

SMALL AND MEDIUM-SIZED ENTERPRISES IN THE REPUBLIC OF MOLDOVA: TRENDS, CHALLENGES AND FORECASTS

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Abstract

Forecasting is relevant for improving Small and Medium-sized Enterprises management. It is due to the great uncertainty of the events arising from the operation of a market economy, a geopolitical and energy crisis of recent years. Forecasting allows SMEs to reduce the degree of uncertainty of the future and makes it possible to develop a strategy for the company's behavior. It permits SMEs to make effective management decisions. Forecasting makes it possible to evaluate the economic and financial prospects for the development of the enterprise. One of the main problems is the lack of financial resources that hinder entrepreneurship development. In conditions of economic instability, the main task of small business development is not so much obtaining guaranteed profits as increasing business survival in an unstable environment. One of the indicators that registered a downward trend is the number of employees employed at SMEs, which is decreasing every year. To forecast the base SME indicators for 2022-2025, the econometric model developed based on statistical data for 2009-2021 was adjusted.

Key words: *small and medium-sized enterprises, entrepreneurship, forecasting, econometric model, effective management decisions.*

JEL Classification: *C50, M20.*

Introduction

The entrepreneurs, the population, and the state are stakeholders in the development of SMEs (Small and Medium-sized Enterprises). Firstly, this sector provides people with jobs, fulfills the state's social guarantees, produces goods for consumption, and provides services, so it participates in the Gross Domestic Product (GDP) created. Secondly, the sustainable

development of the enterprise ensures the achievement of profit. Thirdly, these enterprises pay taxes and fees, which are a source of financing the public budget. Therefore, all three players in the market win.

The object of research in this study is SMEs. The principal goal is to develop forecasts of the main indicators of enterprises' activity for 2023-2025. The relevance of the study can be explained by the fact that the sustainable development of SMEs ensures:

- the growth of the national economy contributes to the formation of GDP (48-51%);
- raising the standard of living;
- poverty reduction;
- creating new jobs.

1. Literature review

Foreign and domestic researchers studied the impact of SMEs on economic growth (Alarcón et al., 2020) (Ianioglo, 2022) (Kim, 2021). M. Sun, M. Subhan et al. demonstrated that this impact occurs through export (Sun, 2021) (Subhan et al., 2021). L. Batrancea carried out a broad study. The scholar examined both the correlation between SME development and economic growth and the correlation with foreign trade (Batrancea, 2022).

S. Czarniewski researched the interdependence between SME evolution and innovations and described the prospects for sustainable development of small and medium-sized enterprises (Czarniewski, 2016). The scientist demonstrated that the principal goal of economic and social policy is to increase social welfare, which can be achieved through the development of SMEs.

The efficiency of SME development depends on many factors, both external and internal. External ones are the factors generated by the state, by promoted policies, natural and climatic factors, factors caused by the external sector, and the commercial policy promoted by external trade partners. Internal factors are related to available resources and the efficiency of their use.

S. Kim identified and assessed the variables that have affected economic growth in the context of sectors of the national economy and assessed the impact of factors on the sustainable development of SMEs in the digital economy. The researcher developed innovative business model strategies (Kim, 2021).

2. Research methodology, data and hypotheses

The principal method applied is economic-mathematical modeling. For forecasting indicators of enterprises activity 2023-2025, the author adjusted the econometric model (Ganciuov & Gutium, 2021), which was elaborated based on statistical data for 2009-2021. The author added a new equation of „Credit accessibility” (Gutium & Speian, 2022a) to the initial model. The model contains ten endogenous variables (Table 1), 15 exogenous variables (Table 2), including five dummy variables.

Table 1. The endogenous variables of the model

Designation	Indicator
<i>nem</i>	Number of enterprises in Moldova
<i>nsme</i>	Number of small and medium-sized enterprises
<i>em</i>	Average number of employees in total enterprises from Moldova
<i>esme</i>	Average number of employees in SMEs
<i>tte</i>	Sales revenues in total enterprises by all sizes
<i>tsme</i>	Sales revenues in SMEs
<i>fte</i>	Financial result before taxation in total enterprises by all sizes. Profit (+) losses (-)
<i>fsme</i>	Financial result before taxation in SMEs. Profit (+) losses (-)
<i>ft</i>	Financial transfers from populations
<i>lsme</i>	The loans granted to SMEs

Source: Elaborated by the author.

The author tested the model equations. The Ramsey RESET test was applied to test the functional form of each model equation. The regression equation was rejected if the null hypothesis H0 that all coefficients equal zero, was accepted.

Analyzing the values of the t-statistic and p-value indicators, we conclude that in the case of regression, the H0 that the parameters are equal to zero needs to be rejected, but the alternative hypothesis should be accepted – the linear regression coefficients are different from zero. The author established a 5% significance level.

Table 2. The exogenous variables of the model

Designation	Indicator
<i>wgdp</i>	World GDP
<i>mgdp</i>	GDP of Moldova
<i>pm</i>	The number of the population of Moldova
<i>u</i>	Unemployment rate
<i>cpi</i>	Consumer Price Index
<i>dl</i>	Exchange rate, US dollar/lei
<i>x</i>	Export
<i>m</i>	Import
<i>r</i>	Interest rate on loans
<i>rr</i>	Required reserve ratio
<i>t</i>	Time (number of year)
<i>d11, d13, d14, d17, d18</i>	Dummy variables

Source: Elaborated by the author.

For testing the quality of the model has been used the following tests: R-squared, Adjusted R-squared, F-statistic, Probability F-statistic, Durbin-Watson statistic, Akaike info criterion, Schwarz criterion, Hannan-Quinn criterion (Gutium, 2020).

3. The main trends of SME activity in Moldova

In 2021, the number of SMEs constituted 59.4 thousand enterprises and represented about 98.4% of the total enterprises from Moldova, most of them being micro-enterprises. During 2015-2021, this indicator recorded an upward trend (Figure 1). The executed analysis showed that the smaller the size of the enterprise, the greater the number of these enterprises.

Analysis of SME demographics and activity showed that in 2021:

- every fourth enterprise was inactive;
- from new enterprises created in 2020, only every second enterprise was active;
- most small and medium-sized enterprises carried out their activity in wholesale and retail trade, manufacturing and agriculture,
- most micro-enterprises carried out their activity in wholesale and retail trade, agriculture, in professional, scientific, and technical activity;

➤ every seventh enterprise was liquidated.

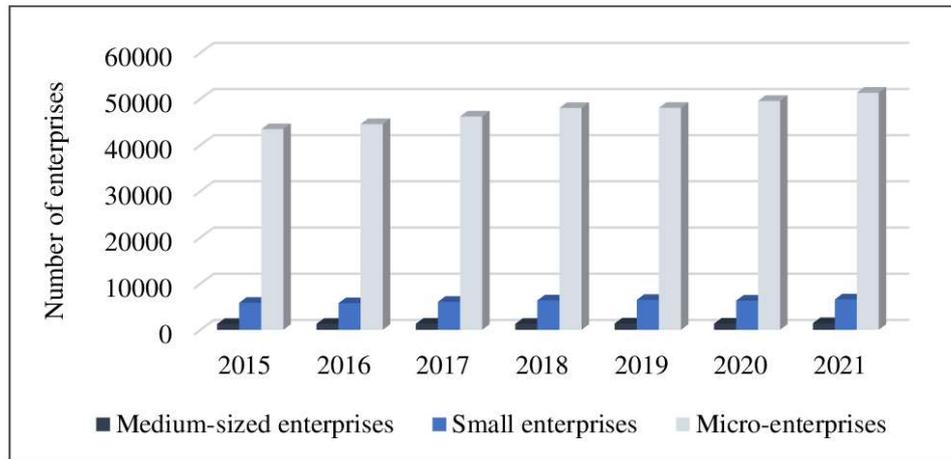


Figure 1. The number of SMEs in Moldova, 2015-2021

Source: National Bureau of Statistics of the Republic of Moldova, 2022.

The average number of employees in SMEs in 2021 was 314.9 thousand, holding 59.1% of the total average number of employees of enterprises in Moldova (Figure 2).

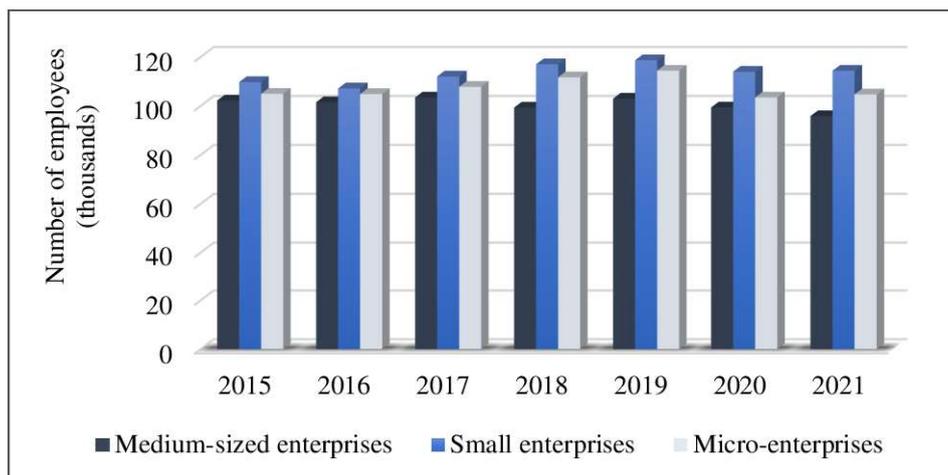


Figure 2. The average number of employees in SMEs, 2015-2021

Source: National Bureau of Statistics of the Republic of Moldova, 2022.

In the last seven years, the number of employees in SMEs decreased by 2 thousand. Most employees are in small businesses. Medium-sized enterprises have relatively fewer employees.

Sales revenues of SMEs in 2021 totaled 183,569.7 million lei or 37.6% of total sales revenues for the economy, including medium-sized enterprises – 57.1 billion lei (11.7%), small enterprises – 76.3 billion lei (15.6%), micro-enterprises – 50.1 billion lei (10.3%) (Figure 3).

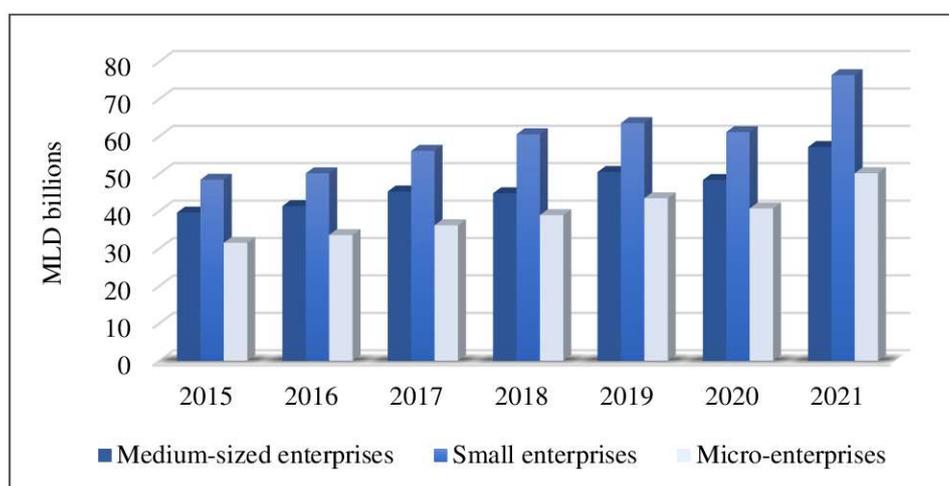


Figure 3. The sales revenues of SMEs in Moldova, 2015-2021

Source: National Bureau of Statistics of the Republic of Moldova, 2022.

Most SMEs are privately owned enterprises. The profit before taxation obtained by SMEs in 2021 was 2.2 times more than in 2020 and amounted to 20,237.4 million lei.

4. The forecasts of SME activity in Moldova

The medium-term SME activity forecast model is presented in Table 3. After analyzing the factors influencing the development of SMEs, we can note the following:

- the high degree of population aging in Moldova will hurt the dynamics of SME development;
- the increase in credit accessibility has a positive impact on SME development (Gutium & Speian, 2022b).

Table 3. The model equations

Equation	R-squared
$ft = 2555.5 - 2.6e-05 \times wgd p + 0.25 \times m - 87.6 \times u - 230 \times d18$	0.91
$nsme = 36.34 + 8e-05 \times mgd p + 0.005 \times ft - 0.07 \times dl - 0.4 \times u + 0.0002 \times pm$	0.99
$nem = -7.43 - 1.9e-05 \times mgd p + 1.22 \times nsme + 0.1 \times u - 0.00025 \times pm + 0.83 \times d13$	0.98
$esme = -1505 - 0.004 \times mgd p + 56.1 \times nsme + 23.54 \times u - 0.3 \times ft - 1.44 \times cpi$	0.96
$em = 173 - 0.0002 \times mgd p + 0.034 \times ft + 1.19 \times esme - 0.01 \times pm + 0.013 \times t^3 - 5.1 \times d11 + 7 \times d13$	0.97
$tsme = 194.4 + 0.0012 \times mgd p - 5.4 \times nsme + 0.009 \times pm - 2.35 \times u + 9.6 \times d11 - 7.7 \times d14$	0.99
$tte = 1312 + 0.0032 \times mgd p - 31.8 \times dl + 0.28 \times x - 0.17 \times m - 1.5 \times em + 0.0023 \times t^3 - 25.9 \times d13 - 35.5 \times d17$	0.98
$fsme = 6.7 + 9.9e-05 \times mgd p - 0.012 \times ft - 0.9 \times dl + 0.0035 \times x + 0.91 \times u + 0.0009 \times pm - 3.4 \times d13$	0.98
$fte = -20.5 - 0.0002 \times mgd p + 2.1 \times u + 0.6 \times tsme$	0.92
$lsme = 23020.7 + 212.2 \times cpi - 679.3 \times r - 162.4 \times rr$	0.86

Source: Elaborated by the author.

Based on the application of mathematical modeling methods, the author believes that the development of SMEs will occur inertially. Table 4 shows the forecast results of the principal indicators of SMEs activity.

Table 4. The forecast of the principal indicators

	2023	2024	2025
Number of SMEs, thousand units	60.9	61.7	62.4
Number of enterprises in RM, thousand units	61.8	62.6	63.3
Number of employees in SMEs, thousand per.	325.1	328.0	330.3
Number of employees, RM, thousand persons	538.3	542.1	545.0
Sales revenues of SMEs, MLD billion	200.9	209.8	218.4
Sales revenues, total, Moldova, MLD billion	558.6	598.8	633.0
Loans granted to SMEs, MLD billion	19.0	21.4	24.0

Source: Elaborated by the author.

Conclusion

According to forecasts for 2023-2025:

- the number of SMEs will increase by 1.33% (in 2023), 1.31% (in 2024), and 1.13% (in 2025);
- the average number of employees in SMEs will grow by 0.77% (in 2023), 0.89% (in 2024), and 0.70% (in 2025);
- the sales revenues of SMEs will rise by 4.47% (in 2023), 4.43% (in 2024), and 4.10% (in 2025);
- the loans granted to SMEs will increase by 12.7% (in 2023), 12.6% (in 2024), and 12.4% (in 2025).

It is necessary to note that, currently, SMEs operate in conditions of insufficiency of their working capital; these enterprises are offered bank loans with a high-interest rate, which exceeds the rate of profitability (Gutium, 2019). The SME requires capital investments for its technical retooling, the implementation of high-performance technologies, and, as a result, the increase in sales volume.

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