

Prospective analysis of the SME sector in the Western Balkans

Lessons from a study undertaken by the consortium GRETA¹ under the supervision of EIB for the Western Balkans Investment Framework's Enterprise Development and Innovation Facility (WB EDIF).

Massimo Cingolani

Abstract: The study has been conducted between February 2019 and May 2021 to provide prospective analysis on the possible use of EU financial instruments in the Western Balkans during the 2021-27 period². The research exploited for the first time a dataset containing the balance sheets and income statements of all Serbian companies over the period 2009-2018. This data was also related to the information available on the financing of Serbian SMEs through the EIB APEX credit line with the Serbian central bank.

Motivation

- Under the WB EDIF platform, different donors provide grant resources that are used in common to provide financial products such as venture capital (ENIF), equity for fast growing SMEs (ENEF), guarantees (GF), subsidized loans (PF) as well as TA
- WB EDIF financial products combine grant resources from different donors with other finance to reach different segments of the SME market
- The complementary finance under the EIB APEX multi-purpose intermediated loan is directed to “wholesale SMEs” and is typically “non-blended”
- It is justified to provide a grant when there is a market failure. This could be:
 - an externality
 - a public or a merit good such as environment, climate change or many of the Sustainable Development Goals
 - a macroeconomic market failure; or other.
- Market failure is expected to be endemic in developing countries and it is important to understand what market failures must be addressed by these financial products

Theoretical framework

1.	X	Cumulated output of the project
2.	C	Total cost of the project
3.	C_u	Discounted unit cost of the project before earnings and financing (*)
4.	C_{BFP}	Cost of the project before earnings and financing (*)
5.	C_{FIN}	Financing costs (real)
6.	NC	Normal Cost
7.	CF	Cash Flow
8.	P_M	Market price of output
9.	P_S	Shadow price of output
10.	V_M	Market Value of output
11.	V_S	Social Value of Output
12.	R	Percentage financing cost
13.	π	Normal Profits (Percentage)
14.	π^*	Target Profits (Percentage)
15.	$Rent$	Rent
16.	mPS	Minimum Public Support
17.	MPS	Maximum Public Support
18.	DSP	Publicly Desired Public Support

(*) Inclusive of investment cost

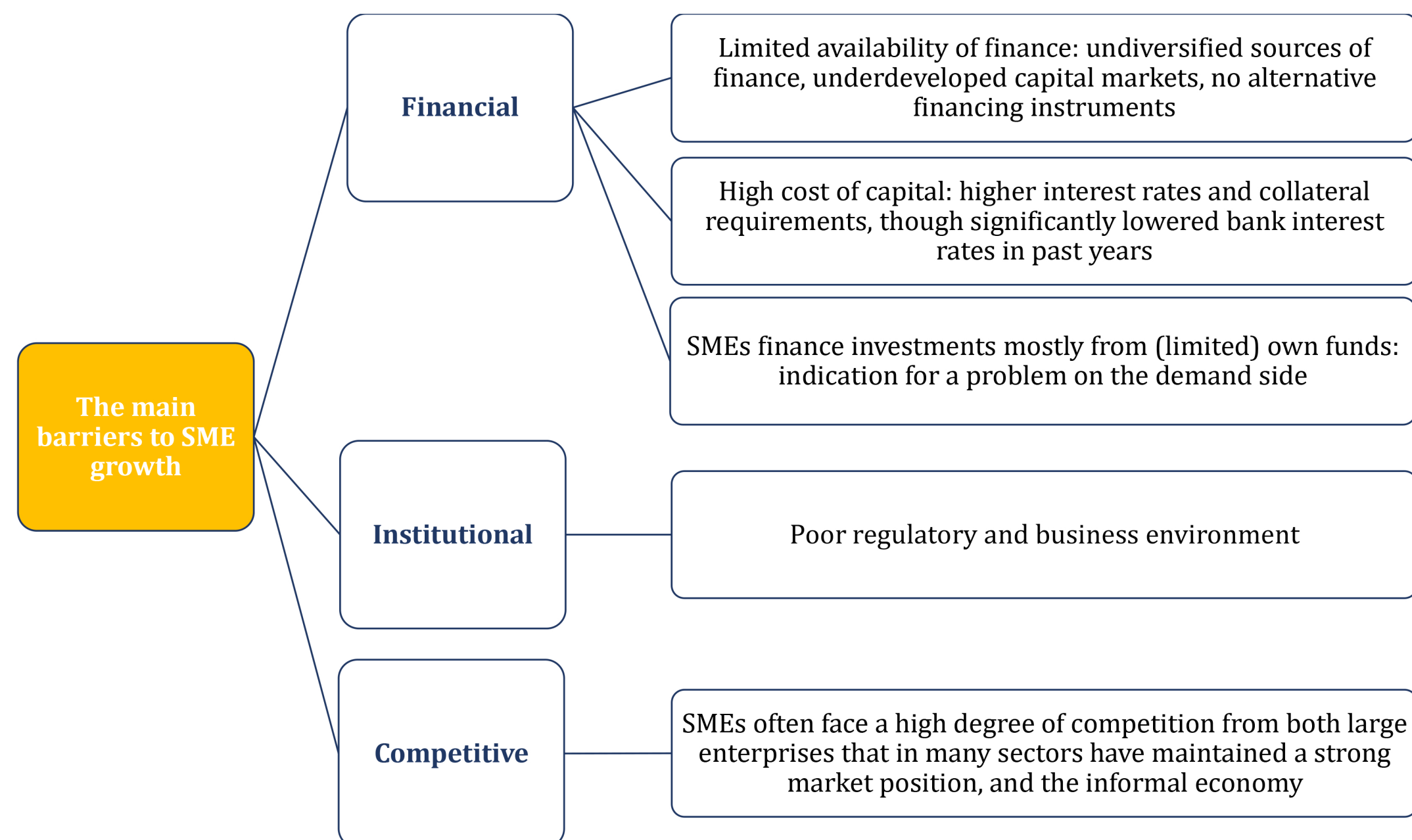
$$\begin{cases}
 V_s = P_S X \\
 V_M = P_M X \\
 C_{BFP} = C_u X \\
 C_{FIN} = r C_{BFP} \\
 CF = VM - C_{BFP} - C_{FIN}; \\
 NC = (1 + \pi)(C_{BFP} + C_{FIN}) : (I). \\
 Rent = (\pi^* - \pi)(C_{BFP} + C_{FIN}) \\
 C = (1 + \pi^*)(C_{BFP} + C_{FIN}) \\
 mPS = C - V_M \\
 MPS = V_S - V_M \\
 DPS = mPS - Rent
 \end{cases}$$

Methodology and Data

- Overview of the WB economies** to underline the macro- and micro-economic market failures and the main barriers to SMEs growth
- Quantitative analyses** of 59 884 Serbian SMEs balance sheet data provided by the Statistical Office of the Republic of Serbia (anonymized firm level data used for national accounts)
 - Sample period: 2009 - 2018
 - Financial Expenses analysis
 - Development Factors and Elasticity analysis
 - Investments Elasticity to change in profitability
 - APEX Loans analysis

Overview of the WB economies

- The private sector in Western Balkans economies is still underdeveloped, and overall growth rates are tepid (middle income trap)
- SMEs contribute from 50 percent to 70 percent to value-added -- relatively less, as compared to the number of firms or employment – lower productivity comparing to larger firms
- Some sectors of the economy are particularly prominent in terms of potential for high-growing SMEs: e.g. machines and equipment, IT, gaming and audio-visual production in Serbia; food industry, some services incl. tourism in other WB economies.



All these market failures compound into a higher aggregate level of risk, as evidenced by country risk premia and also by the wide dispersion of profits

Quantitative analyses (key lessons)

Financial Expenses analysis

- Financial Expenses seems unrelates with the firm Operating Income, with their profitability and with financial risk profile
- For the majority of firms it seems that the loans have been granted with little consideration of the main financial statement indicators

Development Factors and Elasticity analysis

- The market shares by sectors confirm the transformation away from agriculture and towards services
- The ranking procedure has selected 16 micro-sectors
- The selected 16 micro-sectors react differently to different intervention policies
- The Investment elasticities to variation in the Operating Profit analysis seems to confirm that Investments and capacity to fund funding depend on the assets or the guarantees linked to them, and not on the firm performance

Development factors of fast-growing sectors

The cross-regressions

The hypothesis: for the sector s ($s = 1, \dots, 16$) and the year t ($t = 2011, \dots, 2018$) the following model could explain the behaviour of OI

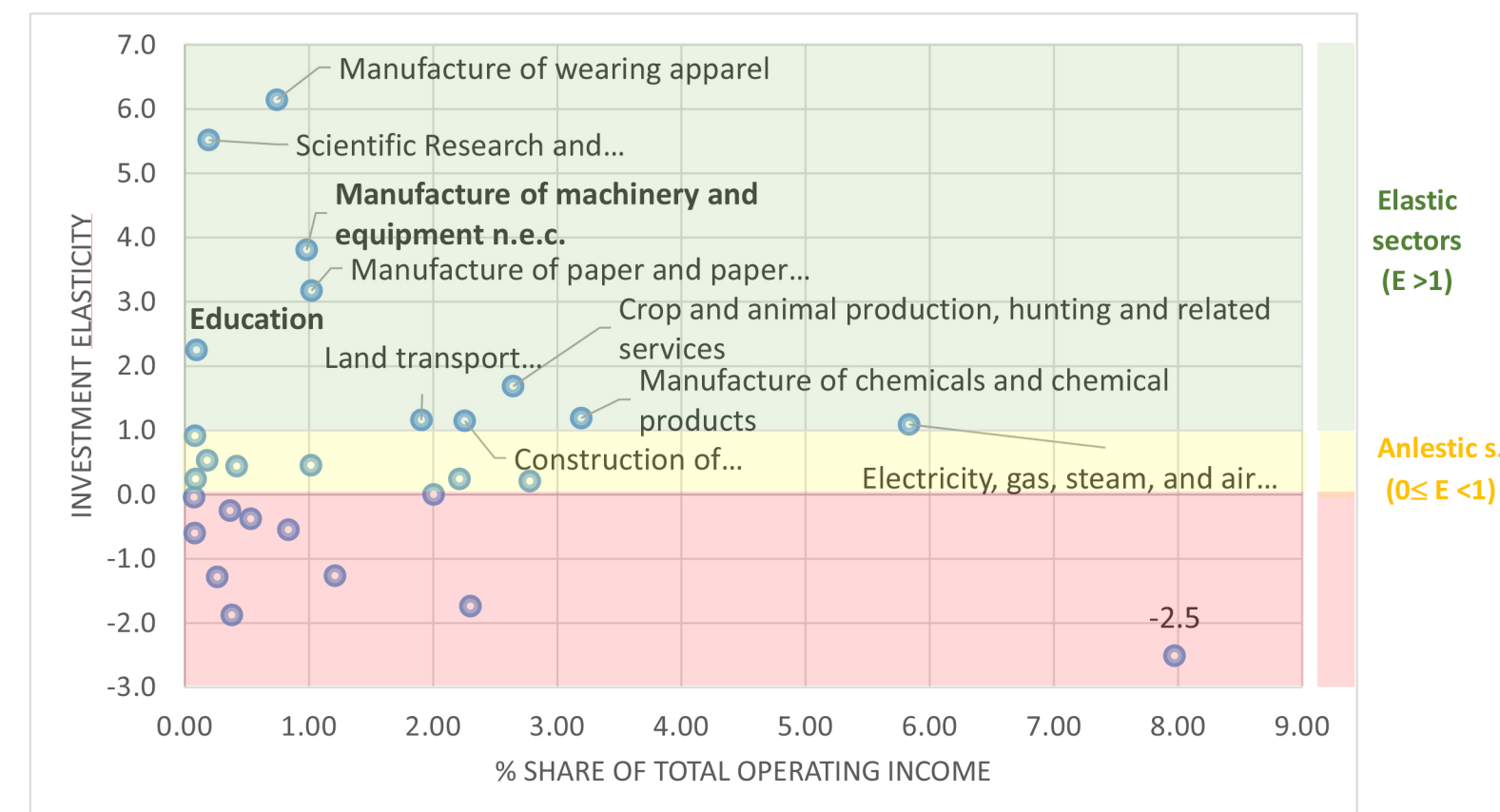
$$OI_{s,t} = \alpha_s + \beta_{s,1} \Delta IPE_{s,t} + \beta_{s,2} \Delta IPE_{s,t-1} + \beta_{s,3} WE_{s,t} + \beta_{s,4} WE_{s,t-1} + \beta_{s,5} \Delta L_{s,t} + \beta_{s,6} \Delta L_{s,t-1} + \varepsilon_{s,t}$$

where, at time t , for sector s ,
 $OI_{s,t}$ = Operating Income
 $WE_{s,t}$ = Wage per Employee
 $\Delta IPE_{s,t}$ = Investments
 $\Delta L_{s,t}$ = Liabilities
 $\varepsilon_{s,t}$ = unobservable random variable (usual assumptions for linear regression model)

HS	S	Constant	$\Delta IPE_{s,2018}$	$\Delta IPE_{s,2017}$	$WE_{s,2018}$	$WE_{s,2017}$	$\Delta L_{s,2018}$	$\Delta L_{s,2017}$	Adj. R ²
13		9.00E-18 (0.000)	0.5189 (0.000)***	-	-	-	-	-	0.27
16		-1.00E-17 (0.000)	0.9078 (0.029)***	-	-	-	-	-	0.82
22		-6.00E-16 (0.000)	0.2005 (0.032)**	-0.3027 (0.117)**	-	-	-	-0.508 (0.400)***	0.73
27		6.00E-17 (0.000)	-0.3803 (2.020)**	-0.4265 (2.362)**	0.1913 (2.891)**	-	-	0.2493 (2.239)**	0.47
28		9.00E-18 (0.000)	0.322 (4.180)***	-	-	0.294 (2.586)**	-	-0.5097 (2.109)**	0.50
33		1.00E-17 (0.000)	-	-	0.3605 (3.504)**	-	-	-	0.13
4	52	4.00E-17 (0.000)	0.4681 (11.543)***	-	-	-	-	0.5925 (18.750)***	0.96
59		-7.00E-17 (0.000)	-	-	-	-	-	-	-
5	62	-4.00E-17 (0.000)	0.2378 (2.673)**	-0.3116 (3.446)**	0.3505 (3.752)***	-	0.3537 (3.181)**	0.0278 (1.985)**	0.42
74		-6.00E-17 (0.000)	-	0.3732 (3.412)**	-	0.4238 (8.522)***	0.25 (9.917)***	-	0.45
79		-7.00E-17 (0.000)	-	0.1603 (4.385)***	0.1229 (3.828)**	0.4499 (2.439)**	0	-	0.28
8	80	3.00E-17 (0.000)	0.4335 (6.870)***	-	-	-	-	-	0.19
9	85	3.00E-17 (0.000)	-	-0.6534 (12.677)***	-	0.1615 (2.222)**	-	-	0.49

Investments Elasticity to change in profitability

- Analysis of the impact of a percentage change in the Operating Profit in terms of Investments percentage change (**elasticity E**), over time t and among sectors S



APEX Loans analysis

- APEX Firms have a good performance in terms of Investments stability, profitability and Operating Income
- During the years from 2009 and 2018, APEX Firms remain in clusters characterized by a high level of profitability and a medium of financial risk
- This suggests that the same analysis applied to APEX loans similar financial instruments and their performance comparison could be interesting to provide useful lessons for the next programming periods

Key Recommendations for 2021-27 Cycle of Financial Support to SMEs

- Importance of implementing application of accounting rules, control of balance sheet data, coherence of account items between them and over time
- Estimated need: 1 billion euro package of financing instruments in support to SMEs in WB for the period 2021-2027
- This financial support package for SMEs is complementary to the existing financing: own funding, financial sector, government programs. Instruments: i) Early-stage equity investments; ii) Guarantees; iii) Loans; iv) Investment and TA Grants.
- Knowledge production and funds absorption should be integrated in instrument design: i) Innovation; ii) Digital solutions; iii) Market intelligence and competence centres; iv) Green economy; v) Local development
- All instruments should have a mandatory Technical Assistance component for beneficiary SME aiming to improve market access, quality standards, business knowledge.
- In addition to the existing intermediation mechanisms (EDIF, previous cycle), additional funds can be managed by local agencies (state innovation funds, development agencies, export promotion agencies) and should aim to improve local knowledge and expertise for provision of tailor made instruments responding to the SME needs.
- Indirect support to industry clusters and local agglomerations and networks