

# The Impact of the Increase in Market Interest Rates on The Credit Risk of Guarantees Issued Under the SME Invest Program

Dumitru Nancu

“Ovidius” University of Constanta, Faculty of Economic Sciences, Romania

[nancu\\_dumitru@yahoo.com](mailto:nancu_dumitru@yahoo.com)

## Abstract

*The present study aims to present the impact of market interest rates on the credit risk of the guarantee issued under the SME Invest program, in the context of the Covid-19 pandemic.*

*The SME Invest program is the largest project initiated by the Romanian Government in recent years. It was launched in 2020, as a result of the pandemic that had repercussions on all economies around the world, namely the Covid -19 pandemic. The role of the SME Invest Romania program is to support and develop the Romanian economy during the crisis period.*

*This study is based on the use and calculation of the EBITDA indicator. The main source of information is the National Credit Guarantee Fund for SMEs, the institution that manages and implements the SME Invest program.*

**Key words:** SMEs, interest rates, bank credits, entrepreneurship, Covid-19 pandemic

**J.E.L. classification:** A11, D00, G20, G21, E00

## 1. Introduction

The study is structured in three parts. Part I - presents theoretical information on the EBITDA indicator. Part II presents the methodology used in conducting the study, and Part III presents the conclusions of the study.

The study is based on calculations made using the EBITDA indicator from the database of FNGCIMM.

Among the main idea of the study, another idea that wants to stand out, is that of the importance of SMEs, these being the only source of support and development of an economy.

## 2. Theoretical background

The National Credit Guarantee Fund for Small and Medium Enterprises (FNGCIMM SA-IFN) is a non-bank financial institution, with venture capital, established in order to facilitate the access of SMEs to financing, by providing guarantees for financing instruments contracted from commercial banks or other sources. FNGCIMM implements government programs aimed at economic recovery, business development, as well as job creation and support, operating as a joint stock company, with sole shareholder the Romanian state, under the prudential supervision of the National Bank of Romania.

The SME INVEST ROMANIA program is the government's response to the health and economic crisis, in the context of the COVID-19 pandemic.

SME INVEST ROMANIA is intended to support the entrepreneurial environment, facilitating the access of SMEs to financing, to ensure the necessary liquidity to continue economic activity, by accessing one or more loans for investments and / or one or more loans / lines working capital loan, guaranteed by FNGCIMM in the name and account of the Romanian state, through the Ministry of Finance. The program was launched in 2020, and continues today, in 2022, proving to be a real success and the main source of survival for SMEs, in the context of the Covid-19 pandemic.

### 3. Research methodology

The present study is an analysis and synthesis based on the EBITDA indicator. The data used are according to the database of the National Credit Guarantee Fund for SMEs.

The entire case study is reflected in the “Table 1 - Distribution of the guaranteed portfolio according to the share of additional expenses with interest in 2023 compared to EBITDA 2020, lei” and “Table 2 - Distribution of the guaranteed portfolio according to gross growth of interest expenses estimated for 2022, lei”.

The attached Table 1 shows the distribution of guarantor beneficiaries according to the share in EBITDA (Dec 2020) of the estimated increase in interest expenditures from 2023. This table identified the main category of beneficiaries at risk. Beneficiaries were divided into categories according to the share in the EITDA of the increase in interest expense in 2023 (maximum 5% for Category 1, at least 5% but not more than 10% in Category 2, etc. - thresholds being available in the last column).

*Table no. 1 Distribution of the guaranteed portfolio according to the share of additional interest expenses in 2023 compared to EBITDA 2020 (lei)*

C-Category	Number of beneficiaries	Balance of guarantees Nov 2021	Average turnover 2020	Median turnover 2020	Median - Increase of interest expenses from 2023 in EBITDA 2020	Median - Increase of interest expenses 2023	Median - EBITDA 2020	Maximum increase of interest expenses in EBITDA
C1	16,455	8,513,574,903	7,926,868	2,442,292	2%	10,840	494,228	5%
C2	6,401	5,301,852,907	7,372,012	2,699,871	7%	18,800	256,236	10%
C3	4,181	3,794,215,339	6,414,951	2,200,110	15%	20,000	116,108	50%
C4	324	243,531,795	4,177,673	1,183,809	92%	16,000	14,201	13455%
C5 Operating losses	1,510	495,619,182	2,384,588	667,304	-7%	6,871	-84,866	-
C6-No financials	2,094	1,081,651,359	-	-	-	9,960	-	-
Total	30,965	19,430,445,484	7,252,955	2,305,599	2%	7,233	335,933	-

*Source:* National Loan Guarantee Fund for SMEs

The distribution in table 1 is different from the distribution in table 2 (ex: a beneficiary with EBITDA of 500 thousand lei in 2020 and an increase in 2022 of the expenses with interest related to SME Invest financing in progress of 15 thousand lei representing 3% of EBITDA is in Category 1 in Table 1 and in Category 2 in Table 2).

Table 2 attached to this material shows the distribution of beneficiaries of guarantees according to the estimated gross increase in interest expenses, in order to form an overview of the gross amounts that will affect the profit and loss account of companies in 2022 in hypothesis of a 6M ROBOR of 6%. Beneficiaries were divided into categories according to the estimated gross value of the increase in interest expense in 2022 (maximum 13,500 lei for Category 1, at least 13,500 lei but not more than 24,000 lei in Category 2, etc. - thresholds being available in the last column).

*Table no. 2 Distribution of the guarantee portfolio according to the gross increase of interest expenses estimated for 2022 (lei)*

C-Category	Numerical share	Average share of investment financing	Average turnover 2020	Median turnover 2020	Median EBITDA	Median increase in interest expenditure 2022	Medium increase in interest expenditure 2023	Medium increase in interest expenditure 2024	Maximum increase in interest expenditure in 2022
C1	70%	6%	2,262,482	1,406,177	193,925	4,800	8,000	9,448	13,500

C2	14%	10%	8,496,314	5,761,179	700,270	20,118	32,000	38,400	24,000
C3	7%	18%	13,326,546	9,256,129	983,580	36,000	60,000	69,600	48,000
C4	4%	20%	23,371,340	15,179,758	1,603,871	67,158	105,156	120,000	90,425
C5	4%	6%	52,119,343	36,584,943	3,130,364	120,000	200,000	240,000	120,000
C6	1%	51%	43,793,364	29,498,834	3,874,096	175,852	264,776	281,100	347,969
Total	100%	9%	7,252,955	2,305,599	335,933	7,233	12,000	14,400	-

Source: National Loan Guarantee Fund for SMEs

It is also worth mentioning that the average tested ROBOR 3M rate applicable in 2022 will be 6%, 8% in 2023 and 9% in 2024, compared to the base value of 3% applicable in each of the 3 years. The study is based on the use of the EBITDA indicator (Earnings Before Interest, Taxes, Depreciation and Amortization). The earnings before interest, taxes, depreciation, and amortization (EBITDA) formula is one of the key indicators of a company's financial performance and is used to determine the earning potential of a company.

The impact of the interest rate increase was calculated only on the SME Invest guarantee portfolio in balance as of November 30, 2021 (31 thousand beneficiaries with guarantees in balance of 19.4 billion lei and loans in balance of 23.4 billion lei)

The estimation of the payment interests of the SMEs in the period 2022-2024 was made according to the value of the current SME Invest financing on November 30, 2021, the type of accessed credit (line of credit or investments) and the following average repayments of the accessed loans:

For investment loans will be repaid 10% in 2022, another 20% in 2023 and another 20% in 2024

For line loans there will be no repayments in 2022, 2023 and 2024. The use of this assumption is based on the reasoning that the beneficiaries will try as much as possible to extend the maximum term of the SME Invest credit lines, given the very good margins received and a possible decrease in the availability of credit from banks in the event that aggregate demand will be affected by the strong growth of banks. There will certainly be beneficiaries who will no longer extend their credit lines, but obviously they will not affect their exposure to the risk of a sharp rise in market interest rates.

The analysis was based only on the estimation of interest expenses and repayment rates related to SME Invest financing (according to NBR Regulation no. 2/2012, FNGCIMM does not have access to the information from the Credit Risk Center -CRC- for the guarantees issued in the name and account of the Romanian state, but only to those issued on behalf of its own funds), without taking into account other ongoing financing of the beneficiaries, in order to have a clearer picture on the impact of the installments to be paid in the future.

The financial indicators of the beneficiary SMEs were calculated only where they were available (for 2100 beneficiaries there were no financial statements as of Dec 2020, these being represented mostly by PFAs and startups). The financial statements of SMEs on 31.12.2020 were made available in gross form by the Ministry of Public Finance based on protocol number 825341/2018 and processed at the level of FNGCIMM.

For the beneficiaries with operational losses (category 5 in table 1) no credit risk was determined due to the increase of bank interest, given that it cannot be estimated based on the financial statements, the decision of the bank granting financing based on most likely on a subjective basis (these beneficiaries had a higher credit risk anyway and no future impact of ROBOR 3M growth).

#### 4. Findings and conclusions

Overall, we estimate that an increase in the size of the banks tested will lead to a medium increase in the probability of default over a 3-year horizon from 1.7% to 1.9%, which means the increase estimated payments for guarantees, in the period 2022-2024, from 365 million lei to 412 million lei.

The credit risk induced by the interest rate increase (only 7 beneficiaries with balances in balance of 3.2 million lei have been identified who are no longer entitled to receive an interest grant in 2022 and for whom the increase in interest expenditure exceeds 50% of the EBITDA of 2020) in 2022 is insignificant, from the point of view of the interest grant granted under the SME Invest program and which will be settled in 2022. Thus, the increase of ROBOR 3M in 2022 from 3% to 6% will lead to an increase in the grant in the form of interest granted by the state for the portfolio in force of guarantees by about 50 million lei (from 224 million lei calculated at a 3M ROBOR of 3% to about 274 million lei calculated at a 3M ROBOR of 6%).

The largest category of beneficiaries exposed to credit risk (category 4 in the attached table 1) is represented by 324 beneficiaries with a volume of guarantees in balance of 244 million lei, for which the estimated increase in interest in 2023 (calculated as interest expense for a 3M ROBOR of 8% (plus fixed margins for the SME Invest program of 2.5% for credit lines and 2% for investment loans) minus interest expense for a 3M ROBOR of 3 % plus related margins) represents at least 50% of EBITDA for the year 2020. EBITDA was calculated on the basis of the financial statements of SMEs on 31.12.2020 as the sum of the operating result, the depreciation expenses from which the profit tax was deducted.

In addition to the above beneficiaries, we estimate that in 2024, a further 89 beneficiaries with a volume of guarantees in the balance of 52 million lei will fall into a very high risk category given that the increase in interest rates from 2024 (calculated as interest expense related to a 3M ROBOR of 9% minus the interest expense related to a 3M ROBOR of 3%, taking into account the maximum margins of the program) represents at least 50% of the EBITDA for the year 2020.

We make the following clarifications regarding the conclusions formulated in this material:

The present analysis only tested the increase in the interest expenses of the beneficiaries - sensitivity analysis. It is expected that an increase in interest rates of the magnitude of those tested in this material will significantly influence the aggregate demand in the economy and the turnover (and thus the operating profits of certain companies) will contract significantly, with an impact on credit risk. To capture this impact, a scenario analysis is needed to assess several macroeconomic variables.

The estimation of the probability of default was based on an internal rating model of FNGCIMM which takes into account only the financial statements of SMEs and historical default data of FNGCIMM resulting from guarantees issued on the basis of its own capital. The distribution of SME Invest beneficiaries is different from the SME base of FNGCIMM's own guarantees (overall the quality of SME Invest beneficiaries is much better) so that the estimates of default probabilities may suffer in accuracy.

## 5. References

- FNGCIMM database
- <https://www.fngcimm.ro/>
- <https://mfinante.gov.ro/ro/web/site>
- <https://insse.ro/cms/>
- <https://ec.europa.eu/eurostat/web/sector-accounts/data/key-indicators>
- [https://www.fngcimm.ro/attament/eiH2e\\_OUG%201102017.pdf](https://www.fngcimm.ro/attament/eiH2e_OUG%201102017.pdf)