The Relation between Financial Leverage and Return on Equity of the Companies: A Research on the Companies Traded on İstanbul Stock Exchange in the Base of Industries

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Extensive Summary

Introduction

The aim of this study is to investigate the relation between financial leverage ratios (debt to total assets ratio) and Return on Equity (ROE) and the impact of the leverage ratio on ROE. This research was carried out on the base of five industries using the financial leverage- and ROE ratios during the 22 years’ quarter periods from 1991Q1 to 2012Q4.

The financial structure of a firm consists of short and long term debts and equity, and it explains how the assets were financed. If a firm uses debts it has to pay some interest in exchange for the use of these resources. But as a result it can increase its profits through these debts. Consequently, it is spoken of financial leverage effect in these firms.

Not or little debt financing and excessive debts decreases firm profitability, whereas feasible debt using can increase the firm profitability. Financial leverage states that the increase in earnings per share is higher than the profits before interest and tax. In a case the profits of a firm increases; if the earnings before interest and tax increases % 1 the earnings per share increases more and if the earnings before interest and tax decreases the earnings per share decreases more. If the firms can profit from the financial leverage effect they can increase their equity profitability.
Empirical results reveal that there is a strong triple-threshold effect between financial leverage (debt to total assets ratio) and firm value. While the debt ratio is under % 53.97, there is a positive relationship that states the debt financing contributes positively to firm value, while debt ratio is between % 53.97-% 70.48, the positive leverage effect is continuing but in a decreasing way and while the debt ratio is between % 70.48-% 75.26 the relationship turns into negative effect. That is to say that after a fixed point in debt level the debts contributes to the firm value negatively. The negative relationship between debt financing and equity financing has two reasons: Either the cost of debt financing is higher than firm profitability or the profitability of the predominantly equity financing firms is higher than debt financing firms.

The firms have to be conscious of that the leverage effect of debt financing is not limitless. Because, the more debt ratios increase, the more financial risk increases and the debt costs increase accordingly. Therefore the profitability of debt financing has a limit. Excessing this limit in debt financing increases the cost of financing and the financial risk of the firm, it decreases the ROE. In addition to them the economic conditions for debt financing must be convenient. In the periods of quantitative easing (monetary expansion) the interest rates of credits are suitable and the economical conditions are well and sales trends are upward, debt financing may be profitable for the firms.

This paper consists of five sections. After this introductory section in the second part the summary of the selected literature is given. The methodology of the research which concludes the used data, the method, and research model, take place in the third section, the forth section contains the approximate results and the fifth section consists of results and solution proposals.

Significance of the Study: This paper aims to contribute to the finance literature through researching the influence of financial leverage on the ROE, the level of benefit of this possibility (financial leverage effect) on the base of industries (textile, mining, IT, food, construction) and to emphasize the problems found according to the results.

Methodology of the Study

This study was carried out for two purposes. First of them is to estimate the relationship between ROE and debt financing of the firms in the industries IT, foot, mining, construction and textile. The second one is to reveal the short term and long term effects of debt financing on the ROE of the firms and to develop policy proposals.

Variables and Data: The scope of this study consists of periods between 1991-2012. The reason for this is that the data about financial leverage and ROE were limited to the periods from 1991Q1 to 2012Q4. In the light of this explanation in our research in the sectoral meaning the variables are ROE and financial leverage (debt to total assets ratio) and we analysed the relationship between them. Financial leverage is independantle and ROE is dependable variable. The data used in this research was collected from FİNNET which is a financial data base and analyse program, through subscription.
Econometric Model: As the econometric model it is preferred ARDL bound test from time-series methods. This approach was preferred because of that is suitable for constituing and estimating the structural demand pattern and the stability levels of variables taking place in the models are $I(0)$ or $I(1)$. The approach bound test ARDL consists of two stages: In the first stage it was tested whether there is long term relationship between the variables (cointegration test). In the second stage the relationship between the variables taking place in the model was determined through estimating the short and long term parameters.

Results and Implications

The main purpose of this study is to investigate the relationship between debt ratio and ROE of the firm and to reveal the short and long term effects. The data is quarterly and the variables are ROE and debt to total assets ratio.

According to the results of analysis the relationship between debt to total assets and ROE is positive in the construction industry and negative in the IT, food, mining and textile. The results obtained from construction industry are similar to the results of researches stated in the literature section Kabakçı (2008), Albayrak and Akbulut (2008), Chen Liu and Chien (2010) and Okuyan and Taşçı (2010). On the other side the results which are negative relationship between the variables in the industries textile, food, mining and IT, are parallel to the results of researches made by Okuyan (2013), Eriotis et al. (2002) and Mesquito and Lara (2003).

Financial leverage affects the ROE theoretically. This effect may be positively or negatively according to the profitability and to the productivity in the use of debt financing. This can be realized under the conditions that the used debts be on time, with lower interest, low costs and through effective using them. In addition to the positive leverage of debt financing is not limitless. After exceeding the feasible debt ratio the financial risk, cost of debts and demanded collateral securities increase and in case asking for new debts, put the firm in financial difficulties and the positive leverage effect of debt financing turns into negative.

These results reveal that the firms couldn’t benefit from the leverage effect of debt financing in the industries IT, food, mining and textile. Only in the construction industry the leverage effect of debt financing is positive. In this situation, the financial structure of the firm in the industries IT, food, mining and textile must be looked through and a new financial structure must be constitute to strengthen financial structure, to reduce the debt financing to a feasible level, to reduce the debt-cost to an optimal