



## The Impact of Macroeconomic Conditions on Sme's Profitability

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### ABSTRACT

*Small and medium enterprises are the major agents of economic growth and employment in Albania and profitability is one of their most important financial indicators. It is affected not only by internal factors but also by external macro factors. Therefore, the focus of this research is the evaluation of the impact of internal factors (leverage, size, liquidity and asset turnover) and macroeconomic factors (GDP growth rate and inflation) on SMEs' profitability. The investigation uses cross-sectional time series data which are calculated from balance sheets of the firms. The results revealed a significant impact of leverage, liquidity, asset turnover and GDP growth rate on the profitability of SMEs.*

**KEYWORDS :** internal indicators, macroeconomic indicators, profitability, SME.

### INTRODUCTION

Raising capital in Albania is considered costly for different reasons: At first the lack of trading markets of financial instruments. For this reason the only source of raising further capital is from bank loans. Second the existence of informal economy in Albania causes an increase of the risk premium from the financial institutions.

In 2011, SMEs have realized 61 percent of the total turnover and 75 percent of the total investments. These enterprises dominate the industry and construction sectors. Enterprises with 1-4 employed represent 91 percent of the total enterprises. They have realized 14 percent of the total turnover. Small enterprises are dominant especially into the service sector (INSTAT, 2011).

The rest of the paper is organized as follows; Section two presents the empirical literature on factors which influence the firm's profitability; Section three describes the methodology used in the study; Section four presents the findings and discussions on the underlying key factors responsible of firm's profitability and Section five presents same of the conclusions.

### LITERATURE REVIEW

**Profitability**-The concept of return on assets (ROA) and its influence on the performance of businesses has emerged strongly to capture the attention of many stakeholders (Zarook et al., 2013). Different researches have used different measures of profitability. Sogorb-Mira and Lopez-Garcia (2003), used earnings before interest and tax (EBIT) over assets as a proxy for profitability and found that if the profitability of firms increases, leverage should decrease. For the purpose of this study, the firm's profitability is defined as return on assets (earnings after taxes to total assets) and as return on equity (earnings after taxes to total equity).

**Leverage**-Rajan and Zingales (1995), state that the definition of leverage rests particularly on the objective of the analysis. Other measures of leverage include debt to total assets, total liabilities to total assets, debt to net assets and debt to capitalization. So if firms are profitable, they have more retained earnings and we aspect a negative relationship between profitability and leverage. According to Opler and Titman (1994), as a firm's leverage increases, the company is likely to find it more difficult to survive periods of falling sales. Also Popa and Ciobanu (2014) found that the leverage has a negative influence on firm profitability, because a high value of debt can mean a higher cost and therefore higher interest rates.

**Size**-The arguments of trade-off theory are that large, more diversified, firms face lower default risk. Smaller companies tend to experience higher volatility in their rate of return than their larger counterparts (Baumol, 1962).

**Liquidity**-Liquidity is particularly important to shareholders, long-term lenders and creditors, as it provides information about a particular business's safety margins afforded to creditors and its ability to repay loans (Nyamao et al., 2013, p. 3). According to Nyamao et al. (2013) liquidity ratios measure a business' ability to meet the payment obligations by comparing the cash and near-cash with the pay-

ment obligations.

**Asset turnover**-The efficiency of the management of a firm can be measured by the way and manner they utilize the assets of the firm to yield positive returns to the firm. We expect a positive relationship between asset turnover and firm performance.

**GDP-growth rate**-The growth rate of the economy is a measure of the growth opportunities available to firms in the economy (Smith and Watts, 1992). So we expect economic growth to be positively related with profitability for all types of firms. Bekeris (2012) study used data of the Department of Statistics of Lithuania for the period from 2000 to 2010 to investigate the macroeconomic indicators which influence on the profitability of SMEs. Most of the selected macroeconomic indicators showed no strong correlation with SME's profitability.

**Inflation rate**-Inflation management is one of the hardest tasks an economic policymaker has to undertake (Basu, 2011). "One of the most important costs of inflation is the uncertainty it creates about future inflation and the uncertainty about future inflation can affect both business investment decisions and consumer saving decisions" (Golob, 1994, p. 27).

Other studies on the profitability of SME are focused on different factors. Hansen and Wernerfelt (1989) study focused the research on the determinants of firm performance upon an economic tradition, emphasizing the importance of external market factors in determining firm success also on the behavioral and sociological paradigm and sees organizational factors as the major determinants of success. The findings of Chittithaworn and Islam (2011) study revealed that SMEs characteristic, customer and markets, the way of doing business and cooperation, resources and finance, and external environment have significant positive effect on the business success of SMEs in Thailand.

### METHODOLOGY

The period covered is 2008-2011 and the total number of observation is 276. The average of the total assets of the firms in the sample is approximately 113.442.029 ALL (ALL is an acronym for, Albanian's currency) or 810.300 Euro (note that the exchange rate is roughly 140 ALL/Euro). All the firms can be classified as SME.

**TABLE-1**  
**DESCRIPTION OF VARIABLES**

Variable	Mean	Min.	Max.	Std. Dev.	C.V.
ROA	0.0677	-0.2247	0.6913	0.0985	1.4544
TDTA	0.6177	0.0014	1.4546	0.2867	0.4641
SIZE	17.536	14.525	20.976	1.3780	0.0786
LIQ	16.933	0.0829	583.19	68.228	4.0292
ATURN	1.3079	-0.0929	13.7072	1.7706	1.3537
GDP	0.0436	0.0272	0.0750	0.0187	0.4282
INF	0.0320	0.0230	0.0360	0.0053	0.1642

Table 1 reports summary statistics for the variables used in our study. It shows that the average return on assets (ROA) for the sample as a whole is 0.0677. Also the average values of total debt to total assets, size, liquidity, asset turnover, GDP growth rate and inflation rate are respectively equal to 0.6177, 17.5362, 16.9332, 1.3079, 0.0436 and 0.0320.

**TABLE-2  
CORRELATION MATRIX OF VARIABLES IN THE MODEL**

ROA	TDTA	SIZE	LIQ	
1.0000	-0.4682	-0.1318	-0.0632	ROA
	1.0000	0.2270	-0.0438	TDTA
		1.0000	-0.0534	SIZE
			1.0000	LIQ

**TABLE-2  
(CONTINUOUS) CORRELATION MATRIX OF VARIABLES IN THE MODEL**

ATURN	GDP	INF	
0.5456	0.0482	-0.0656	ROA
-0.2616	0.1089	-0.0068	TDTA
-0.2610	-0.0934	0.0360	SIZE
-0.0895	-0.0153	0.0313	LIQ
1.0000	0.0857	-0.0369	ATURN
	1.0000	0.2329	GDP
		1.0000	INF

Table 2 shows the correlation between the explanatory variables specifically with respect to ROA. As we can notice ROA is negatively correlated with TDTA (46.82 percent), SIZE (13.18 percent), and LIQ (6.32 percent) and with INF (6.56 percent). Also it is demonstrated that ROA is positively correlated with ATURN (54.56 percent).

**From the above theoretical framework, the following hypotheses were derived:**

H1: There is a relationship between leverage and profitability of SMEs.

H2: There is a relationship between size and profitability of SMEs.

H3: There is a relationship between liquidity and profitability of SMEs.

H4: There is a relationship between asset turnover and profitability of SMEs.

H5: There is a relationship between GDP growth rate and profitability of SMEs.

H6: There is a relationship between inflation rate and profitability of SMEs.

**Six different independent variables are used in the analysis:**

TDTA = Total debt to total assets.

SIZE = Natural logarithm of total assets.

LIQ = Current assets to current liabilities.

ATURN = Total sales to total assets.

GDP = Annual GDP growth rate.

INF = Annual percentage increase of prices.

And the dependent variable is:

ROA (Return on asset) = Earnings after taxes to total assets.

**RESULTS**

It may be possible that the selected variables may be correlated and to address this problem the study tests for the multicollinearity. The Variance Inflation Factor (VIF) is commonly used for testing the mul-

ticollinearity problems. It shows the degree at which each independent variable is explained by another independent variable. As a rule of thumb, a VIF greater than 10 indicates the presence of harmful collinearity (Gujarati, 2004).

**TABLE-3  
MULTICOLLINEARITY ANALYSIS OF THE VARIABLES SELECTED**

Variable	VIF
TDTA	1.139
SIZE	1.125
LIQ	1.019
ATURN	1.154
GDP	1.104
INF	1.068

Table 3 shows the Variance Inflation Factor (VIF) of all the variables of this study. The results show that VIF for all the variables are less than 10 and the problem of multicollinearity is not present into the model. Employing panel data (cross pooled sectional data) analysis (Gujarati, 2004) and using Gretl (2012) statistical package we obtain the following results:

**TABLE-4  
WLS, USING 276 OBSERVATIONS, INCLUDED 69 CROSS-SECTIONAL UNITS**

Variable	Coeff.	t-ratio	p-value	
const	0.0728	1.9056	0.0578	*
TDTA	-0.0957	-8.6245	<0.00001	***
SIZE	0.0020	0.9906	0.3228	
LIQ	-6.63e-05	-1.9171	0.0563	*
ATURN	0.0224	10.8174	<0.00001	***
GDP	0.2669	1.8735	0.0621	*
INF	-0.6099	-1.2498	0.2125	
R-squared	0.5119	Adj. R-squared	0.5010	
F (6, 269)	47.0146	P-value (F)	3.15e-39	

Notes: \*\*\*Significant at 1% level, \*\* Significant at 5% level and \*Significant at 10% level.

As we can notice from Table 4, TDTA, LIQ, ATURN and GDP are the variables which significantly influence on firm's profitability measured through ROA. Return on assets has a significant negative relation with total firm's debt (as expected) and firm's liquidity. Also ROA has a significant positive relation with firm's asset turnover and GDP growth rate. Size and inflation rate are not important factors and the R-squared equal to 0.5119 shows that 51.19 percent of the variability of ROA is determined by the factors selected. Also F value and the P-value (F) show that the whole model is significant.

**CONCLUSIONS**

Small and Micro Enterprises play an important economic role in Albania. Government and other organizations should focus on the promotion of SMEs as a way of developing the entire economy. Despite their significance, the most part of the studies are focused on identifying the factors which mostly affect the performance of listed firms. But it is also very important to identify the factors that affect SME profitability because of the specifics of these enterprises. Some of the problems faced by SMEs include lack of access to credit, inadequate managerial and technical skills, lack of access to technology, lack of infrastructure and telecommunication etc. This study took in consideration firm's specific factors and two macro factors. Some of the conclusions of this study are:

1-The relation between ROA and TDTA is negative and this result is consistent with the study of Muritala (2012).

2-The results of the analysis showed the existence of a weak positive relationship between size and ROA which is consistent with the study of Nires and Velnamby (2014) study of the manufacturing firms in Sri Lanka.

3-The impact of liquidity on ROA is significant. This result is consistent with the empirical research of Zygmunt (2013) over the liquidity impact on profitability in polish listed IT companies which proved the existence of statistically significant relationship between liquidity and profitability.

4-Asset turnover influences positively ROA and this result are consistent with the study of Muritala (2012).

5-The impact of GDP growth rate on ROA is positive and significant. This result is not consistent with the findings of Bekeris (2012) which found an insignificant relation between the two variables.

6-The impact of inflation on ROA resulted negative but insignificant similar to the study of Bekeris (2012).

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