THE RELATIONSHIP OF CORPORATE GOVERNANCE DECISION ON CAPITAL STRUCTURE AND COMPANY’S PERFORMANCE: EVIDENCE FROM LITHUANIAN FOOD AND BEVERAGES INDUSTRY COMPANIES

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Abstract

Capital structure is the problem regularly approached in theoretical and empirical studies; however it does not give any consensus whether the growing use of loan capital leads to increase or decrease in the efficiency of company’s performance. Many of the empirical researches evidenced that the capital structure has a significant negative impact on the efficiency of corporate performance; some studies showed a positive relationship. The results of our research confirmed the results of first studies: all the selected ratios of capital structure negatively correlated with the efficiency of the company’s performance. Since it was established a significant relationship, we conclude that the performance efficiency is related to debt level to a large extent. Moreover, the capital raised in this way did not condition more effective performance and is not associated with the implementation of fast-track, profitable projects, that would allow these companies to ensure the growth of performance efficiency.

Keywords: signaling theory, corporate governance, capital structure, company’s performance.

JEL Classification: G34, G32, M19.

Introduction

The decision about the capital structure is one of the most important decisions in corporate governance. Making this decision, executives of the company have to understand and evaluate what impact it will have on company’s performance and on value created to shareholders. However, the decision on capital structure is important not only because of the need to maximize the return on investment, but also because such decision affects the company's ability to conform to competitive and rapidly changing economic environment. Therefore, it is necessary to establish such a debt-equity ratio that would ensure a balance and stability of the company’s performance.

Though capital structure is the problem regularly approached in theoretical and empirical studies from as far as 1940-ies and none of the authors disagree that it is strongly related to the corporate value, there is not any final answer to such questions as what is the optimal capital structure, how it is related to corporate governance and corporate performance, yet. Moreover, recent global financial crisis raised even more questions to researchers and practitioners, i.e. which would be the most optimal capital structure in respect of company's performance and what influence was made by capital structure on company’s performance during the crisis period. The answers to these questions are important seeking to prepare for future financial crises, also to ensure a better company’s performance and higher value created to shareholders. Therefore, although the scientific literature explores it, the problem of the impact of company’s capital structure on its performance in the context of financial crisis is still pending. Moreover, there are some researches of capital structure in Lithuanian companies; however none of them cover the financial crisis period. Therefore, it is interesting and useful to assess how the capital structure of the Lithuanian companies affected their performance during the mentioned period. Considering all raised questions, the purpose of this paper is to explore the problem of impact of company’s capital structure on its performance in three-part analysis. We first review current scientific literature dealing with the impact of company’s capital structure on its performance and summarize empirical research fulfilled in this field. Second, we investigate relation of capital structure and company’s performance in the food and beverage sector companies listed in NASDAQ OMX Vilnius Exchange. And third, we compare our results with findings of other researches.

We use common scientific research methods: systematic and logical analysis, event study and comparative analysis.

The relationship between capital structure and corporate performance

The main purpose of any company is to increase its value. In response to question of whether a rational combination of funding sources may help to achieve this goal, two main approaches exist. According to the original idea of Modigliani and Miller (1958), company’s market value does not depend on capital
structure in the absence of taxes; therefore funding decisions are irrelevant to the main goal—maximizing the value of the company. However, the wide range of evidence disproving this theory can be found in the scientific literature. Many researchers accept that the level of debt may affect the behavior of the company as well as its performance results and value.

According to the trade off theory, it can be concluded that when adopting funding decisions, companies compromise between the tax benefits that are provided by the use of debt and additional costs (financial difficulties and agency costs) that grow when liabilities increase (Norvaišienė & Stankevičienė, 2007). A company benefits by using borrowed funds because the interest is tax-free. Thus, the rise of financial leverage brings the decrease of weighted average cost of capital and the growth of value of the company, due to lower cost of the debt capital (David ir Olorunfemi, 2010).

However, the growth of debt leads to additional costs, which include costs of financial difficulties and agency costs. Megginson (2006) points out direct and indirect costs of financial difficulties. Direct costs include the legal and administrative costs. Indirect costs involve actions of customers and suppliers (including the suppliers of capital) that are taken when company's financial problems emerge, and sub-optimal management decisions that may help to keep a company in the short-term, but decrease the company’s value in the long run.

Companies that use leverage are more favorable to shareholders, as the level of debt can be used as a management control tool (Boodhoo, 2009). Therefore, it is expected that higher leverage should reduce agency costs, increase efficiency and lead to better company performance results (Akintoye, 2008).

According to Smith and Warner (1979), high leverage may condition the decline of performance efficiency in the long-run: generally, lenders are less willing to take risks therefore the company's managers are often prompted to abandon risky projects and reduce expenditure on research and development.

Authors of signaling theory (Myers, Majluf, 1984; Ross, 1977) link capital structure decisions with signals transferred to investors. These signals have to inform about the company’s outlook. Companies that undertake additional financial obligations believe in future of their business and in ability to pay creditors; this leads to confidence of investors. On the other hand, the shareholders, being aware of the future profitability of the projects, will seek to prevent issuing of new shares, so that profit which increases due to new project won’t be shared. If the project is funded by a loan, the company will pay a fixed interest rate regardless of the increased profit. However, in case the company's outlook is not very good, the issue of new shares is more desirable in order to split possible losses between old and new shareholders (Klein et al., 2002). Thus, according to this theory, companies with higher financial debts pursue promising projects that result in increase of performance effectiveness in case of favorable conditions.

Various theoretical researches do not give unambiguous answer whether the growing use of loan capital leads to increase or decrease of the efficiency in company’s performance. The results of recent empirical researches are also quite different.

Gleason et al. (2000) in their study of European countries, found a significant negative relationship between the financial leverage and ROA, and profit margin. Deesomsak (2004) in Malaysia also found a negative relationship between financial leverage and net profit margin. Huang & Song (2004) in study of Chinese companies found a negative relationship between long-term debt and ROA, as well as between all the liabilities and ROA.

Abora (2005) investigated how capital structure influenced the profitability of companies listed in Ghana's stock exchange during five-year period. The results indicate that there is a significant positive correlation between the short-term debt to assets ratio and return on equity, as well as between the debt to assets ratio and return on equity.

The research of Berger & Bonaccorsi (2006) evidenced that neither high level of financial leverage nor small capital of the company, are associated with higher efficiency of company’s performance.

The results of survey performed by Tian & Zeit (2007) in Jordan revealed that the debt level of the company has significant and negative impact on company’s performance indicators, both in accounting and market aspects. Rao et al. (2007) also confirm the negative relationship between leverage and performance results.

The results of research of Ebaid (2009) in Egypt indicate that long-term debt to assets ratio and total liabilities to assets ratio have a significant negative impact on return on equity.

The study of Nimalathasan & Valerie (2010) in Sri Lanka evidenced that financial leverage is positively related to indicators of profitability. These results can be related to the fact that the use of borrowed capital enables to increase sales; the company benefits from the lower marginal cost of production.
and therefore can invest more. Companies with lower costs as compared to competitors, gain a significant strategic advantage which can be used when taking up the larger market share and earning a higher profit as a result (Norvaišienė et al., 2008).

Onaolapo & Kajol (2010) in their research of non-financial listed companies in Nigeria found that financial leverage negatively affects the performance results.

San & Heng (2011) performed a study in Malaysia and found that a significant relationship between the ROC, EPS and capital structure evidences in big companies. A significant positive correlation between the operating profit margin and long-term debt to equity ratio was established in medium-sized companies. In small companies, the debt to capital ratio had a significant negative impact on EPS.

Thus, many of the empirical researches evidenced that the capital structure has a significant impact on company’s performance and results. Also, it was established in many cases that the level of indebtedness affects the efficiency of corporate performance. However, some studies showed a positive relationship between the financial leverage and profitability indicators.

The efficiency of performance in Lithuanian listed food and beverage companies in 2005-2010

On purpose to evaluate the impact of capital structure on performance results of Lithuanian food and beverage sector companies, the changes in performance efficiency were examined at first. We used the financial indicators of Lithuanian listed food and beverage sector companies for the period of 2005 – 2010, taken from public financial statements of these companies.

We employ following indicators describing the efficiency of company’s performance:

- Return on capital ROC (net profit / equity + short-term debt);
- Return on equity ROE (net profit / equity);
- Return on assets ROA (net profit / total assets);
- Earnings per share EPS (net profit / ordinary shares outstanding);
- Operating profit margin OPM (operating profit / sales);
- Net profit margin NPM (net profit / sales).

The average values of indicators for Lithuanian food and beverage sector companies for the period of 2005 - 2011 are presented in Table 1.

Table 1. Performance efficiency Indicators of Lithuanian listed food and beverage companies in 2005-2010

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROC</td>
<td>9.62%</td>
<td>15.18%</td>
<td>11.11%</td>
<td>-3.31%</td>
<td>0.31%</td>
<td>6.08%</td>
</tr>
<tr>
<td>ROE</td>
<td>13.13%</td>
<td>9.86%</td>
<td>8.43%</td>
<td>-11.07%</td>
<td>0.11%</td>
<td>9.34%</td>
</tr>
<tr>
<td>ROA</td>
<td>6.40%</td>
<td>5.67%</td>
<td>6.57%</td>
<td>-2.56%</td>
<td>1.64%</td>
<td>3.96%</td>
</tr>
<tr>
<td>EPS, LTL/per share</td>
<td>0.91</td>
<td>0.81</td>
<td>0.98</td>
<td>-0.12</td>
<td>0.17</td>
<td>0.29</td>
</tr>
<tr>
<td>OPM</td>
<td>8.83%</td>
<td>7.37%</td>
<td>7.09%</td>
<td>-1.47%</td>
<td>1.43%</td>
<td>3.01%</td>
</tr>
<tr>
<td>NPM</td>
<td>6.82%</td>
<td>5.59%</td>
<td>4.23%</td>
<td>-3.43%</td>
<td>-1.47%</td>
<td>1.61%</td>
</tr>
</tbody>
</table>

Indicators of Lithuanian food and beverage sector companies have been quite good in 2005 – 2007; however they notably went down under the impact of the financial crisis in 2008. In 2008, many of the companies in this industry suffered considerable losses. As an exception, Stumbras AB and Vilniaus degtinė AB should be mentioned. The crisis practically did not have any impact on activity and its results for Stumbras AB; the performance of its activity has been extremely effective during all the research period. Very poor performance results during the period of 2005 - 2009 were achieved by Gubernija AB, which experienced relatively large annual losses. Poor results in 2008 – 2010 are characteristic also to Anykščių vynas AB. In 2009, the indicators have already evidenced about the ongoing improvement in the performance results of Lithuanian food and beverage sector companies; the indicators of 2010 allow expecting a full recovery of the companies.

Return on capital of Lithuanian food and beverage companies, after the increase up to 15.2 % in 2006, decreased up to 11.1% in 2007. In 2008, many of the companies in this sector experienced loss, so one LTL of the capital earned 3.3 cents of loss. In 2009, very large losses were generated by Anykščių vynas AB and Gubernija AB, Alita AB also was loss-making; that resulted in a very low average return on capital. In 2010, the return on capital in food and beverage sector rose up to 6.08%, but has not reached pre-crisis level yet.
Return on equity was 13.1% in 2005, however it declined constantly and in 2007 one LTL of the equity in food and beverage sector has earned only 8.4 cents of net profit. During post-crisis period, return on equity began to grow and has reached 9.34% in 2010 which is even higher than level of 2007.

In 2005 – 2007, one LTL of assets in researched companies has generated 5.7 to 6.6 cents of net profit, which indicates a relatively low efficiency of assets utilization in this sector. In 2009, return on assets was only 1.6% and though it increased up to 3.96% in 2010, the ratio still remained low.

An earnings per share indicator was the highest in 2007 when 0.98 cents of net profit was generated per one share. As mentioned earlier, 2008 was loss-making year, so loss per share amounted to almost 12 cents. During post-crisis period, the rate began to grow, but was far below the pre-crisis period, since in 2010 it was only 0.29 LTL per share.

Operating profit margin, as well as return on equity, constantly decreased during 2005 - 2007 and was only 7.09% in 2007. In 2009, one LTL of sales revenue generated only 1.43 cents of operating profits; in 2010 – almost 3 cents.

Net profit margin was 6.82% in 2005 but by the end of 2007 it decreased by almost 2.6 percentage points and totaled only 4.23%. In 2008, many of the Lithuanian food and beverage sector companies experienced losses, so one LTL of the sales revenue generated 3.43 cents of net loss. In 2009, the average net profit margin in this sector was -1.47%. And in 2010, although many companies have improved their performance, one LTL of sales revenue generated only 1.61 cents of net profit.

The capital structure of Lithuanian listed food and beverage sector companies in 2005-2010

Following ratios of capital structure were employed in the research:
- Total liabilities to total assets ratio L/A (total liabilities / total assets);
- Debt to total assets ratio D/A (long-term and short-term debt / total assets);
- Total liabilities to equity ratio L/E (total liabilities / equity);
- Debt to capital ratio D/C (long-term and short-term debt / long-term and short-term debt + equity).

The averages of above mentioned ratios in Lithuanian listed food and beverage sector companies are presented in Table 2.

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total liabilities to total assets ratio L/A</td>
<td>0.53</td>
<td>0.51</td>
<td>0.54</td>
<td>0.60</td>
<td>0.53</td>
<td>0.47</td>
</tr>
<tr>
<td>Debt to total assets ratio D/A</td>
<td>0.30</td>
<td>0.26</td>
<td>0.26</td>
<td>0.35</td>
<td>0.30</td>
<td>0.24</td>
</tr>
<tr>
<td>Total liabilities to equity ratio L/E</td>
<td>1.24</td>
<td>1.20</td>
<td>1.51</td>
<td>1.79</td>
<td>1.40</td>
<td>1.20</td>
</tr>
<tr>
<td>Debt to capital ratio D/C</td>
<td>0.40</td>
<td>0.36</td>
<td>0.37</td>
<td>0.46</td>
<td>0.40</td>
<td>0.33</td>
</tr>
</tbody>
</table>

Loan capital of Lithuanian food and beverage sector companies in 2005 - 2007 amounted to 51-54% of all funding sources. The financial crisis has had an impact not only on performance efficiency, but also on the capital structure: in 2008 liabilities in capital structure increased up to 60 percent. However in 2009 already, the level of debt decreased and in 2010 it was at the lowest level during all the research period, as only 47 percent of assets were funded by liabilities.

Debt during the research period ranged from 24% to 35% of all funding sources. The highest level of financial indebtedness has been reached again in 2008, indicating that the increase of liabilities level in capital structure was mostly due to financial debt.

Liabilities of Lithuanian food and beverage sector companies in 2005 exceeded equity by almost 24 percent; however in 2008 already they exceeded equity by 79 percent. But in 2010, the pre-crisis level was achieved, as liabilities to equity ratio became 1.2.

The research of the impact of capital structure on the efficiency of company’s performance

In order to examine the impact of the capital structure decisions on the efficiency of company’s performance, a multi-correlation analysis between the parameters describing the capital structure and corporate performance indicators was performed. The p-value was used to verify the reliability of observed correlation. When presenting the results, statistically significant values are indicated at significance level of 0.01 (i.e., the relationship between indicators is considered to be reliable and significant when the p-value is <0.01) and at significance level of 0.05 (i.e., the relationship between indicators is considered to be reliable
and significant when the p-value is <0.05). Correlation coefficients that do not bear one or two asterisks are statistically insignificant, because the derived p-values were above the established significance levels.

The results of multivariate correlation analysis of Lithuanian food and beverage sector companies (correlation coefficients) are presented in Table 3. In the table, p - values are presented in angle brackets.

**Table 3.** Interdependence of capital structure ratios and the efficiency of performance in Lithuanian food and beverage sector companies in 2005 - 2010 m.

<table>
<thead>
<tr>
<th></th>
<th>ROC</th>
<th>ROA</th>
<th>ROE</th>
<th>EPS</th>
<th>OPM</th>
<th>NPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>L/A</td>
<td>-0.384** [0.005]</td>
<td>-0.456** [0.001]</td>
<td>-0.419** [0.002]</td>
<td>-0.358** [0.009]</td>
<td>-0.251 [0.073]</td>
<td>-0.334* [0.015]</td>
</tr>
<tr>
<td></td>
<td>D/A</td>
<td>-0.546** [0.000]</td>
<td>-0.518** [0.000]</td>
<td>-0.546** [0.000]</td>
<td>-0.279* [0.045]</td>
<td>-0.442** [0.001]</td>
</tr>
<tr>
<td></td>
<td>D/C</td>
<td>-0.480** [0.000]</td>
<td>-0.511** [0.000]</td>
<td>-0.498** [0.000]</td>
<td>-0.325* [0.019]</td>
<td>-0.349* [0.011]</td>
</tr>
<tr>
<td></td>
<td>L/E</td>
<td>-0.472** [0.000]</td>
<td>-0.621** [0.000]</td>
<td>-0.502** [0.000]</td>
<td>-0.359** [0.009]</td>
<td>-0.340* [0.014]</td>
</tr>
</tbody>
</table>

**,** significance level 0.01.

* significance level 0.05.

The correlation analysis of capital structure ratios and indicators of performance efficiency in Lithuanian food and beverage sector companies evidenced that all the selected ratios of capital structure negatively correlated with the performance indicators of these companies during the analyzed period. The research allows concluding that the company's efficiency to a large extent is related to debt level: correlation of medium significance was found between debt to assets ratio and return on capital, return on assets, return on equity. Correlation of medium significance was also reported between the debt to capital ratio and return on assets, also return on equity.

Correlation analysis allows to determine the strength of the relationship between the variables under investigation, but do not establish causality in this relationship. Using only the correlation analysis is not possible to determine whether the indicators of performance efficiency influence funding decisions, or just the opposite - the capital structure condition performance results.

In order to evaluate the influence of capital structure decisions on the performance efficiency of Lithuanian food and beverage sector companies, the multiple regression analysis has been carried out. For this analysis, independent variables were ratios of capital structure, and the dependent variables – indicators of performance efficiency. The main results of this analysis are presented in Table 4.

**Table 4.** The results of multiple regression analysis

<table>
<thead>
<tr>
<th></th>
<th>Significant independent variables</th>
<th>Standardized coefficients</th>
<th>R²</th>
<th>Std. Error</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROC</td>
<td>FL/A</td>
<td>-2.472</td>
<td>0.519</td>
<td>0.14000</td>
<td>17.267 [0.000]</td>
</tr>
<tr>
<td></td>
<td>FL/C</td>
<td>2.766</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>L/E</td>
<td>-0.949</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>L/E</td>
<td>-1.300</td>
<td>0.524</td>
<td>0.16830</td>
<td>17.590 [0.000]</td>
</tr>
<tr>
<td></td>
<td>L/A</td>
<td>1.140</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FL/A</td>
<td>-0.0456</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>FL/A</td>
<td>-0.546</td>
<td>0.298</td>
<td>0.07689</td>
<td>21.255 [0.000]</td>
</tr>
<tr>
<td></td>
<td>L/E</td>
<td>-0.359</td>
<td>0.129</td>
<td>1.01407</td>
<td>7.390 [0.000]</td>
</tr>
<tr>
<td>EPS</td>
<td>L/E</td>
<td>-0.359</td>
<td>0.240</td>
<td>0.09103</td>
<td>15.815 [0.000]</td>
</tr>
<tr>
<td>OPM</td>
<td>FL/A</td>
<td>-2.443</td>
<td>0.399</td>
<td>0.08463</td>
<td>10.612 [0.000]</td>
</tr>
<tr>
<td></td>
<td>FL/C</td>
<td>2.798</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>L/E</td>
<td>-0.869</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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The analysis evidenced that debt to assets ratio (negative relationship), debt to capital ratio (positive relationship), total liabilities to equity ratio (negative relationship) had the significant impact on return on capital and operating profit margin in the Lithuanian food and beverage companies during the period of 2005-2010. The coefficient of determination indicates a medium relationship with the independent variables.

Total liabilities to assets ratio (negative relationship), total liabilities to equity ratio (positive relationship), and debt to assets ratio (negative relationship) had the significant impact on return on assets during the research period. The coefficient of determination shows that these independent variables influenced to a large extent the return which reflects the efficiency of asset management.

Only the debt to assets ratio (negative relationship) was significant to return on equity and net profit margin. During the research period, indicator of earnings per share was influenced also by the only ratio – total liabilities to equity (negative relationship). However, this relationship was very weak.

The multivariate regression analysis shows that the capital structure has a significant relationship with all approached dependent variables: return on capital, return on assets, return on equity, earnings per share, operating profit margin and net profit margin. During the research period, the indicators of performance efficiency were affected to the highest degree by the level of financial indebtedness represented by the debt to assets ratio. The research results suggest that capital structure decisions have a significant influence on the performance efficiency of the Lithuanian listed food and beverage sector companies.

The results of research of influence of capital structure decisions on the performance efficiency of the Lithuanian food and beverage sector companies show that in many cases, level of financial indebtedness negatively affected profitability indicators during the research period. Thus, the capital raised in this way did not condition more effective companies’ performance; and the demand for this capital was not associated with the implementation of fast-track, profitable projects, that would allow these companies to ensure the growth of performance efficiency. Of course, this can be explained by the fact that during the financial crisis and post-crisis period, the companies dealt with routine problems and tried to maintain stability of performance rather than pursuing long-term strategic projects which would lead to a long-term growth of company’s value.

The results of this research confirmed the results of many empirical studies of foreign researchers demonstrating that the increasing level of liabilities negatively affect the results of company’s performance.

Conclusions

Theoretical and empirical studies of different researchers do not clearly answer whether the increased use of borrowed capital increases or reduces the performance efficiency of the company.

The research of influence of capital structure decisions on performance efficiency in Lithuanian listed food and beverage sector companies evidenced:

– All the selected ratios of capital structure negatively correlated with the performance efficiency of these companies during the analyzed period. The research allows concluding that the efficiency of the company’s performance is related to debt level to a large extent: the correlation of medium significance was found between debt to assets ratio and return on capital, return on assets, and return on equity. Also, the correlation of medium significance evidenced between debt to capital ratio and return on assets, also return on equity.

– The decisions of capital structure made a significant influence on the performance results of the Lithuanian listed food and beverage sector companies, since a significant relationship was established between ratios describing capital structure and all investigated dependent variables: return on capital, return on assets, return on equity, earnings per share, operating profit margin and net profit margin. The indicators of performance efficiency were influenced to the highest degree by the financial indebtedness level, which was represented by the debt to assets ratio.

– The financial leverage negatively affected indicators of profitability during the period of the research. Consequently, the capital raised in this way did not conditioned more effective performance of the companies and the demand for this was not associated with the implementation of fast-track, profitable projects, that would allow these companies to ensure the growth of performance efficiency.
References