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The determinants of capital structure of the companies listed on WSE depending on the industry classification – summary

Despite numerous research, both empirical and theoretical, concerning the determinants of the capital structure, there is no consensus reached when it comes to the set of factors significantly influencing the debt ratios of the companies. The discrepancies in the results of the research of other authors may stem from, among others, differences in the set of determinants included in the study, their operationalization and the research methods used in the studies. Empirical studies of other authors concerning the companies operating in Poland were conducted on the small samples of companies and used less advanced research methods in comparison with the studies for the developed markets. Further research concerning this issue shall provide the academics with a deeper understanding of the mechanics of capital structure. It is also possible to compare the results of the studies with the conclusions of the research of other authors conducted for companies operating in other markets.

There are several categories that can be distinguished among the determinants of the capital structure of the companies: the factors describing the financial situation of the company, its industry classification, macroeconomic environment and institutional environment. In this dissertation, special attention is paid to the influence of the industry on the capital structure of the companies. Previous empirical research of other authors focused solely on the direct impact of the industry, while it can be expected that there also exists an indirect impact, which is analyzed in this dissertation. In such a case the magnitude and direction of the influence of other factors on the capital structure of the companies may differ depending on the industry in which the company operates. The research method used in this dissertation is the multilevel hierarchical modelling, with which it is possible to include in the model the differentiated impact of the analyzed factors on the debt ratios of the companies depending on the industry. Among the novel elements of the study it is possible to list a longer time span and a larger number of companies included in the research sample. Moreover, this study focused on the determinants of the total debt ratios and long-term debt ratios, making it possible to compare the set of factors affecting the capital structure depending on the operationalization of the dependent variable.

The aim of this dissertation is to assess the impact of the capital structure determinants on the debt ratios of companies listed on the Warsaw Stock Exchange depending on the

industry the company operates in. The thesis of this dissertation stipulates that the impact of selected factors on the capital structure of companies listed on WSE is dependent on the industry. In order to prove the thesis, eight detailed research hypotheses were verified. The first hypothesis concerned the significance of the variability of the debt ratios among the industries in comparison with their variability in years. Second to sixth hypotheses focused on the direction of influence of analyzed factors on the debt ratios of companies: profitability, growth opportunities, size of the company, tangibility of assets and business risk, as well as the different impact of these factors between the industries. According to the seventh hypothesis, the inclusion of factors describing the macroeconomic environment improves the quality of the estimated models. The eighth hypothesis claims that the models which include the different impact of a selected factor on the debt ratios between the industries have higher precision than the models omitting this source of variability.

In order to verify the thesis and detailed research hypotheses, the analysis was based on the financial data of companies listed on WSE in 2002-2015 in the continuous trading system. The research sample consisted of 3 817 observations. The capital structure was measured by the total debt ratio and long-term debt ratio. The research methods used in the study are the analysis of variance, the analysis of covariance and hierarchical multilevel modelling. The quality of the estimated models was compared with the use of Akaike and Schwartz information criteria, likelihood-ratio test and root mean square error. The results of the analysis of variance and the analysis of covariance pointed that the variability of debt ratios between industries for the Polish companies is higher than their variability between the periods. Afterwards hierarchical multilevel models were estimated. Size of the company and business risk have a positive impact on total debt ratios, while the influence of profitability is negative. Moreover, the impact of profitability and tangibility of assets on the total debt ratios differs depending on the industry in which the company operates. As far as long-term debt ratios are concerned, profitability negatively influences the debt ratios, while the impact of size, tangibility of assets and business risk is positive. Moreover, the impact of size and growth opportunities on long-term debt ratios differ depending on the industry in which the company operates. The values of information criteria and the results of likelihood-ratio tests confirmed that by including in the model the macroeconomic factors, i.e. GDP growth, inflation ratio and term spread (the difference between the yield on 10-years and 2-years government bonds) the quality of the model is improved. It was also found that the models including the different impact of analyzed factors depending on the industry have higher

precision in describing the capital structure of the companies listed on WSE. As a consequence, the thesis of the study has been positively verified.

The dissertation consists of three chapters. The first chapter focuses on the main theories of capital structure – the pecking order theory and the trade-off theory. In the second chapter there is presented an in-depth review of previous empirical research of other authors on the capital structure of companies operating in Poland and in other countries. These studies were compared on the basis of their research sample, analyzed dependent and independent variables, as well as the research methods used in the study. In the third chapter the empirical research of the author is presented. After the description of the research process stages, the research sample is analyzed with the use of descriptive statistics. Afterwards the results of analysis of variance and analysis of covariance are presented. The influence of selected factors on the debt ratios of companies listed on WSE was assessed with the hierarchical multilevel models. The following models were estimated: general models assessing the impact of selected determinants on the capital structure, models including the different impact of these determinants on the capital structure depending on the industry and models including macroeconomic factors. In this chapter there were also presented the estimates of the root mean square errors grouped by industries. The last part of the dissertation is the summary, which includes the results of the verification of the research hypotheses and the thesis of the dissertation.