.	%
NPC	Non-performing credits	Balance of non-performing credit debt to SMEs / Balance of credit debt to SMEs.	%
RS	Redeemed Securities	The amount of government securities paid at the maturity.	mil. MDL

Source: Systematized by the authors.

The total amount of SME loans is an endogenous variable. The descriptive statistics of the total volume of loans issued by SMEs (TC) is given in Table no. 3.

Table no. 3. Descriptive statistics of the total loans to SMEs

Indicator	Result
Mean	12 755.57
Median	12 077.31
Maximum	15 968.64
Minimum	10 931.61
Std. Dev	1 555.563
Skewness	0.799541
Kurtosis	2.354230
Jargue-Bera	6.196002
Observations	50

Source: Authors' computations using EViews 9.

The maximum level of the volume of credits to SMEs was in February 2022, and the minimum level was in January 2019. There is not a big difference between the mean and the maximum and the minimum value, which means the volume of credits did not fluctuate a lot in fifty observations.

The authors have developed the following econometric models:

Model 1

$$\ln(TC) = 1.94 \times \ln(CPI) - 0.14 \times \ln(BR) + 0.10 \times \ln(RS) \qquad (1)$$
$$R^2 = 0.85$$

Model 2

$$\ln(TC) = 2.01 \times \ln(CPI) - 0.14 \times \ln(BR) - 0.04 \times \ln(NPC) + 0.07 \times \ln(RS) - 0.14 D1219 \qquad (2)$$
$$R^2 = 0.88$$

where:

D1219 – is dummy variable (it takes value 1 in december 2019; it takes value 0 in 2000-2008 and 2010-2020);

R^2 – coefficient of determination.

In both models, the base rate has a negative impact to total SME loans. When the base rate is increased by the National Bank, the rate on loans and deposits also increases, which leads to an increase in the cost of services. Obviously, the higher the lending rate, the less access SMEs have to loans. Another factor negatively affecting access to loans is the non-performing credit debt. When issuing loans, banks take into account the client's payment history. If an enterprise has a non-performing credits, it chances of getting a loan are lower or at a relatively higher cost.

The variable which positively influences access to credit is the price index. Once the CPI increases, the money devalues over time, which is beneficial SMEs as debtors. Given that the main creditors are commercial banks, the volume of the credits depends on their financial disponibility. Banks are the principal investors in government securities 84% of the total government securities issued in the primary market were purchased by the banking sector in the first quarter of 2022 (Ministry of Finance, 2022). Banks' liquidity increases once their government securities are redeemed. Thus, banks have a greater willingness to lend.

The equations (1) and (2) were estimated using least squares, and the results of tests are given in the following tables: for model 1 in table no. 4 and for model 2 in table no. 5. The estimated relationship between the total credits to the small and medium-sized

enterprises and Consumer Price Index, base rate, non-performing credits and the volume of redemption government securities are statistically significant.

Table no. 4. The results of testing the quality of the model 1

Variable	standard error	t-statistic	p-value
ln*(CPI)*	0.0349	55.6002	0.0000
ln*(BR)*	0.0189	-7.4161	0.0000
ln*(RS)*	0.0208	4.6587	0.0000
	Value		
R-squared	0.8487		
Adjusted R-squared	0.8423		
Durbin-Watson statistic	1.8720		
Akaike info criterion	-3.2344		
Schwarz criterion	-3.1197		
Hannan-Quinn criterion	-3.1907		

Source: Authors' computations using EViews 9.

Table no. 5. The results of testing the quality of the model 2

Variable	standard error	t-statistic	p-value
ln*(CPI)*	0.0538	37.2629	0.0000
ln*(BR)*	0.0171	-7.9415	0.0000
ln*(NPC)*	0.0282	-2.7052	0.0095
ln*(RS)*	0.0255	2.7531	0.0085
D1219	0.0416	-3.3907	0.0015
	Value		
R-squared	0.8824		
Adjusted R-squared	0.8720		
Durbin-Watson statistic	1.7222		
Akaike info criterion	-3.4065		
Schwarz criterion	-3.2153		
Hannan-Quinn criterion	-3.3337		

Source: Authors' computations using EViews 9.

The results of testing the quality of the models showed that the best is model 1 because the values of Akaike info criterion, Schwarz criterion, and Hannan-Quinn criterion are lower for this compared to values for model 2. In addition to the above testing, a check was made for the existence of autocorrelation in the residuals of the model and heteroskedasticity. Both models have neither autocorrelation nor heteroskedasticity.

6. Conclusions

The study shows that the access to credits by the SMEs is influenced by the inflation rate and the volume of redemption government securities at maturity. In addition, the number of loans provided is negatively affected by such variables as the base rate and non-performing loans. The models demonstrate that the access to credits by the SMEs depends significantly on monetary policy decisions of the National Bank and the expectation of the inflation rate.

Recommendations for improving the situation regarding access to finance:
➢ Improve consumer protection around financial products;
➢ Broaden the range of what can be used as collateral;

➢ Promote credit products, consultations, and training;
➢ Encourage extensions to grace periods;
➢ Improve credit risk management;
➢ Promote the public credit guarantee schemes;
➢ Support SMEs in business planning and financial management.

Acknowledgements

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