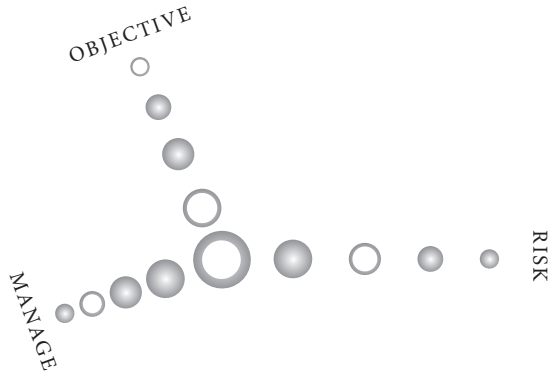

Impact of financial crisis on the profitability of sme in the Republic of Macedonia – pollog region

Rametulla Ferati,* Aida Yzeiri,** Elsana Ejupi***

Lector at the State University of Tetovo, Macedonia
**PHD candidate, Tel:0038970278236, @: rametula_ferati@yahoo.com*
***PHD candidate, @: aida_yzeiri@yahoo.com*
****Mr., @: elsanaejupi@yahoo.com*

Abstract

SME play a significant role in all economies and are key agents of employment, innovation and growth. A significant number of SME could use funds productively if they were available, but are often denied access to financing, thus impeding their creation, survival and growth. Although SME form a broad spectrum as far as their relative size, sector of activity, seniority, location and performance are concerned, there is a vital need for innovative solutions for their financing in particular for innovative and high growth SME in a globalised knowledge based economy.

Through this paper will try to explore the impact of financial crisis in the profitability of SME in the Republic of Macedonia- Pollog region. Given that Macedonia is a small country with an economy not quite developed, small enterprises and medium enterprises play a decisive role in economic development of this country.

The sample consist 150 SME operating in the Pollog region. The data used in empirical analysis are obtained from annual reports of business development. From the results of this paper is expected to highlight determinants that have the more impact in the profitability of businesses.

Key words: Financial crisis, profitability, SME, financing

1 Introduction

The financial crisis that erupted in mid-2008 led to an expansion of public debt in many economies of advanced countries. Governments were forced to make the capitalization of banks, take over a large debt to arise in the failure of financial institutions, and to introduce major incentive programs to revive demand. Involvement of the world economy from financial crisis was reflected very negatively on the economies of different countries, and once on business activities in general. Balkan region countries, which are part of Macedonia, are affected by this crisis, to what extent was the impact on them is relying specific macroeconomic conditions where countries are located, different levels of structural reforms carried out, and their exposure the crisis. At the beginning of the crisis impact on developing economies, in a way we can say that it was limited, (taking into account that the crisis started in developed economies), but this crisis was quickly transformed into a global economic crisis, which brought tremendous consequences in the real and financial sectors of the economy. Economic crisis, many countries included rapid (essentially businesses in the country), starting from the countries that generated the financial crisis (U.S.), European Union and beyond, which includes Macedonia itself. Economic sector in Macedonia comprise entirely of small and medium enterprises, who at the leading participation in economic growth and reducing unemployment. According to data available on 90% of the existing enterprises consist of small enterprises with about 15 employees. Macedonia as a small economy and open trade with an orientation towards Euro-zone countries was affected more rapid decline in foreign demand, and increase the rate of unemployment in some neighboring countries to the EU which caused a decrease in workers' remittances, export reduction, reduction of foreign investment, etc., that these sources are treated as one of the most important to the economy of a whole region of Macedonia in particular. Precisely, the recession of the neighboring countries and the euro-zone countries (countries with which Macedonia has trade links) quickly affect the distribution of the effects of the crisis on local businesses and the immediate impact on trade exchange and balance of payment system. All these indicators quickly led to the destabilization of all other macroeconomic parameters, and that given the rising unemployment, shrinking monetary policy and thus decreased the growth rate of lending, and noted deterioration of credit quality. Therefore, these tight financial conditions will influence the activities of businesses and business financing structure in the short and medium term. Therefore, businesses now began to feel the weakening of their liquidity, the mere fact of financial tightening,

primarily from the impossibility of obtaining credit through banks and reduction in financial market activities.

In this work we have items cross-sectional analysis which is taken into account these variables: liquidity, profitability, financial leverage, fixed assets, profitability, employees, liabilities of the firm, etc... In our case all the variables included in the analysis showed significant which means that all have an impact on the liquidity of the business structure, which in essence represents the research answered the question which are the determinants affecting the liquidity of businesses in the region and beyond. Simultaneously with this we get the answer to the question that are the attributes involved in the heterogeneity of the variables relations between dependent and independent variables. The sample consists of 150 companies operating in the Pollog region. The data used in empirical analysis are obtained from annual reports of business development in the region in question.

2 Literature review

SME play a particularly important role in economic development: SMEs generate a disproportionate share of job opportunities; SMEs contribute substantively to the gross Domestic Product (GDP); and SMEs spur innovation. Prior to the global financial crisis, SMEs already faced multiple obstacles.

In recent years there has been an increased focus on the relationship between firm's strategic orientation and firm performance (**Madsen, 2007**). Prior studies have generally found a positive relationship between EO (entrepreneurial orientation) and firm performance (**Madsen, 2007; Wiklund & Shephe-rd, 2005; Jantunen et al, 2005**). However, there are also studies where such a relationship has not been found (**Smart & Conant, 1994**). Typically, the measure that has been used to assess the firm performance has been a combination of both profitability measures and growth measures (**Avlonitis & Salavou, 2007; Wiklund, 1999; Covin & Slevin, 1989**).

Liquidity is a very important economic category, even if we examine the macro or micro economic. If may be said that liquidity is fat, which facilitates the smooth functioning of financial markets (in the macro sense) and the mechanism of the existence of long-term stage companies in the micro sense, hence the lack of liquidity is a form of friction in the system (Stoll, 2000). Thus, the negative effects of lack of liquidity can be harmful, especially the value of assets, demonstrated by (Amihud and Mendelson, 1986). Also, in the period leading cause of lack of liquidity was the presentation of the crisis in financial markets.

J. Alan Taub investigated the relationship between variables that explain the influence of various factors in business decision making regarding financing activity. For this purpose, the author considered the sample of 89 firms for 10 years, from year 1960 to 1969. For empirical treatment was used to model two types of tests: the test of probability and *t - test*. Empirical results show that the differences between the returns

of the firm and the interest rate on long term and firm size that have shown positive influence on the debt to equity ratio. The uncertainty of the firm's income is shown to have negative impact on the debt to equity ratio. Results for the remaining variables were contrary to expectations.

Fakher Buferna, Kenbata Bangassa and Lynn Hodgkinson (2005) provided empirical evidence for theories of capital structure that firm of developed countries. Independent variables were financial leverage report and explanatory variables were firm size, firm growth opportunities, and debt ratio of firm assets and profitability of the firm. The sample of this research was based on 5 years by treating the data from 1995 to 1999 for 55 companies. Theory and empirical evidence suggest that deep economic crises have profound effects on firms, but the effects are uneven between the firms (Narjoko & Hill, 2007). In this framework it is essential to further investigate if there are some firm specific strategic factors that enable SMEs to bear better this kind of challenging changes in the surrounding environment. Economic recessions and firms in these harsh environments have offered a fruitful setting for researchers for decades. An ample strand of literature called the turnaround strategy literature (e.g. Pearce II & Robbins, 1994; Laitinen, 2000; Cater & Schwab, 2008; Naidoo, 2010) has focused on firms' strategies used to survive and meet the performance targets during recessionary periods of time. Some of these turnaround strategies resemble very closely the dimensions of the entrepreneurial orientation, and therefore, we are interested to see if the entrepreneurial orientation has a positive effect on firms struggling to overcome the recession.

Empirical studies find mixed evidence. Wiwattanakantang (1999), Booth et al. (2001), Pandey (2001), Al-Sakran (2001), and Huang and Song (2002) find a significant positive relationship between leverage ratios and size in developing countries. While Rajan and Zingales (1995) find a positive relationship between size and leverage in G-7 countries, Titman and Wessels (1988) report a positive correlation between the size of the firm and the total debt ratio and the long-term debt ratio. On the other hand, Bevan and Danbolt (2002) report that size is found to be negatively related to short-term debt and positively related to long-term debt.

Theory and empirical evidence suggest that deep economic crises have profound effects on firms, but the effects are uneven between the firms (Narjoko & Hill, 2007). In this framework it is essential to further investigate if there are some firm specific strategic factors that enable SMEs to bear better this kind of challenging changes in the surrounding environment. Economic recessions and firms in these harsh environments have offered a fruitful setting for researchers for decades. An ample strand of literature called the turnaround strategy literature (e.g. Pearce II & Robbins, 1994; Laitinen, 2000; Cater & Schwab, 2008; Naidoo, 2010) has focused on firms' strategies used to survive and meet the performance targets during recessionary periods of time. Some of these turnaround strategies resemble very closely the dimensions of the entrepreneurial orientation, and therefore, we are interested to see if the entrepreneurial orientation has a positive effect on firms struggling to overcome the recession.

Table 19.1 — *Macroeconomic indicators in Republic of Macedonia. Source: www. Economywatch.com.*

Indicator	2010	2009	2008	2007	2006	2005	2004	2003
GDP Growth (Constant Prices, National Currency) for Macedonia	3.97	3.98	4.01	4.2	3.65	3	0.7	-0.9
GDP (Current Prices, National Currency) for Macedonia, (billion)	641.6	605.4	563.2	521.5	488.8	454.6	423.9	409
Inflation, Average Consumer Prices (Indexed to Year 2000) for Macedonia, in other Years	116.5	114.3	112.2	110.2	108.1	106	100.8	99.3
Total Government Gross Debt (National Currency) for Macedonia, in other Years (billion)	166.7	158.3	148.6	141.4	133.8	121.9	105.2	97.9
Inflation (End of Year Change %) for Macedonia, in other Years	1.9	1.8	1.8	1.9	2	7.5	2.96	-1.64

The table shows that GDP from 2003 until 2008 is trend to rice, where in 2009 this trend reduced from 4.1% to 3.98% and in 2010 reduced to 3.97%. All this are results of financial crisis that came over the world economy. Also another important indicator of Macedonian economy is public debt. Public debt rose from 97.86 billion denar in 2003 to 166.68 billion denar in 2010. These indicators tell us about the state of Macedonian economy through the years. As we see all indicators point to the deplorable situation of the Macedonian economy and thereby also to SMEs operating in the country.

3 Effects of the economic crisis in Greece on the Macedonian economy

Macedonia as a small open economy, cannot achieve good growth rates and to operate successfully isolated from its environment (foreign trading partners and investors). Therefore, the various shocks in the environment which is important for our economy are easily transmitted as a spiral in our economy. The reduction in economic activity the most important trade partners of Macedonia negatively affect foreign effective demand, which in 2009 was the deepest historical decline of 3.7%.

Effective demand by Greece is far less than the total foreign effective demand of Macedonia. In the period 2010 - 2011 years. Has noticed a clear distinction between foreign effective demand and foreign effective demand without Greece, it can be concluded that the reduced effective demand by Greece will lead to reduction of total

foreign effective demand but the effects of reduced effective demand by Greece have small and less significant effects on total foreign effective demand.

Deep economic crisis that is currently shaking our neighbor R. Greece has emerged as a new variable in the prediction and planning of economic activity barked loudly with all the economic variables in the Macedonian economy. The dominant part of the analysis will focus on determining the future effects of the economic crisis on Greece: foreign effective demand of Macedonia (exports and trade trends), flows of foreign direct investment and other direct and indirect effects (effects on GDP, the exchange rate and foreign exchange reserves, the banking sector, etc.).

4 Methodology of research

This research paper investigates the impact of financial crisis in profitability of small and medium enterprises that operate in the region of Pollog. In this study we treated 150 firms of various activities, classified as small and medium enterprises according to law in force that defines the activity of firms in the real sector of economy. The necessary data, which are used in this work are the financial reports provided by the respective firms. We define these research important determinants of decisions related to capital structure. The methodology used in this paper is built on the basis of the methodology that the small amount of squares, using data to cross. This methodology enables that through multivariable regression analysis, to analyze the effects of different variables that affect business decision, on the basis that the capital structure and liquidity. So the main purpose of this methodology is ; the small amount of squares to be applied through regression analysis that multivariable change is forecast to average depended variables (profitability), as a result of unit change in explanatory variables.

In order to analyze how the financial crisis has affected on the profitability of SMEs in the Pollog region so we use regression analysis for 2008, 2009 and 2010.

4.1 Empirical Analysis

For our quantitative analysis we used the correlation between variables and regression analysis. Correlation between variables will help us to measure the association between explanatory variables and their association with pendant variable. Correlation is calculated for all explanatory variables. Regression analysis is used to accurately measure the individual effect of explanatory variables in the relation between variable and their hangers.

4.2 Analysis of descriptive data

Determinants of capital structure of small firms and medium of Pollog region are studied individually, through the calculation of the maximum, minimum, average,

standard deviation and standard error. Descriptive analyses were conducted in order to assistant and empirical analysis to support the findings of empirical analysis. Table 2 shows that there are negative values for minimum values, for e.g. observe any of the firms has operated at a loss during the fiscal year.

Table 19.2 — *Descriptive statistics.*

Variable	N	Minimum	Maximum	Mean	Standard Deviation
Profitability 2008	150	-5.1619	1.3268	0.0097	0.0414
ROA 2008	150	-0.3182	1.9186	0.0828	0.0186
ROE 2008	150	-9.3378	11.5774	0.1437	0.1117
LN Age 2008	150	0.0000	2.30255	1.9581	0.0554
LN Size 2008	150	0.0000	19.3300	12.5246	0.4004
LN Liability 2008 Liability/ Assets	150	0.0000	23.3478	1.13489	0.21345
Profitability 2009	150	-13.786	1.3268	-91.867	91.910
ROA 2009	150	-0.3949	1.9186	0.1090	0.0205
ROE 2009	150	-8.1334	11.5773	0.2841	0.1256
LN Age 2009	150	0.0000	2.3025	1.9581	0.0554
LN Size 2009	150	0.0000	19.4275	13.5167	0.2991
LN Liability 2009 Liability/ Assets	150				
Profitability 2010	150	-5.1619	1.32686	0.04340	0.0423
ROA 2010	150	-0.3182	1.91867	0.1110	0.0203
ROE 2010	150	-3.0586	11.5773	0.3377	0.11229
LN Age 2010	150	0.0000	2.30258	1.95810	0.05543
LN Size 2010	150	0.000	19.4519	13.6951	0.27561
LN Liability 2010 Liability/ Assets	150	-3.3234	2.64364	-0.4830	0.07419

Table 19.3 — *Regression analysis.*

	Coefficient	Standard deviation	t	P		
Profitability 2008	-0.0187	0.1285	-0.1455	0.8845	-0.2727	0.2353
ROA 2008	0.8674	0.1697	5.1123	0.0000	0.5320	1.2027
ROE 2008	-0.0545	0.0286	-1.9060	0.0586	-0.1109	0.0020
LN Age 2008	-0.0715	0.0653	-1.0950	0.2754	-0.2004	0.0575
LN Size 2008	0.0090	0.0089	1.0091	0.3146	-0.0086	0.0267
LN Liability 2008 Liability/Assets	0.0250	0.0432	0.5783	0.5640	-0.0604	0.1104
ROA 2008	-0.0187	0.1285	-0.1455	0.8845	-0.2727	0.2353
Multiple R= 0.426	**R Square =0.1819**		**Adjusted R Square=0.1534**			

Profitability 2009	-1.0675	0.4657	-2.2922	0.0234	-1.9880	-0.1469
ROA 2009	1.3149	0.3919	3.3556	0.0010	0.5403	2.0895
ROE 2009	-0.0086	0.0704	-0.1227	0.9025	-0.1478	0.1305
LN Age 2009	-0.1621	0.1411	-1.1483	0.2528	-0.4410	0.1169
LN Size 2009	0.0828	0.0266	3.1130	0.0022	0.0302	0.1353
LN Liability 2009 Liability/Assets	-0.0652	0.1496	-0.4357	0.6637	-0.3610	0.2306
ROA 2009	0.0452	0.0820	0.5510	0.5825	-0.1169	0.2073
Multiple R= 0.392	**R Square =0.1593**		**Adjusted R Square=0.1241**			
Profitability 2010	-0.0535	0.1934	-0.2764	0.7827	-0.4358	0.3289
ROA 2010	0.8284	0.1625	5.0985	0.0000	0.5072	1.1496
ROE 2010	-0.0362	0.0291	-1.2439	0.2156	-0.0936	0.0213
LN Age 2010	-0.0683	0.0583	-1.1705	0.2437	-0.1835	0.0470
LN Size 2010	0.0130	0.0113	1.1468	0.2534	-0.0094	0.0353
LN Liability 2010 Liability/Assets	0.0385	0.0628	0.6133	0.5407	-0.0856	0.1626
ROA 2010	-0.0535	0.1934	-0.2764	0.7827	-0.4358	0.3289
Multiple R= 0.423	**R Square =0.1789**		**Adjusted R Square=0.1445**			

5 Conclusion

The results of multiple linear regressions with financial performance indicators as dependent variables are shown in Table 3. In these regression models we predict the financials of 2009 15 using the 2008 values as control variables and EO dimensions as independent variables. The models for the two volume indicators (operating revenue and total assets) give very similar results. The R squares are above 0.18, the lagged financial indicator has a positive coefficient with a very large t-value, and innovativeness/proactiveness dimension has a significant positive effect while risk-taking is not significant. Thus, the more innovative and proactive firms have suffered less in terms of the operations volume. The profitability models are also significant but the R squares are somewhat lower than in the volume models. The profitability measures are largely dependent on the previous year's values, but to a notably lesser extent than the volume measures. Risk-taking has negative effects which are significant or close to significance. That means that the more risk taking a company is, the more its liquidity and profitability have decreased during the crisis.

From the results of the regression analysis we saw that all coefficients are statistically different from zero (statistical significance), thus increase the explanatory power of the model.

From the regression analysis shows that the profitability coefficient has changed from year to year, in 2008 this coefficient was -0,0187 in 2009 was reduced in 2010 -1,067 and -0,053. So according to above mentioned analysis we can conclude that the

profitability of enterprises in 2009 was lower due to the financial crisis that conquered Macedonia. From the regression analysis shows that variables return on assets (ROA) in the three years has greater statistical significance.

Spondents in 2008 and ROA of 1% will indicate in increasing the profitability of 0, 86%. In 2009 this ratio varies from 1% a pendants, the ROA will impact on increasing the profitability of 1,31% and in 2010 the ROA of 1% will affect the growth and profitability by 0,828%. From all regression analysis to conclude that the financial situation of enterprises in the Pollog region weren't immune to the financial crisis.

Worst situation is observed had noticed in 2009 where the coefficient of profitability has been lower. ROA was obtained as the ratio between profits and assets of the company. Increase ROA in 2009 is the result of non distributions of profit to the utilities. Non-distribution of profit was the result of panic of enterprises from the financial crisis on the one hand, while on the other hand was a result of changing the law on profit tax in the Republic of Macedonia. According to legal changes, enterprises can not distribute profits also they are not obliged to pay tax. Also, it was the cause which motivated the enterprises to accumulate profit made.

6 References

Al-Sakran, S., 2001. *Leverage Determinants in the absence of Corporate Tax System: The Case of Non-financial Publicly traded Corporation in Saudi Arabia,* Managerial Finance 27, 58-86.

Amihud, Yakov, and Haim Mendelson, 1980, *Dealership market: Market making with*

Avlonitis, G,, J,, and H, E, Salavou (2007), "*Entrepreneurial Orientation of SMEs, Product Innovtiveness, and Performance*," Journal of Business Research, 60, 566-575.

Bevan, A. and Danbolt, J., 2002. *Capital structure and its determinants in the UK- a decompositional analysis*, Applied Financial Economics 12, 159-170.

Booth, L, Aivazian, V, Demirguc-Kunt, A, and Maksimovic, V., 2001. *Capital structures in Developing Countries*, The Journal of Finance LVI, 87-130.

Cater, J,, and A, Schwab (2008), "*Turnaround Strategies in Established Small Family Firms,*" Family Business Review, 21 (1), 31-50.

Covin, J, G,, and D, P, Slevin (1989), "*Strategic Management of Small Firms in Hostile and Benign Environments*," Strategic Management Journal, 10 (1), 75-87.

Fakher Buferna, Kenbata Bangassa & Lynn Hodgkinson (2005), "*Determinant of Capital Structure Evidence from Libya*", No. 2005/08.

Huang, S, and Song, F., 2002. *The determinants of capital structure: Evidence from*

China, Working paper, The University of Hong Kong.

Inventory, Journal of Financial Economics 8, 31-53.

Jantunen A, and K, Puumalainen, and S, Saarenketo, and K, Kyläheiko (2005), "*Entrepre-neurial Orientation, Dynamic Capabilities and International Performance*,"Journal of Interna-tional Entrepreneurship, 3 (3), 223-243.

Laitinen, E, K, (2000), "*Long-term Success of Adaptation Strategies: Evidence from Finnish Companies*," Long Range Planning, 33, 805-830.

Madsen, E, L, (2007), "*The Significance of Sustained Entrepreneurial Orientation on Performance of Firms – a Longitudinal Analysis,*" Entrepreneurship & Regional Development, 19, 185-204.

Naidoo, V, (2010), "*Firm Survival Through a Crisis: The Influence of Market Orientation, Marketing Innovation and Business Strategy*," Industrial Marketing Management, 39, 1311-1320.

Narjoko, D,, and H, Hill (2007), "*Winners and Losers during a Deep Economic Crisis: Firm-level Evidence from Indonesian Manufacturing*," Asian Economic Journal, 21 (4), 343-368.

Pandey, M., 2001. *Capital structure and the firm characteristics: evidence from an emerging market*, Working paper, Indian Institute of Management Ahmedabad

Pearce II, J, A,, and K, Robbins (1994), "*Entrepreneurial Recovery Strategies of Small Mar-ket Share Manufacturers*," Journal of Business Venturing, 9, 91-108.

Rajan, R., and Zingales, L., 1995. *What Do Know about Capital Structure? Some Evidence from International Data*, The Journal of Finance 50, 1421-1460.

Smart, D, T,, and J, S, Conant (1994), "*Entrepreneurial Orientation, Distinctive Marketing Competencies and Organizational Performance*," Journal of Applied Business Research, 10, 28-38.

Stoll, Hans R., 2000, *Friction*, Journal of Finance 55, 1479 – 1514.

Titman, S. and Wessels, R., 1988. *The determinants of capital Structure Choice*, The Journal of Finance 43, 1-19.

Wiklund, J,, (1999), "*The Sustainability of the Entrepreneurial Orientation–performance Re-lationship*," Entrepreneurship Theory and Practice, 24 (1), 37-48.

Wiklund, J,, and D, Shepherd (2005), "*Entrepreneurial Orientation and Small Business Performance: A Configurational Approach*," Journal of Business Venturing, 20, 71-91.

Wiwattanakantang, Y., 1999. *An empirical study on the determinants of the capital structure of Thai firms,* Pacific-Basin Finance Journal 7,371-403.