Optimal financing structure of companies listed on stock market

Author: Roxana Sandu
Coordinator: Laura Obreja Braşoveanu

Abstract

Since the seminal work of Modigliani and Miller (1958) on the irrelevancy of capital structure to a firm's value, a rich theoretical literature has emerged modeling firm's capital structure choice under different assumptions. These theories, namely, the trade-off theory, the pecking order, the signaling and the agency costs theories were developed in order to explain the influence of different factors on the firm's capital structure. Yet there is little consensus on how firms choose their capital structures and much remains to understand the link between theory and practice of financing decisions.

Keywords: Capital structure; Modigliani Miller Model, Agency Theory

Introduction

How firms make their capital structure decisions has been one of the most debatable topic in corporate finance. Since the seminal work of Modigliani and Miller (1958) on the irrelevancy of capital structure to a firm's value, a rich theoretical literature has emerged modeling firm's capital structure choice under different assumptions. These theories, namely, the trade-off theory, the pecking order, the signaling and the agency costs theories were developed in order to explain the influence of different factors on the firm's capital structure. Yet there is little consensus on how firms choose their capital structures and much remains to understand the link between theory and practice of financing decisions.

Harris and Raviv (1991) in their survey of capital structure theories declared : "The models surveyed have identified a large number of potential determinants of capital structure. The empirical work so far has not, however, sorted out which of these are important in various context". Moreover, the existing empirical evidence is based mainly on data from developed countries. Findings based on data from developing countries have appeared only in recent years, for instance Booth et al (2001) who provided evidence from ten developing countries and is considered a reference study.

This paper is an attempt in examining the determinants of the capital structure for Romanian firms and to determine whether these determinants support modern capital

structure theories. The paper is structured as follows. Chapter 2 describes the theories of capital structure and provides a brief literature review of the capital structure determinants while Chapter 3 provides the main empirical findings regarding the determinants of the capital structure. The following sections present the case study : examining the determinants of the capital structure for a sample of Romanian firms. Chapter 4 describes the methodology and data that were used to perform the study, Chapter 5 discusses the regression analysis and results and the final section offer the conclusions.

Theoretical considerations and empirical evidences about companies capital structure

I have considered several theories regarding the capital structure of companies, trying to understand their applicability to those that activate in Romania. I choose to talk about:

- The Theory of the irrelevance of capital structure (Modigliani - Miller (1958), Miller – Modigliani (1977))
- The Agency Theory (Jensen - Meckling (1976), Fama Miller (1972))
- The signaling Theory (Ross (1977))
- The pecking order Theory (Myers (1984))
- The capital structure taking into account the market predictions Theory (Baker-Wurgler (2002))

In 1958, Franco Modigliani and Merton Miller published their original article concerning capital structure. They have a convincing argument that a firm cannot change the total value of its outstanding securities by changing the proportions of its capital structure. The value of the firm will be the same, regardless which type of capital structure that is chosen.

Proposition I is based on the fact that investors as individuals can borrow or lend on the same terms as the firms, which is commonly referred to as homemade leverage. The homemade leverage finding is considered the starting point of modern managerial finance and is one of the most important findings in the area of corporate finance.

Miller and Modigliani's proposition II states that a firm's cost of equity is a linear function of the firm's debt to equity ratio. A higher debt-to-equity ratio leads to a higher required return on equity, because of the higher risk involved for equity-holders in a company with debt.

The Trade-Off Theory of Capital Structure states that a company chooses how much debt finance and how much equity finance to use by balancing the costs and benefits. The classical version of the hypothesis goes back to Kraus and Litzenberger(1973) who considered a

balance between the dead-weight costs of bankruptcy and the tax saving benefits of debt.The theory predicts that there is an optimal target financial debt ratio which maximizes the value of the firm. The optimal point can be attained when the marginal value of the benefits associated with debt issues exactly offsets the increase in the present value of the costs associated with issuing more debt (Myers, 2001).

Jensen and Meckling are most prominent figures in research of agency cost domain. They started their model with identification of two types of interest conflicts that can be possible: conflict between manager and shareholders, conflict between debt holder and shareholders. They suggest that as manager possess less then 100% residual claims and it causes conflicts between shareholder and managers. Subsequent type of conflict between debt holder and shareholder can arise when issuance of debt gives more incentive to shareholder. More explicitly, debt investment is inclined towards shareholders, if an investment yields large return, well above the face value of debt, shareholders captures most of the gain. But if investment goes fail and firm approaches to bankruptcy, equityholder just skip away and debt holders bear the whole consequences.

According to Jensen and Meckling, agency relationship is an agreement between two parties. One of them (agent) performs certain services on the behalf of other (principal). The problem of stirring an agent to behave as if he were maximizing the principal's welfare is rather common. In this relationship both parties are utility maximizer, therefore there is always a chance that agent will not always performs its responsibilities to maximize the benefits of principal. Principal have to restrain this problem by fixing unappropriate level of incentives for agent and to monitor the agent's actions (by incurring monitoring cost). In this relation principal incur certain cost, called "agency cost", which can explain as the sum of following activities:

- monitoring expenditures by the principal
- bonding expenditures by the agent
- residual loss.

Principal incurs monitoring cost to limit the unexpected activities of agent. Bonding expense can be describe as "in some conditions it will pay the agent to expend resources (bonding costs) to guarantee that he will not take certain actions which would harm the principal or to ensure that the principal will be compensated if he does take such actions. "In some cases, even both parties incur the agency cost but still agent's certain decision for profit maximization would not increase the welfare of agent. This loss is termed as "residual lost" and it can be defined as "the dollar equivalent of the reduction in welfare experienced by the

principal as a result of agent's divergence from principal's expectation is also a cost of the agency relationship and that is referred as the residual loss".

Signaling models through capital structure were created starting with the 70s, but this theory had the starting point on other markets, like the products market (Akerlof, 1970) and the labour one (Arrow, 1972), further developed in Spence's equilibrium theory, referring to job market signaling. The first applications of the signaling theory in finance were the studies of Leland and Pyle (1977), Ross (1977) and Bhattacharya (1979), considered classical in this field.

According to Ross (1977), managers often use capital structure as a signal of firm to investors. Ross elucidates that; debt issuance is positive signal to capital market about firm's better prospects and more debt signifies the confidence of manager in firm's future returns. Thus outside investors view the level of debt as a positive signal, but over exceeded debt leads to bankruptcy. As MM claims that mangers and investors have same information but in reality it does not true, mangers can sell stock if stock is overvalued or sell bond if bond is undervalued and by knowing this, investors take new stock sale as negative signal.

Idea of prioritizing the different sources of finance was initiated by Donaldson (1961) and proposed that firms should prefer internal financing over external financing and debt to equity. In 1984 Myers and Majluf argued that that if a firm maintain its liquid financial resources (cash and market securities), issue no new securities and use only its available retained earnings for financing new investment then information disparity can be disappeared. POT is proposed by Myers and Majluf, by explaining the effects of information asymmetries between insiders and outsiders of firm. Their model contradicts the MM's proposition that, all market participants have same information and proposes that, due to information costs, managers prefer to finance corporate investment by first tapping less agency costly sources. More specifically, they prefer internal financing to external financing and risky debt to equity.

Four decades after Miller and Modigliani's initiation over the modern capital structure theory, Rajan and Zingales(1995) stated :"Theory has clearly made some progress on the subject. We now understand the most important departures from the Modigliani and Miller assumptions that make capital structure relevant to a firm's value. However, very little is known about the empirical relevance of the different theories".

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