AGENCY PROBLEMS AND DEBT FINANCING

Marina Klačmer Čalopa[1]
Karolina Kokot[2]
Ivana Đunđek Kokotec[3]

DOI: https://doi.org/10.31410/EMAN.2019.325

Abstract: *The main objective of this paper is to examine correlation between agency costs measured by identified approximation of variables and debt financing as one of the corporate governance mechanisms for reducing these costs. In a modern corporation where ownership is separated from management, many benefits are viewed primarily through an increasing efficiency. The issue of the separation of ownership and management is related to potential conflict between principals (stakeholders) and agents (managers). Theoretically possible solution to the agency problem is defined through the agency theory. The most significant problem are agency costs. Agency costs do not have a directly quantifiable value, therefore the approximation of measures such as asset turnover ratio and operating expense ratio (company's operating expenses divided by its revenues) will be used in this research paper. According to the previous empirical studies, between asset turnover ratio and debt financing positive correlation was determined, while negative correlation was determent between operating expense ratio and debt financing. This research was conducted on Croatian companies whose shares have been listed on the Zagreb Stock Exchange continuously from January 2009 to December 2017. In the analysis, from a total of 154 companies that shares have been listed on the Zagreb Stock Exchange, 31 most actively traded shares measured by the average monthly trading rank in the observed period were taken. Results obtained in this research indicate that debt financing is significant corporate governance mechanism for reducing agency costs where the direction obtained from the correlation is in line with the theoretical expectation.*

Keywords: *Agency costs, Corporate Governance, Capital market, Financial leverage, Debt structure.*

1. INTRODUCTION

Jensen and Meckling [1] define principal-agent relationship as „*a contract under which one or more persons (the principal) engage another person (the agent) to perform some service on their behalf*“. Both parties in principal-agent relationship want to maximize utility, and this can cause contradicted interests. The principal and the agent will incur monitoring and bonding costs in mainly agency relationships. These costs do not exclude entirely deviation between the agent's decisions and those decisions which would maximize the welfare of the principal. [1]

Cerović et al. [2] discussed establishing the principal-agent relationship and if it appears asymmetry of information, moral hazard, and incorrect choice, agency costs will incur. Agency costs [2] are all tangible and intangible assets which agent uses in the control of agent to ensure the optimal capital exploitation. Agency costs include costs paid by owner, incur it to prevent the occurrence of the moral hazard on the agent's side. [2]

[1] University of Zagreb, Faculty of Organization and Informatics, Pavlinska 2, 42 000 Varaždin, Croatia
[2] University of Zagreb, Faculty of Organization and Informatics, Pavlinska 2, 42 000 Varaždin, Croatia
[3] University of Zagreb, Faculty of Organization and Informatics, Pavlinska 2, 42 000 Varaždin, Croatia

2. EFFECTS OF DEPT FINANCING ON AGENCY COSTS

Jensen and Meckling [1] have shaped the ownership theory of corporation to define the effect of debt and share capital on agency costs. The option of optimal capital structure is the possible solution for reducing agency costs. The theory defines that ratio of debt and assets decrease agency costs and increase the company value through the motivation of management to align their interest with the principal's interest. [2] Florackis and Ozkan argue that the principal-agent problem is related to cash flow and asymmetric information. Debt financing decreases the agency problem and reduces agency costs. Debt financing results with signals which reduce asymmetric information between agent and principal and information costs. [3]

In their empirical research Junwei et al. [4] defined that companies with lower total asset turnover or characteristic of ineffective management have expected higher level agency costs. They accent the positive correlation between debt financing as a corporative mechanism and total asset turnover. The relation between these variables [4] indicates that increasing of debt financing results with decreasing of agency costs. Cerović et al. [2] have done research about the impact of ownership and capital structure on agency costs. They validate the hypothesis that the correlation between agency costs and financial leverage are negative in line with the optimum level of debt.

McKnight and Weir [5] identify three measures for the approximation of agency costs: total asset turnover; cash flow interaction and the number of acquisitions. Total asset turnover [5] indicates the level of efficiency of assets used by management. Higher coefficient indicates a more significant level of income, generated with assets. This measure is a useful indicator of agency costs, but it has a few disadvantages: [5] income is not a synonym for the wealth of shareholder, cash flow does not have to be distributed to shareholders, and variability of productivity within the industry.

In their research study on Relationship Between Agency Costs and Governance Mechanisms: Evidence from China's A-share Listed Companies Junwei et al. [4] indicated four measures for the approximation of agency costs in companies: total asset turnover, the ratio of sales costs and management, free cash flow and assets liquidity ratio. Panda and Leepsa [6] define as the first measure of agency costs the total assets turnover, which explains how efficiently the assets are utilized by the management and better utilization indicates low agency cost. The second measure expense ratio describes the effectiveness of the management in controlling the operating expenses, and a lower expense ratio is desirable. [6] Ming Shao and Yaxin Wang defined the same measure of agency costs. The frequently used indicators for agency cost are: [7] asset turnover ratio and operating expense ratio. Zhou et al. [8] used also total assets turnover in their research. Zhang and Li [9] argue that the higher level of debt decrease the agency costs and increase the value of companies. They claim that higher financial leverage decreases the agency costs according to the monitoring by debt provider.

Researches described above and financial indicators used for approximation of agency costs have been postulate for analysis in this paper – the effect of debt on agency costs.

3. RESEARCH METHODOLOGY

The aim of these research was to examine the effect of level of debt financing (coefficient of debt) on level of agency costs according to existing results of the research conducted by Jensen and Meckling [1], Cerović et al. [2], Florackis and Ozkan, [3] Junwei et al. [4] Zhan and Li [9]. Mentioned authors argue that a higher level of debt financing in total assets is decreasing the level of agency costs, according to the assumption of optimal debt level.

Agency costs are not directly measurable, and for defined level of costs approximation measures are used. Therefore, in this research we used approximation measures which represent financial indicators defined by Cerović et al. [2], Junwei et al. [4] McKnight and Weir [5] Zhan and Li [6] Shao and Wang [7] and Zhou et al. [8]. Specifically, total assets turnover and operating expense ratio were used in this research. In order to examine the expected theoretical correlations of the above-mentioned approximation measures with the coefficient of debt, a correlation analysis was used where total assets turnover and operating expense ratio represent dependent variables, and debt ratio represent the independent variable.

The research was conducted on Croatian companies whose shares have been listed on the Zagreb Stock Exchange continuously from January 2009 to December 2017. Sample include companies in all categories of economic activities according to National classification of economic activities, excluding the companies in the Sections K: Financial and insurance activities. Thus, the analysis covers the following sectors: Agriculture, forestry and fishing; Manufacturing; Construction; Wholesale and retail trade; Transportation and storage; Accommodation and food service activities; Information and communication; Real estate activities; Professional, scientific and technical activities; Arts, entertainment and recreation. In the further analysis, from a total of 154 companies that meet criteria these companies' shares have been listed on the Zagreb Stock Exchange, 31 most liquid shares measured by the average monthly trading rank in the observed period were taken. Included companies in the research are: Ericsson Nikola Tesla, Kraš, Hrvatski Telekom, Viro Tvornica Šećera, Podravka, Institut IGH, Atlantska Plovidba, Uljanik, Dalekovod, Viadukt, Končar-Elektroindustrija, Valamar Riviera, Ledo, Luka Rijeka, Ingra, Tehnika, Ina - Industrija Nafte, Hup-Zagreb, Ad Plastik, Jadroplov, Đuro Đaković Grupa, Janaf, Petrokemija, Liburnia Riviera Hoteli, Atlantic Grupa, Zvijezda, Belje, Jamnica, Adris Grupa, Arena Hospitality Group, Luka Ploče. Additionally, the companies in the sample were selected according to the assumption that management of these companies is confronted with significantly enhanced challenges, then management which companies' shares have not been listed on the Zagreb Stock Exchange; According to this assumption, in those companies, principal-agent relationship is emphasized.

The conducted research includes the analysis the company's basic financial statements (balance sheet and profit and loss statement) available on companies' official website, official website of Zagreb stock exchange (ZSE) and the official data from the Statistical Base and the Public Announcement Report of the Financial Agency (FINA). Calculation of financial indicators was done according to data in unconsolidated financial statement companies for the period 2009 to 2017.

Based on defined aim of these research, several research questions have been analyzed:

RQ 1: Higher total assets turnover indicates a lower level of agency costs.
RQ 2: Lower level of operating expense ratio indicates a lower level of agency costs.
RQ 3: There is a positive linear correlation between total assets turnover and debt ratio.
RG 4: There is a negative linear correlation between the operating expense ratio and debt ratio.

Within the framework researching of the effect of level of debt financing (coefficient of debt) on level of agency costs, agency costs level was measured using financing indicators, total assets turnover and operating expense ratio, defined as respectively measures for the approximation of those costs. In the analysis the authors used financial indicators described in Table 1.

	Financial indicators	
Dependent variable	Total assets turnover	Total annual income/total assets[1]
Dependent variable	Operating expense ratio (OETS)	operating expenses [2] / gross revenues
Independent variable	Debt ratio (DTAR)	Total debt/total assets

Table 9: Financial indicators

According to the literature, higher total assets turnover indicates a lower level of agency costs. Therefore, the ability of management to acquire more income with available assets indicates a lower level of agency costs [4]. The figure 1 represented movement average for total assets turnover indicator for the observed sample, and the average for three companies with the top level of total assets turnover for the defined period. Results indicate that the average of the best companies through these indicators varies from the total average, which implies lower agency costs in those 3 companies.

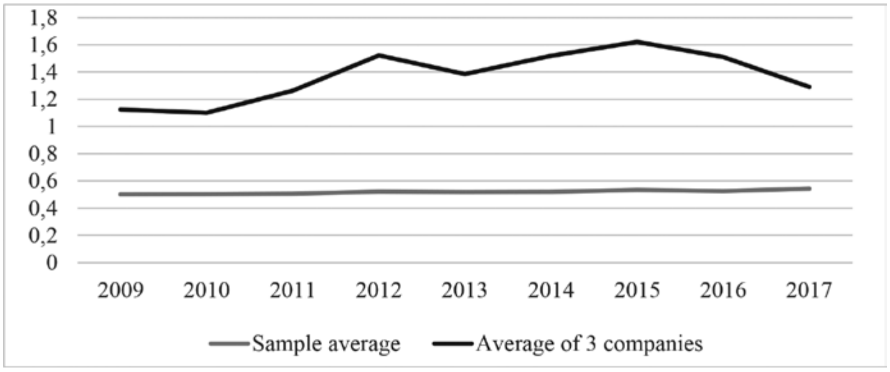

Figure 1: Average for total assets turnover indicator
[Author's calculations, an extract from software package Excel]

The results of the existing research support second research question, particularly the lower level of operating expense ratio indicates a lower level of agency costs. [6] The figure 2 represented movement average for operating expense ratio indicator for the observed sample, and the average for three companies with the top level of operating expense ratio for a defined period. Results indicate that the average of the best companies through these indicators varies from the total average, what implies to lower agency costs in those 3 companies.

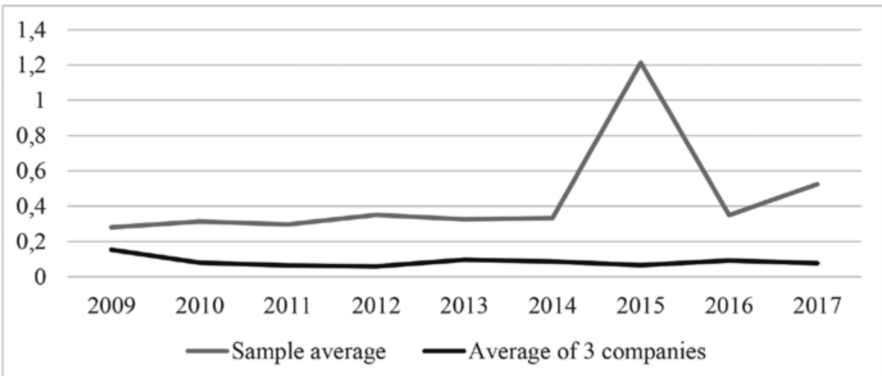

Figure 2: Average for operating expense ratio
[Author's calculations, an extract from software package Excel]

In order to examine the linear relationship between debt financing as one of the important corporate governance mechanisms for reducing agency cost measured by debt ratio, and total assets turnover and operating expense ratio Pearson's correlation coefficient was used.

At first, an empirical correlation was tested using the Pearson's correlation coefficient between total assets turnover as dependent variable and debt ratio as independent variable. The Pearson's correlation coefficient (0, 434954913) indicated medium level of positive linear correlation of the analyzed variables. Based on obtained results we can conclude that the higher debt ratio results with a lower level of agency costs. Furthermore, correlation between the operating expense as a dependent variable ratio and debt ratio as an independent variable was also tested using the Pearson's correlation coefficient. The calculated Pearson's correlation coefficient (-0, 301243215) indicated medium level of negative linear correlation. That result indicated that the higher debt ratio results in a lower level of agency costs because increasing the debt ratio decreases the operating expense. The obtained results are in line with the theoretical assumption.

4. CONCLUSION AND LIMITATIONS

In the modern corporation, separation of ownership and management is impossible to avoid. The principal-agent relationship is complex and it has some negative consequences such as agency costs. Various mechanisms of corporate governance have a different impact on agency costs. Actions of the agent, which are not in line with the aim of principal, might have a negative impact on the value of the corporation.

Analysis indicates that different companies have a different level of agency costs. According to the numerous authors, there are several financial indicators that can approximate the level of agency costs. Authors of this paper used two financial indicators, total assets turnover and operating expense ratio. Analysis affirms theoretical assumptions of the level of agency costs and debt financing in observed corporations. Results obtained in this research indicate that debt financing is a significant corporate governance mechanism for reducing agency costs where the obtained direction of their correlation is in line with the theoretical expectation.

The biggest limitation of these research is inability to calculate the absolute amounts of agency costs. The financial indicators used in this analysis are only approximation and neither of these indicators provides possibility of calculating unit cost of agency costs. Also, the limitations are related to the theoretical restrictions of the debt share, i.e. in fact there is an optimal level of debt after which different research results can be expected. Therefore, the debt share can't increase up to one hundred percent because it would cause other consequences that would affect company's business. The results of this research can only be observed in the context of the Croatian capital market whose characteristics may differ from other markets, especially the capital markets of developed countries.

REFERENCES

[1] Jensen, M. C., & Meckling, W. H. (1976). *Theory of the firm: Managerial behavior, agency costs and ownership structure*. Journal of financial economics, *3*(4), 305-360.

[2] Cerović, L., Zaninović, V., & Dukić, N. (2011). *Utjecaj vlasničke i kapitalne strukture na kretanje agencijskih troškova: studija slučaja vlasnički nisko koncentriranih poduzeća Republike Hrvatske*. Ekonomska misao i praksa, (2), 419-442.

[3] Florackis, C. (2008). *Agency costs and corporate governance mechanisms: evidence for UK firms*. International Journal of Managerial Finance, *4*(1), 37-59.

[4] Junwei, W., Guiqin, L., & Ping, H. (2011). *Study on the Relationship between Agency Costs and Governance Mechanisms: Evidence from China's A-share Listed Companies*. In M&D Forum Studies (pp. 258-271).

[5] McKnight, P. J., & Weir, C. (2009). *Agency costs, corporate governance mechanisms and ownership structure in large UK publicly quoted companies: A panel data analysis*. The quarterly review of economics and finance, *49*(2), 139-158.

[6] Panda, B., & Leepsa, N. M. (2017). *Agency theory: Review of theory and evidence on problems and perspectives. Indian Journal of Corporate Governance, 10*(1), 74-95.

[7] Shao, M., & Wang, Y. (2018). *A Review on Agency Cost in China*. Open Journal of Business and Management, *6*(02), 225.

[8] Zhou, Z., Zhou, H., Peng, D., Chen, X. H., & Li, S. H. (2018). *Carbon Disclosure, Financial Transparency, and Agency Cost: Evidence from Chinese Manufacturing Listed Companies*. Emerging Markets Finance and Trade, 54(12), 2669-2686.

[9] Zhang, H., & Li, S. (2008). *The impact of capital structure on agency costs: Evidence from UK public companies* (Doctoral dissertation, Queens university of technology).

[10] Official web site of the Zagreb Stock Exchange available at http://zse.hr/