Determinants of Firm's Capital Structure and Their Identification in Practice

Introduction

Capital structure refers to the way a company finances itself through some combination of equity sales, equity options, bonds and loans. Optimal capital structure refers to the particular combination that minimizes the cost of capital while maximizing the stock price or that maximizes firm’s return on equity while maximizing the stock price etc. It depends on what approach to capital structure optimization the firm will choose. Financial economics offers to the practice of financial management alternative capital structure theories – the best known of them are:

- The static trade-off theory – optimal capital structure represents a trade-off between tax benefits of debt and bankruptcy costs,
- The managerial incentives theory – optimal capital structure describes the optimal control mechanism for adverse incentives created by too little debt and adverse incentives created by too much debt,
- The pecking order hypothesis – optimal capital structure at any time depends on minimum mispricing due to outsiders being less informed than insiders,
- The neutral mutation hypothesis – firms fall into different habits of financing which do not impact on value,
- Market timing hypothesis – capital structure is the outcome of the historical cumulative timing of the market by managers (Baker and Wurlger).

Theories of capital structure are often focused on optimal debt – its definition, the various roles of debt, including the tax advantage of debt, the choice of debt level to signal firm quality, the use of debt as an anti-take-over device, the agency costs of debt, and the usefulness of debt for restricting managerial discretion.

Capital structure theories as well as related empirical works represent the starting-point of the capital structure evaluation in practice, although practical application of various theoretic concepts is often very difficult, if not impossible, because of non-conform methods and simplifying unrealistic assumptions of model solution. Model conditions aren’t many times met in the real world as for instance in the Modigliani-Miller theorem: no taxes exist, no transaction costs exist, individuals and companies borrow at the same rates. But the theorem is still taught and studied because it tells us something very important. That is, if capital structure matters, it is precisely because one
or more of the assumptions is violated. It tells us where to look for determinants of optimal capital structure and how those factors might affect optimal capital structure.

Disregarding theoretic approaches and concepts the most important questions for the financial economists and managers are: Is there an optimal capital structure, one that allows a company to get the most “bang” for its “bucks”? If so, what is that structure and on what factors does it depend? Therefore, identification of critical factors influencing firm’s capital structure should be the first step in its evaluation and optimisation.

FACTORS INFLUENCING CAPITAL STRUCTURE OF THE FIRM

We will start with a brief review and characteristics of capital structure determinants in general, i.e. without respecting special conditions of the firm or uniqueness of its products (in our illustration transport company). Corporate finance theory states these most significant factors:

- **Business risk**
  Risk associated with the nature of the industry the business operates; if the business risk is higher the optimal capital structure is required.

- **Tax position**
  Debt capital is regarded as cheaper because interest payable is deductible for tax purposes. Advantage not much for businesses with unrelieved tax losses, depreciation tax shield as they already have an existing lower tax burden.

- **Financial flexibility**
  Financial flexibility depends on how easy a business can arrange finance on reasonable terms under adverse conditions. Flexibility in raising finance will be influenced by the economic environment (availability of savers and interest rates) and the financial position of the business.

- **Managerial style**
  How much to borrow also depend on managers’ approach to finance risk. Conservative managers will usual try to keep the debt equity ratio low.

- **Business Risk**
  The variability in operating income caused by inherent factors of the business other than debt financing. It can be influenced by changes in prices, variability of inputs, sales volume, and competition levels.

- **Finance risk**
  Additional variability in return that arises because the financial structure contains debt. Finance risk is measured through gearing/leverages ratios.
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- Financial gearing
  It means extent to which debt finances firm's total capital structure. Debt equity ratio: Total debt/Total assets

- Operational gearing
  Measures to what extent are fixed costs used in firm's operations. Breakeven point analysis will measure the relationship between sales volume, variable costs and the fixed costs. It means a level of sales where the firm is neither making profits nor losses i.e. sales value equals costs.

  Financial gearing can reach very high levels in firms preferring to raise additional capital for expansion by means of loans rather than issuing new equity, but there are limits:
- Restrictions on further borrowing might be contained in the trust deed for a company's current debenture stocks.
- Occasionally, there might be borrowing restriction in the articles of association.
- Lenders might want security for extra loan which the borrowers would be not able to provide.
- Lenders might simply be unwilling to lend more to a company with high gearing or low interest cover.
- Extra borrowing beyond a safe level will cost more interest. Companies might not be willing to borrow at these rates.

  Apart from the limitations stated above, there are other side effects associated with high gearing which may include the following:
- Financial distress where obligations to the conditions are not met or they are met with difficulties (loss of key suppliers, uncertain customers, low asset value etc.)
- Legal costs
- Agency costs in trying to negotiate additional loan facilities through an agent:
  - High interest rates
  - Need to sign loan covenants thereby loosing financial freedom
  - Borrowing cap
  - Limits set by lenders on amount available
- Financial slack – highly geared firms fail to seize opportunities as they arise due to unwillingness of lenders for more fund advancements.
- High gearing might send bad signals on company's liquidity to employees as well as lenders.
- Loss of decision making on certain areas to lenders due to loan covenants.

  Despite all limitations and cost of high gearing mentioned above companies still use debt capital. Apart from being cheaper than share capital the following attributes compels the company to use the debt capital:
• motivation (regarded as cheaper source of income),
• new issue stocks may dilute holding,
• operational and strategic staff more cautious on utilization of funds,
• flexibility in arrangement than equity.

CAPITAL STRUCTURE OPTIMISATION – PHASES OF SOLUTION

Optimal way of financing and resultant optimal capital structure seems to be a desirable state of each transport company. Simultaneously, optimisation of financial processes represents a big field of firm’s activities waiting for their efficient solving.

Now we can present short version of a practical approach to capital structure optimisation, with a special view to capital structure determinants. The goal was solved in following phases:

• 1st phase: Analysis of theoretical approaches to the capital structure and recognition of their application problems in regard to the conditions of concrete enterprise
• 2nd phase: Proposal of the methodology of capital structure optimisation
• 3rd phase: Calculation and interpretation of the results
• 4th phase: Conclusions and recommendations for practise

For practical reason we leave out 1st and 3rd phase and will concentrate on these problems:

| Identification of critical factors influencing capital structure (further abbreviated as CS) | PHILOSOPHY Of optimization (know-how) |
| Quantification of their impact on CS (if possible) | |
| Selection of optimising criteria | |
| Definition of optimal debt | |
| Mathematical formulas | INSTRUMENTS OF OPTIMIZATION |

IDENTIFYING CRITICAL FACTORS

In this step we consider relevant factors effecting on capital structure from the outside of the firm as well as from the inside. According to their character we can separate them into three categories:

• Factors of universal character effecting on the capital structure of each firm without exception (e.g. types and structure of assets, cost of capital, taxes etc.)
• Factors which affect in the conditions of concrete national economy (economic reform, recession, indebtedness of economy, development of financial market etc.)
• Determinants presenting special conditions of analysing company (table 1).
The establishment of capital structure is affected by great many factors. Moreover, the situation is involved by the fact that these factors affect in combination.
CONCLUSION

It’s not easy to select appropriate criteria for optimisation. In general we can say following: optimal capital structure is in the main based:

• on the trade-off between taxes and costs,
• on the balance between two decisive factors – return to capital and financial risk.

In special conditions of the transport firm we can proceed in problem solving according to the answers to next questions:

• What is the goal of optimisation?
• Is it conformal with the integral goal of business activities?
• Is it conformal with the financial strategy of the company?
• What are the partial financial goals?
• Is the owner’s view in solving of optimising problem preferred?
• Is the evaluation of capital structure multidimensional?

Our methodology is a practical guide for determining optimal level of transport firm’s indebtedness. The core of it is a multilevel model for determining the optimal capital structure by selected optimising criteria: general balance sheet principles on the first level as most simple proposed solution, financial analysis ratios and their reference values on the second level and company’s return on equity on the third level. The highest level, looking for the extreme of the objective function, applies a modified model developed by the authors Neumaierová - Neumayer, Czech financial theoreticians. Calculating Economic Value Added integrates the capital structure decision with shareholder value and integrant firm’s goals and closes the evaluation process.

In conclusion we must admit with the nesters of capital structure theory: no exact formula is available for evaluating the optimal debt-equity-ratio. Because of this, we often turn to evidence, experiences and guidance from the real world.

DETERMINANTY STRUKTURY KAPITAŁOWEJ PRZEDSIĘBIORSTWA I ICH IDENTYFIKACJA

W analizach finansów przedsiębiorstwa wciąż poszukuje się optymalnych rozwiązań dotyczących struktury kapitałowej, w tym określenia poziomu zadłużenia przedsiębiorstwa. Pomimo wielu teoretycznych rozwiązań proponowanych w literaturze, brak jest praktycznego podejścia do tego problemu. W artykule przedstawiono metodologię oraz praktyczne podejście do określenia determinantów i wyboru kryteriów optymalizacji struktury kapitałowej. Analizę oparto na przykładzie słowackiego przedsiębiorstwa transportowego.

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