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LEVERAGE DYNAMICS AND THE MACROECONOMIC CONDITIONS

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Abstract

The enterprise financial leverage and capital structure are determined by various factors. The paper analyses the dependence of enterprise financial leverage on the macroeconomic conditions in the country. It proves the need for active leverage and capital structure management under different macroeconomic conditions, taking into account interest of shareholders and debtholders. The paper summarizes the theoretical research made on the dependence of financial leverage on macroeconomic conditions. The author gives an assessment of recent trends in changes of leverage of non-financial corporations under particular macroeconomic conditions in different EU countries. The results suggest that the macroeconomic conditions influence financial leverage and capital structure decisions as well as the ways the capital is raised. Based on the analysis made, author proves the need for active leverage and capital structure management under changing macroeconomic conditions.

Introduction

Important characteristic of modern development of economy is its' cyclical nature. Essential precondition for economic growth of the country is investment in innovative technology and science. Thus, in order to ensure economic growth, adequate financial capital is needed, especially for innovative, export-oriented enterprises. Ability to have a possibility to raise capital any time it is needed is crucial for current and future development of enterprises.

Globalization has created an environment that is favourable to rather quick transmission of economic developments of one country (especially, the United States of America, EU) to the rest of the world. Long period of economic boom was followed by the collapse of the sub-prime mortgage market in the US and one of the most severe economic downturn in the modern economic history of many countries. It became a serious examiner for most European countries and the USA (see Figure 1).

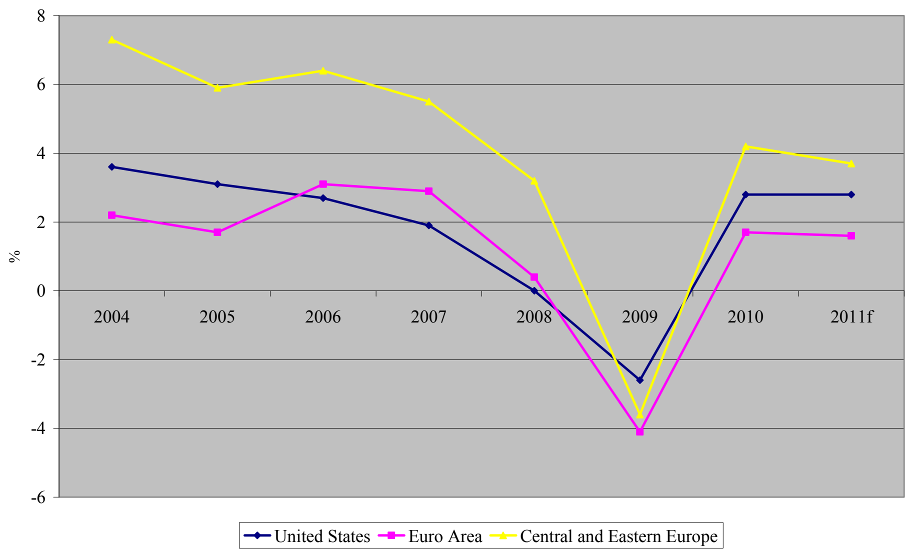

Figure 1. Real GDP growth of selected world regions, % [11]

The Baltic States were not an exception. The real GDP has dropped by 13.9% in Estonia, 18% in Latvia and 14.7% in Estonia [12]. Changes in economic environment and the financial crisis had a strong impact on financing conditions for both companies and households. The latest crisis has also revealed a number of imbalances in the development of enterprises and pushed to change the capital raising practices.

Under conditions of economic growth and favourable lending conditions enterprises could easily raise debt capital on reasonable conditions. The following economic downturn has increased the need for additional debt financing. On the other hand, economic downturn has also limited the supply side – banks have changed their lending policies to be more conservative thus limiting the possibility of enterprises to get a loan to finance current assets or long-term projects.

The aim of the paper is to analyze the dependence of enterprise financial leverage on the macroeconomic conditions in the country. It would help to extract lessons for theory and practice and provide possible solutions for leverage management. The analysis is based on the examination of aggregate statistical data on financial balance sheets of European countries (available on Eurostat) as well as using the survey and face-to-face communication with staff of financial institutions. The research methods used in the paper include the generally accepted economic research methods; the research covers the time period from 2005 to 2010. The informative and methodological basis of the paper is special economic literature, scientific and research papers, collections of statistical information, and results of the research made by the author.

Choice of Financing and Financial Leverage

Adequate capital and its raising possibilities are vital for the development of enterprises, especially in the high-growth sector. Technology-oriented and innovative companies have to invest continuously to keep on the track. The choice of financing sources depends on particular needs of the enterprise and particular conditions. Moreover, each of financing sources has its own positive and negative aspects which determine the choice of the particular source of financing.

According to the financial management theory, raising debt capital allows for the use of financial leverage. On the one hand, use of financial leverage can increase the return of the shareholders on the invested capital. This is the case, if the profit earned on the borrowed capital exceeds the interest paid on it. Moreover, debt is tax-deductible thus making debt capital cheaper for enterprise comparing to the equity capital, thus allowing to decrease the weighted average cost of capital. On the other hand, use of debt increases financial risk of the enterprise that causes shareholders to demand a higher return on their investment, thus increasing the cost of capital. Highly leveraged enterprises run the risk to be unable to generate the operating income that is sufficient to cover the debt costs.

Under conditions of economic downturn, the risk to have insufficient operating income to cover interest payments increases substantially. Moreover, if return on assets (or total capital) is lower than the pre-tax cost of debt (interest rate on the borrowed money), the financial leverage will have a negative effect on the return of the shareholders. Financial leverage becomes especially burdensome under conditions of raising interest rates.

Another important aspect of financing choice is its availability. Under favourable economic conditions enterprises can use different sources of financing, both internal and external. Under the conditions of economic downturn, the possibility of enterprises to use own internal sources of financing decreases sharply, thus increasing the importance of external sources of financing. In addition, worsening economic conditions deteriorate normal operational and financial management of enterprises. For instance, important is the issue of worsening customer/client payment discipline and increase of “bad” debt of debtors that asks for additional financing of enterprise current assets. On the other hand, to increase its market share or at least to maintain the current position in the market, enterprises need to continue investment in the mid-term and long-term projects to ensure current and future competitiveness of the enterprise. And, also in this case, external financing will be necessary to ensure enterprise development.

Thus, under conditions of economic downturn, external financing becomes decisive for the survival and development of enterprises. The choice of the particular equity or debt financing is crucial and strategic one as the choice of financing sources has direct impact on the level of financial risk of the enterprise, assessment of its creditworthiness, the cost of capital, as well as, it may give positive or negative signal to the market and business partners, thus influencing the possibilities of future development.

Thus, changing macroeconomic conditions and uncertainty escalate the necessity to raise capital, both equity and debt capital. Due to the fact that debt capital is usually cheaper than equity capital and doesn’t mean the interference or debtholders in the operations of enterprises, enterprises often prefer to raise debt capital, e.g. taking a bank loan, thus increasing financial leverage. But the question if there is a dependence of enterprise financial leverage on the macroeconomic conditions in the country is open.

Theoretical Study of Leverage Dependence

The theoretical substantiation of adequate financial leverage and capital structure issues is relatively new. In 1958 Modigliani and Miller have published their paper "The cost of capital, corporate finance and the theory of investment" according to that, under certain conditions (efficient market, no taxes, no bankruptcy costs etc.) the enterprise market value does not depend on its capital structure [6]. The further research resulted in numerous studies analyzing different aspects of financial leverage issues, examining dependence of financial leverage on different factors/conditions.

Later research showed, that under conditions of information asymmetry, highly leveraged enterprises are charged higher risk premium to compensate the risk of debtholders (e.g., higher interest rate for a bank loan). In this case enterprises, especially the growing ones, rely less on debt capital that leads to a negative relationship between growth and debt level (Jensen and Meckling, 1976). According to the static trade-off theory, an enterprise chooses the leverage level, balancing costs and advantages of debt [7], i.e., balancing interest tax shield against the costs (Myers, 1984).

According to the pecking order theory, there are information asymmetries between managers of enterprises and the investors. Due to the information asymmetries enterprises prefer to raise debt capital only in case the internal capital is insufficient (Myers and Majluf, 1984). On the other hand, sufficiency of enterprise internal sources depends on the profitability of the enterprise, thus showing negative relationship between leverage and profitability. Moreover, Myers and Majluf assumed the existence of a hierarchy of enterprise financing sources: internal sources (e.g., retained earnings), raising debt capital and then external raise of equity [8]. This means that under conditions of economic downturn and thus decreased profitability, enterprises would prefer to raise debt capital, rather than equity capital, increasing financial leverage.

Theoretical papers have also investigated dependence of financial leverage on risk or volatility in income of enterprises (e.g., Wald, 1999 etc.). According to it, due to increased probability of default, enterprises with a higher volatility of earnings should rely less on debt. However, according to Wald, the relationship between financial leverage and risk or volatility in income of enterprises is country-dependent [9]. Further empirical research also didn't show this relationship clearly (Cassar and Holmes, 2003). Taking into account, that higher volatility of enterprise income might be a result of economic turbulences, it can be concluded, that the dependence of leverage and economic conditions is not unequivocal.

Many research papers examine dependence of financial leverage level on the type and structure of assets. Moreover, financial leverage depends on the products the enterprise produces [2]. Enterprises that produce non-unique products are likely to have higher financial leverage due to the better access to external debt financing and lower costs of the financing (Cassar and Holmes, 2003). Theoretically, due to higher liquidation value of tangible assets, enterprises with more tangible assets rely more on debt capital (Harris and Raviv, 1991). However, in author's opinion, this is also not unequivocal and might depend on the country and current macroeconomic conditions. In case of Latvia, during the economic and lending boom period (until 2008) the most popular collateral was the real estate. The loans were granted up to 100% of the market value of the real estate (commercial and non-commercial real estate). Economic downturn and consequent changes in the real estate market (lower prices, lower liquidity etc.) have pushed the banks to change their lending policies and change their attitude to collateral.

There are theoretical papers on the dependence of leverage on age of enterprises, state tax policy, non-tax shields (e.g., depreciation policy), size of the enterprise etc. There are also many papers studying leverage and capital structure issues in different countries, e.g. Poland (Mazur, 2007), Greece, France, Italy and Portugal (Psillaki and Daskalakis, 2009), Ireland (Mac an Bhaird and Lucey, 2010) etc. showing common trends and national peculiarities. According to Graham and Campbell, the most important debt policy factors are informal criteria such as credit ratings and financial flexibility, to avoid the necessity to shrink enterprise business in case of an economic downturn [3].

The direct relationship of macroeconomic condition and leverage (or capital structure) was examined in several papers, and the results are contradictory. The research papers can be classified in two groups. Some paper concentrate on the issue of fund availability or changes of investor behaviour (the supply side) under different macroeconomic conditions, usually in relation to information asymmetries. E.g., Holmstrom and Tirole have shown that all forms of capital tightening (loans, collateral) "hit poorly capitalized firms the hardest" [5]. The other papers analyze the needs of enterprises for different financing sources (the demand side) under changing economic conditions (e.g., Vayanos, 2004 etc.). According to so called "flight to quality" models, during economic recessions investors become more risk averse. Besides, poor economic conditions lead to the shift of capital supply toward higher quality [1]. On the other hand, Halling, Yu, and Zechner have proved that during recessions leverage management becomes more passive [4].

Thus macroeconomic conditions can influence enterprise financial leverage in different ways, both through the supply side and the demand side. The influence can be also indirect, e.g. through changes in information asymmetry, volatility of profitability, type and structure of assets, state tax policy, accounting rules etc.

Empirical Study of Leverage Dependence on Macroeconomic Conditions

Due to unavailability of detailed enterprise balance sheet data to the author, the paper is based on the publicly available information provided by Eurostat. The empirical study is based on partially available aggregate balance sheet data of European countries (for non-financial corporation) and GDP at market prices data that is taken as a measure of changes in economic conditions.

Analysis of changes in leverage of non-financial corporations and GDP (at market prices) growth in the EU–27 (2005–2010) has shown that in general there is no direct dependence of leverage on GDP growth in the European Union (see Figure 2).

The analysis of leverage dependence on GDP growth in different European countries proved that this relation is country-dependant. In order to check dependence of leverage on macroeconomic conditions in different countries, the correlation analysis was made based on Eurostat data. The highest negative correlation coefficient was stated in Poland ($r = -0.9698$), Belgium ($r = -0.8981$), Netherlands ($r = -0.8800$) and Hungary ($r = -0.8441$); the highest positive correlation between leverage and GDP is in Greece ($r = 0.8111$). The weakest linear relationship between leverage and GDP was stated in Ireland, Romania and Latvia.

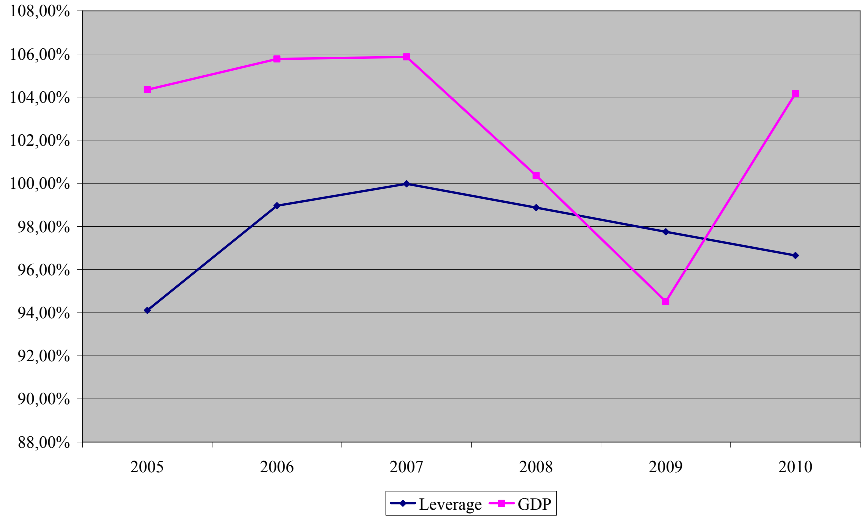

Figure 2. Changes in financial leverage* of non-financial corporations and GDP (at market prices) growth in the EU-27, 2005–2010 [12]

* financial leverage is calculated, based on Eurostat data on liabilities and shares and other equity of non-financial corporations

Analyzing changes in loan volume issued to enterprises in EU in comparison to nominal GDP growth, it can be concluded that in this case the dependence is clearer (see Figure 3).

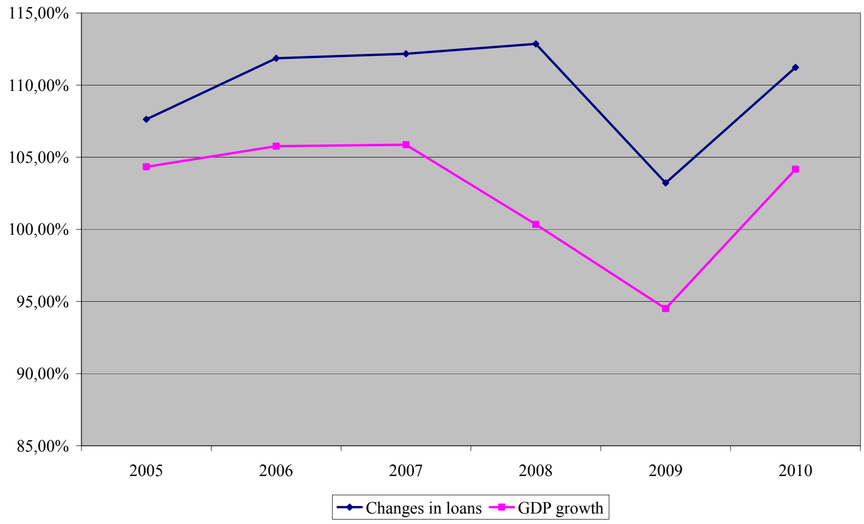

Figure 3. Growth rate of loans to non-financial corporations and GDP (at market prices) in the EU-27, 2005–2010 [12]

Strong positive correlation was found in 18 European countries. The aggregate EU-27 GDP growth rate correlation with changes in loans issued to non-financial corporation in EU is also high (r=0.7902). The results of analysis suggest the highest correlation in Latvia (r=0.9940), Austria (r=0.9804), Malta (r=0.9795), France (r=0.9761) and Spain (r=0.9749). Case of Latvia is especially interesting due to weak positive relation of leverage to GDP, and very strong positive linear relationship between loans (issued to non-financial corporations) and GDP at market prices.

Thus, the financial leverage level is country-dependant, though common trends in EU countries can be observed. On the other hand, the analysis of changes in leverage of non-financial corporations and GDP growth in the European Union countries hasn't shown a clear dependence of leverage on macroeconomic conditions. Besides, high dependence on loans can be observed in Italy, Germany and Latvia, proving that in theses countries the financial systems are bank-oriented.

Favourable economic conditions and beneficial lending conditions had a strong impact on financing practices in many countries. Bank loan was the key source of capital raising. According to the survey, made by the Gallup, loans are the most preferred type of external financing to realize growth – 64% of managers would prefer to apply for a loan to realize future growth of their enterprise [10]. This corresponds to the Figure 4: success rate in obtaining bank loan finance in almost all EU countries is high. However, a substantial decrease of the success rate can be seen in 2010 in comparison to 2007, which can be explained with changed macroeconomic conditions. The most significant decrease was noticed in Bulgaria, Ireland, Denmark, Lithuania, Spain and Greece (see Figure 4).

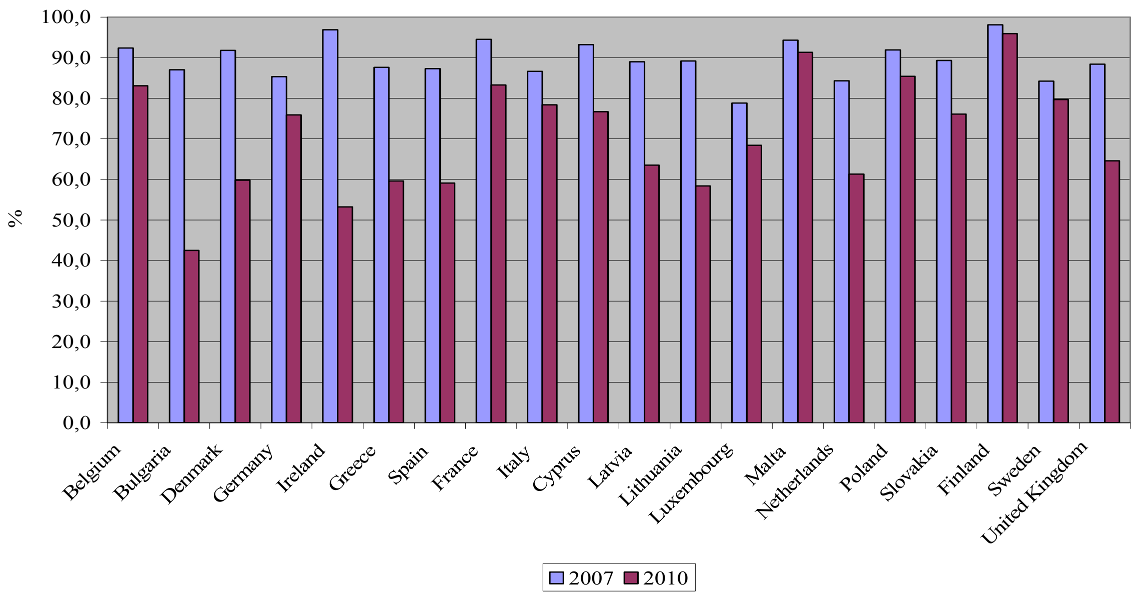

Figure 4. Success rate in obtaining bank loan finance in EU countries, 2007&2010 [12]

According to Eurostat data, the main reasons for choosing a bank for loan finance in EU are already existing client-bank relationship; best offered loan conditions and existence of a local bank branch (see Figure 5).

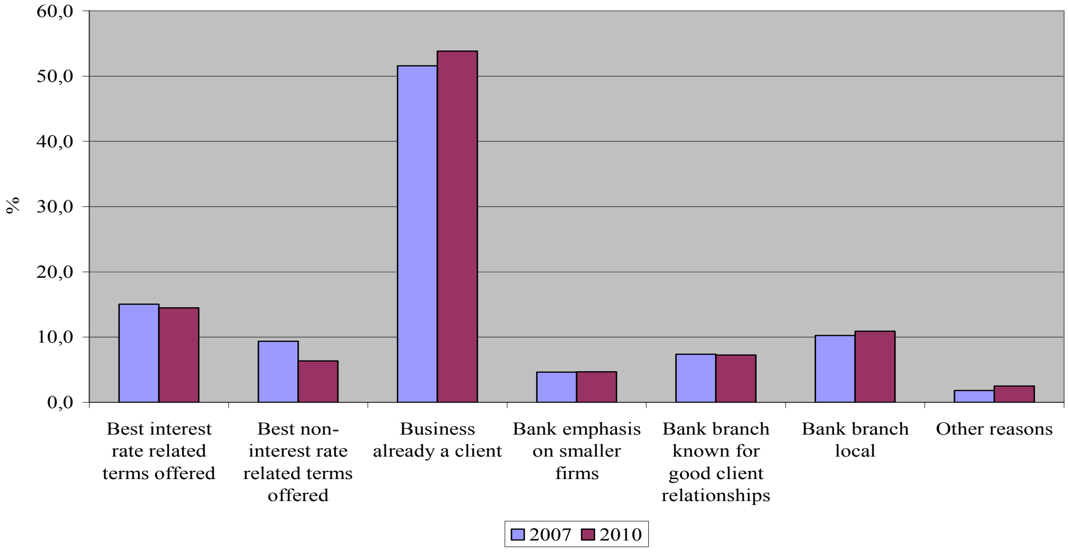

Figure 5. Reasons for choosing a bank for loan finance in EU countries, 2007&2010 [12]

As long as enterprises can use the advantages of financial leverage, strategy of debt raising in a form of loans can be justified. But high leverage of enterprises suggests also high dependence on creditors (banks), making enterprises more vulnerable and leaving less financial flexibility. This issue is getting crucial during periods of economic downturn when enterprises are more dependant or external financing as well as are more vulnerable due to unstable income and lower profitability. This proves the need for active leverage and capital structure management under different macroeconomic conditions, taking into account interest of shareholders and debtholders. As soon as the decision on financial leverage level is a strategic one, it is necessary to pay increased attention to financial management of enterprises not only during the downturn, but also during the growth period to ensure taking countercyclical financing decisions allowing better development of the enterprise. In case of limited resources it is recommendable to use outsourcing of financial experts and get professional help in strategic financing decisions. On the other hand, it would create market for small enterprises providing consulting in financial management. This solution would improve potential of enterprises helping to establish financial flexibility that doesn't depend on macroeconomic conditions in the country.

Conclusions

Macroeconomic conditions are important determinant of capital raising and leverage level changing decisions. Economic conditions influence both the availability of financing as well as the ability of enterprises to raise capital. The dependence of leverage on the macroeconomic conditions is not unequivocal and is country-dependent. Financial management decisions on the use leverage depend on several important issues, the most important is to the necessity to maintain the financial flexibility and credit risk assessment (rating) of the enterprise. Enterprises with a better creditworthiness and lower risk can take countercyclical financing decisions to ensure better development of the enterprise and stimulate economic growth of the country. Thus, active management of financial leverage is crucial for enterprises.

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