

DISSERTATIONES RERUM OECONOMICARUM  
UNIVERSITATIS TARTUENSIS

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**ESSAYS ON FACTORS INFLUENCING  
FINANCING DECISIONS OF COMPANIES:  
RISK, CORPORATE CONTROL AND  
TAXATION ASPECTS**

**PRIIT SANDER**



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Supervisors: Professor Vambola Raudsepp (D.Econ), University of Tartu,  
Estonia

Opponents: Dr. Lars G. Hassel, Professor of Accounting, Åbo Akademi  
University, Finland  
Professor Enn Listra (PhD), Tallinn Technical University,  
Estonia

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# A LIST OF THE AUTHOR'S PUBLICATIONS AND CONFERENCE PRESENTATIONS

## I. Chapters in monographs

1. **Sander, P.**, Trumm, K. (2006) "Dividendipoliitika Eesti suuretevõtetes" (Dividend policy in Estonian large companies) in Sander, P., Raudsepp, V. (Eds), *Ettevõtte finantsjuhtimine: regionaalaspekt* (Financial management in enterprise: regional aspect) Tartu: Tartu Ülikooli Kirjastus, pp. 142–167.
2. **Sander, P.**, Raudsepp, V. (2006) "Sissejuhatus ja ülevaade" (Introduction and overview) in Sander, P.; Raudsepp, V. (Eds.). *Ettevõtte finantsjuhtimine: regionaalaspekt* (Financial management in enterprise: regional aspect) Tartu: Tartu Ülikooli Kirjastus, pp 11–16.
3. **Sander, P.** (2004) "Capital Structure Choice in Estonian Companies" in Accounting and Finance in Transition. Volume I. Greenwich University Press, pp. 475–491.
4. Karma, O., **Sander, P.** (2002) "Ettevõtte finantsvõimenduse mõju omakapitali riskitasemele" (The impact of financial leverage on risk of equity) in Juhkam, A., Masso, J. (Eds) *Riskid Eesti ettevõtetes ja riskijuhtimine* (Risks in Estonian enterprises and risk management) Tartu: Tartu Ülikooli Kirjastus, pp. 235–302.
5. Raudsepp, V., **Sander, P.**, Kask, K. (2001) "Financing problems in Estonian firms" in Frank Columbus (Ed.) Central and Eastern Europe in Transition. Volume IV, Huntington, New York: Nova Science Publishers, Inc. pp. 195–213.
6. **Sander, P.** (2000) "Süsteemilise riski hindamine väärtpaberiturul" (Estimating systematic risk in securities market) in Paas, T. (Ed.) *Riskid Eesti majanduses* (Risks in Estonian economy) Tartu: Tartu Ülikooli Kirjastus, pp. 208–245.

## II. Articles in international journals

7. **Sander, P.** Kõomägi, M. (2007) "The allocation of control rights in financing private companies: views of Estonian private equity and venture capitalists" *TRAMES*, Vol. 11, No. 2, pp. 189–205.
8. **Sander, P.** Kõomägi, M. (2007) "Valuation of private companies by Estonian private equity and venture capitalists", *Baltic Journal of Management*, Vol. 2, No. 1, pp. 6–19.
9. Karma, O., **Sander, P.** (2006) "The impact of financial leverage on risk of equity measured by loss-oriented risk measures: An option pricing approach" *European Journal of Operational Research*, Vol. 175, Issue 3, pp. 1340–1356.

10. **Sander, P.** (2003) "Capital structure choice in Estonian companies: a survey", *Management of Organizations: Systematic Research* No. 27, pp. 123–135

### III. Other research articles

11. **Sander, P.** (2007) "Tax heterogeneity and trading volume around ex-dividend day: Estonian evidence" Working paper nr. 54, Tartu University Press, 39 p. Available at SSRN: <http://ssrn.com/abstract=1017753>
12. Kõomägi, M., **Sander, P.** (2006) "Deal structuring of private equity investments in Estonia", *VADYBA MANAGEMENT*, No. 2 (11) Research Papers. Vilnius University, pp. 65–72.
13. Kõomägi, M., **Sander, P.** (2006) "Venture capital investments and financing in Estonia: a case study approach", Working Paper nr. 44, Tartu University Press, 77 p. Available at SSRN: <http://ssrn.com/abstract=888810>
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23. **Sander, P.** (2003) "Estimating the cost of capital in transition markets: Estonian experiences" – Finance in EU Accession Countries: Experiences and Solutions, VI International Scientific Conference, Proceedings, Vol. 1. Tartu, 17–18 October, Tartu Ülikooli Kirjastus 2003, lk. 188–199.
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49. **Sander, P.** Portfelliteooria II. Tartu: Tartu Ülikooli Kirjastus 2003, 152 lk.

#### VI. Handbooks

50. **Sander, P.** Ettevõtte finantseerimine – Äripäeva finantsjuhtimise käsiraamat, Äripäeva Kirjastus 2001–2007.

#### VII. Conference presentations

1. **Sander, P.** "Eelarvestamine ja finantsprognoos" – Pärnu raamatupidamiskonverents 2006, 26.10.–27.10.2006, Pärnu.
2. **Sander, P.** "Laenukapitali maksueelis Eestis – müüt või reaalsus" – III teadus- ja koolituskonverents "Eesti ettevõtluse perspektiivid Euroopa Liidus", 28.01.–29.01.2005, Pärnu.
3. **Sander, P.** "Dividendipoliitika seadusandlik regulatsioon väikeaktsionäride õiguste kaitsel" – XIII majanduspoliitika teaduskonverents, 30.06.–02.07.2005, Tartu–Värsk.
4. **Sander, P.** "Dividendide maksustamine ja muutused Eesti börsiettevõtete dividendipoliitikas ning omanikestruktuuris" – Konverents "Majandusarvestuse aktuaalsed probleemid äri- ja avalikus sektoris". 23.04.2004, Tallinn.

5. **Sander, P.** "Finantshierarhia teooria ja finantseerimisotsused Eesti ettevõtetes" – I teadus- ja koolituskonverents "Ettevõtetmajandus Eestis ja Euroopa Liit", 07.02.–08.02.2003, Pärnu.
6. Karma, O., **Sander, P.** "The Impact of Financial Leverage on Risk of Equity Measured by Downside Risk: An Option Pricing Approach" – International Conference "Modelling and Simulation of Business Systems", 13.05–14.05.2003, Vilnius.
7. Raudsepp, V., **Sander, P.**, Zahharov, R. "Capital Structure in Estonian Firms: Preferences and Choices" – International Scientific Conference "Financial Market and Management", 13.02.2003, Riga.
8. **Sander, P.** "Estimating the cost of capital in transition markets: Estonian experiences" – VI International Scientific Conference "Finance in EU Accession Countries: Experiences and Solutions", 17.10–18.10.2003, Tartu.
9. **Sander, P.** "Capital Structure Choice in Estonian Companies" – First Greenwich International West-East Conference "Accounting and Finance in Transition: Asian and European Experiences and Public Policy Considerations" 10.07–12.07.2003, Greenwich.
10. **Sander, P.** "Capital Structure Choice in Estonian Companies" – Joint PhD seminar of Tartu University, Tallinn Technical University, and Hamburg University, 16.05–18.05.2003, Tallinn.
11. **Sander, P.** "The Impact of Estonian Income Tax Reform on Financing, Investment and Dividend Policy" – VII Conference "European Culture", 23.11–26.11.2002, Pamplona.
12. **Sander, P.** "Estimating Systematic Risk in Estonian Stock Market" – IV International Scientific Conference "Topical Financial Problems in Transition Economies", 09.11–10.11.2001, Tartu.
13. **Sander, P.** "Government Policy and Private Investments: Taxes, Subsidies and Institutional Measures" – The 1<sup>st</sup> International Conference "International Business in Transition Economies", 09.10–11.10.2000, Kaunas.
14. **Sander, P.** "Financing Decisions of Firms and Estonian Income Tax Reform" – International Conference "Accounting and Taxation Problems", 08.09–09.09.2000, Tallinn.
15. **Sander, P.** "Estimating Systematic Risk in Securities Market" – 2<sup>nd</sup> Helsinki-Tartu Symposium in Applied Economics with a Special Reference to Accession to EU, 21.11–23.11.1999, Tartu.
16. **Sander, P.** "Pikaajaline versus lühiajaline investeerimishorisont" – EPMÜ konverents "Majandusarvestuse ja rahanduse aktuaalsed probleemid ning nende käsitlemine ülikooli õppeprotsessis", 20.11.1998, Tartu.

# INTRODUCTION

## List of papers

The thesis is a collection of four original publications, which will be referred to in the text using their respective numbers.

- I **Sander, P.** (2003) “Capital structure choice in Estonian companies: A survey”, *Management of Organizations: Systematic Research* No. 27, pp. 123–135.
- II Karma, O., **Sander, P.** (2006) “The impact of financial leverage on risk of equity measured by loss-oriented risk measures: An option pricing approach” *European Journal of Operational Research*, Vol. 175, Issue 3, pp. 1340–1356.
- III **Sander, P.**, Kõomägi, M. (2007) “The allocation of control rights in financing private companies: Views of Estonian private equity and venture capitalists” *TRAMES*, Vol. 11, No. 2, pp. 189–205.
- IV **Sander, P.** (2007) “Tax heterogeneity and trading volume around ex-dividend day: Estonian evidence” Working paper No. 54, Tartu University Press, 39 p. Available at SSRN: <http://ssrn.com/abstract=1017753>

## Motivation for the research

Although investment decisions have a much higher impact on the value of the company than financing decisions (see e.g. Vernimmen *et al* 2005), financing issues still represent an interesting and relevant research topic. Copeland *et al* (2005, p. 558) claimed “*Whether or not an optimal capital structure exists is one of the most important issues in corporate finance – and one of the most complex*”. There has been very extensive and intensive research over the last 50 years with a huge number of papers written about different aspects of financing decisions<sup>1</sup>. Nevertheless, there are many controversial approaches and unresolved issues.

As financing decisions are probably influenced by the business and legal environment it is necessary to investigate them country-by-country. Although most of empirical studies on financing issues have been carried out on the basis of examples from developed countries (Prasad *et al* 2001), the corresponding research in transition and developing countries has also stepped up. Estonia has

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<sup>1</sup> In June 2007, the search engine for scholarly literature Google Scholar found several thousand articles with the phrase “capital structure”, “financial structure”, “corporate financing”, or “financing decisions” in the title.

been included in several cross-country studies about the determinants of capital structure in transition countries (see Haas and Peeters (2004), Nivorozhkin (2005), Jõeveer (2006)). As such, regression-based cross-country studies are very suitable for investigating the impact of macroeconomic and institutional factors on capital structure, but they are, according to Beattie *et al* (2006), limited in their ability to fully reflect the diversity found in practice. Surveys, case studies and other small-sample research methods could provide a more profound picture of how companies make financial decisions, but the number of studies based on such methods in the area of financial management is still rather limited in Estonia.

There is another reason to study financing decisions in Estonia beside the modest coverage of the subject in the academic literature – the unique income tax system in Estonia. In 1994, Estonia replaced its progressive tax system with a proportional tax system. Since then corporations and natural persons have the same nominal tax rate. This was also a prerequisite for the next and more experimental tax reform, which took place in 2000. As a result of this reform profit-based corporate taxation was replaced with a distributed profit taxation regime under which the moment of corporate taxation was shifted from the period when the profit is earned to the period when it is distributed. Several papers have appeared mostly focusing on the macroeconomic implications of such taxation system (see Funke (2002), Funke and Strulik (2003), Staehr (2005)). However, the impact of the distributed profit taxation regime on financing, dividend and investment decisions is also a worthy subject for research. Under such a unique tax system, theoretical recommendations and several classical formulas presented in corporate finance textbooks might not work. This creates confusion among practitioners and may lead to erroneous decisions. For example, a survey conducted among investment banks and financial advisors has shown a large variance on how to calculate the cost of capital under such a system (Sander 2003). The research on the impact of the distributed profit taxation regime on financing, dividend and investment decisions also benefits policymakers in passing new amendments to the tax law. Hazak (2006) investigated the impact of distributed profit based taxation on capital structure, but his analysis did not include personal level taxes. The author of this dissertation believes that personal level taxes could be an important factor of financing decisions in companies with high ownership concentration. The effective tax rate at the personal level can be affected by trading carried out by investors.

The author believes that in the circumstances of Estonia, there are strong links between financing decisions, dividend policy and ownership structure. Dividend and financing decisions are also interdependent in other countries, but in Estonia this link might be even stronger as the taxes on equity capital depend on the company's dividend policy. According to the survey conducted in 2004, financial managers of large Estonian companies view taxes as an important

factor affecting their dividend policy (Sander and Trumm 2006). During 2000–2002, the taxation of distributed dividends depended on the legal status of the receiver of the dividends, and this created an interdependence between capital structure, dividend policy and ownership structure. Therefore, an in-depth analysis of capital structure should also consider factors such as dividend policy and its determinants as well as ownership structure.

The Estonian legal and economic environments have also other distinct features, such as the fixed exchange rate system using a currency board, a financial system that is dominated by banks, a high share of foreign ownership, high ownership concentration and a recent transition from a Soviet economic system to a market economy.

These all motivated the author of the thesis to study the different factors influencing financing decisions in companies.

## **The aim and research tasks**

The aim of the doctoral thesis is to study factors influencing financing decisions in companies. The current thesis concentrates on some aspects, which are more important for Estonian companies due to the distinct features of our business environment (e.g. unique income tax law, high ownership concentration, etc) or because there is some gap between the suggestions put forward by the theoretical models and the experience of local practitioners. Though the analysis mostly focuses on Estonian enterprises, the aim is also to contribute to financial literature in more general way.

The four distinct papers of the thesis accomplish the following research tasks:

The *first research task* is to reveal what factors are viewed by large non-financial companies in Estonia as being the most important determinants of financing decisions (Study I).

The *second research task* is to investigate how financial leverage influences the risk of equity in companies with limited liability (Study II).

The *third research task* is to investigate the allocation of control rights in Estonian private equity and venture capital projects (Study III).

The *fourth research task* is to find out whether investors use dynamic tax avoidance strategies around ex-dividend day in the Estonian stock market (Study IV).

Those issues are also studied in a number of other papers written by the author (see the list of publications).

## The data and methods used in the research

For study I, a survey among 200 of the largest Estonian non-financial firms was conducted in late summer 2001. Forty-three companies replied, which made the response rate around 22%. The questionnaire was addressed to the chief financial officers of these companies. The questionnaire consisted of two distinct parts. Study I uses the second part of the questionnaire (see appendix 1, Section E), which is based on a survey conducted by Pinegar and Wilbricht (1989), which was first carefully analyzed by the author and then modified to achieve a better match with the legal and economic environment of Estonia. The survey results were analyzed using both qualitative and quantitative data analysis methods. The results obtained were then compared with suggestions found in theoretical literature and with the results of previous empirical studies available to the author at that time.

Study II is purely theoretical and includes (a) mathematical derivations of formulas for different loss-oriented risk measures and gain oriented reward measures under the assumption of limited liability, and (b) numerical and economic analysis of the impact of financial leverage on those measures. An option pricing approach is used to model the value of equity. Monte Carlo simulation (with the software Crystal Ball) was used to double-check the derived formulas.

For study III, structured interviews were conducted with the representatives of Estonian private equity and venture capital firms in 2004–2005. Six companies expressed their willingness to participate in this study. As study III is a small part of a much larger research, the conducted interviews covered not only financing aspects, but also included questions about the valuation of venture capital projects, deal structuring etc. (see appendix 2)<sup>2</sup>. The interviews were generally arranged with the CEOs, and in some cases, financial managers and accountants. Qualitative data analysis methods were used to analyze the information obtained from the interviews, and the results of previous studies, theoretical advances in the field and aspects of Estonian business law were also considered while interpreting the results of this study.

Study IV uses the methods of statistical analysis to empirically confirm the use of tax-induced dynamic trading strategies around ex-dividend day for the Estonian stock market. The period under investigation covers seven years (2000–2006), during which the sample companies made 50 cash dividend distributions. The data on dividend distributions, ex-dividend dates, closing prices, best bid and ask prices, and daily trading volumes were obtained from the official homepage of the Tallinn Stock Exchange. In addition, the daily

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<sup>2</sup> Those other aspects are covered in Sander and Kõomägi (2007) and Kõomägi and Sander (2006).

trading volume on the Over-The-Counter market was obtained from the official homepage of the Central Registry of Securities. Detailed trading data showing ownership changes accompanied with each transaction was obtained directly from the Tallinn Stock Exchange. The data illustrating the financial positions of companies (net profits, book values, etc) were obtained from the annual statements of the companies. Information about changes to the income tax law was collected from the internet based electronic database of legislative acts – Electronic Riigi Teataja (eRT).

## **The contributions of individual authors**

The following briefly describes the contribution of the writer of this dissertation relative to the other authors of the articles. Studies I and IV were solely written by P. Sander<sup>3</sup>. In study II, P. Sander generated the original research idea, carried out the numerical and economic analysis, and double-checked the derived formulas using a Monte Carlo simulation. Dr. Otto Karma derived the formulas presented in the paper, and acted as the corresponding author of the paper. Naturally, both authors have discussed and edited all parts of the text. In study III, P. Sander acted as the corresponding author and handled all the communication with the publisher. The interviews on which this paper is based were carried out by Margus Kõomägi, although the interview plan was developed together. P. Sander wrote most of the section about the theoretical background and the section about the synthesis of the research results and managerial implications, while Margus Kõomägi wrote most of the section about methodology, the description of the cases and research questions and the section about corporate control and investor protection in the venture capital setting in Estonia. Both authors edited all parts of the text.

## **Acknowledgements**

The research work in this dissertation benefited from the support of many colleagues and institutions. First of all, I would like to thank my supervisor Prof. Vambola Raudsepp. I also owe special thanks to the co-authors of the articles, Dr. Otto Karma and Margus Kõomägi, for their readiness to cooperate with me.

Earlier versions of the four articles benefited from useful comments made by several people. In particular, study I benefited from comments by two anonymous referees. The 2<sup>nd</sup> study benefited from comments by Karsten Staehr

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<sup>3</sup> The survey on which study I is based was carried out in cooperation with Andres Juhkam.



and three anonymous referees. The 3<sup>rd</sup> study received comments from Prof. Maaja Vadi and two anonymous referees. The 4<sup>th</sup> study received valuable comments from Dr. Tõnu Roolah, Margus Kõomägi, and Dr. Otto Karma.

The last draft of the thesis benefited from comments by internal reviewers Prof. Toomas Haldma and Dr. Jaan Masso. Michael Haagensen proofread the final version of the dissertation. I owe a lot of gratitude to all these people. I am also grateful to all the people who made comments on the papers at various seminars, workshops and conferences.

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Finally, special thanks are owed to my family for their continuous encouragement and support during my doctoral studies.

Naturally, all possible mistakes and errors in the dissertation are the full responsibility of the author.

# 1. THE THEORETICAL BASIS FOR THE RESEARCH

## 1.1. The role of financing decisions in corporate finance

The cornerstone of modern financial theory is the value maximization principle. Value maximization states that managers should make all decisions so as to increase the total long-run market value of the firm<sup>4</sup> (Jensen 2002). Copeland *et al* (2005) state: “*As residual claimants (with limited liability) the shareholders need to satisfy all other higher-priority claimants and to accept all residual risks. In order to maximize their own wealth, shareholders must be sure that customers are well cared for, that the appropriate labor force can be recruited and retained, that suppliers are content, that bank covenants are adhered to, that interest and debt principal payments are made as promised, and that the government receives the taxes that are due.*” (p. 483). Therefore, the objective to maximize the total market value of the firm can be substituted with the objective of maximizing the market value of the existing owners’ equity (see Ross *et al* 2000, Brigham *et al* 1999).

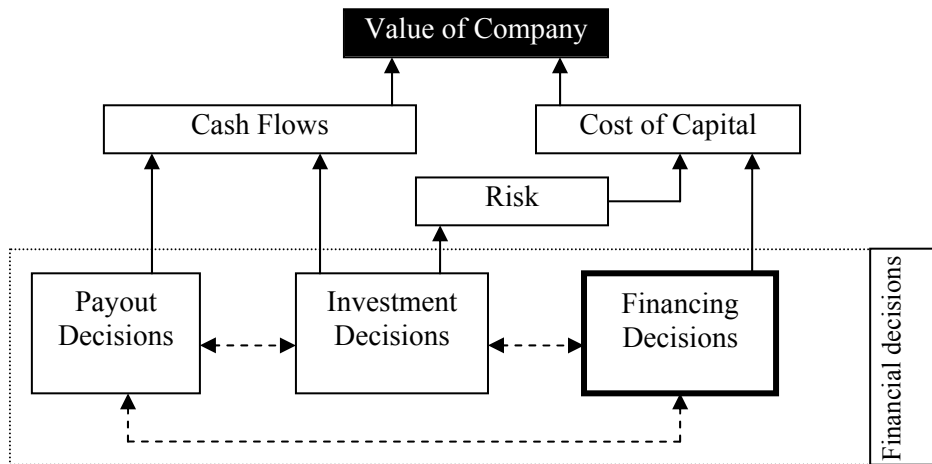
The value of the company is determined by the size, timing and risk level of expected future cash flows generated by the company (Brigham *et al* 1999). The risk level of expected cash flows is reflected in the discount rate (i.e. the cost of capital) and the timing is taken into the account in the discounting process. These two measures – expected cash flows and cost of capital – depend on many external and internal factors and corporate decisions, including decisions made by the CFO (*Ibid*). Basically, there are three main groups of financial decisions: investment decisions, financing decisions, and payout (dividend) decisions (Damodaran 2001) (see figure 1)<sup>5</sup>. Of course, today’s CFO is also often responsible for, or is heavily involved in, decisions about performance measurement and incentive design, communications with analysts (investor relations), reporting financial performance to the public, risk management, legal matters, etc (Copeland 2002). Still, those three groups depicted in figure 1, constitute the fundamental core of financial management.

As the focus of this thesis is on financing decisions, the essence of these decisions and their interaction with other groups of financial decisions will be analyzed more thoroughly, but first a very brief description of two other groups of financial decisions is necessary.

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<sup>4</sup> The total market value of the firm is the sum of the market values of equity, debt, and any other contingent claims outstanding in the firm (Jensen 2002).

<sup>5</sup> Some scientists however, consider payout decisions as one subpart of financing decisions (see e.g. De Matos 2001)



**Figure 1.** Main groups that make up financial decisions: a simplified framework (compiled by the author). Interactions between decisions are depicted with a dotted line, and their direct impact with a solid line.

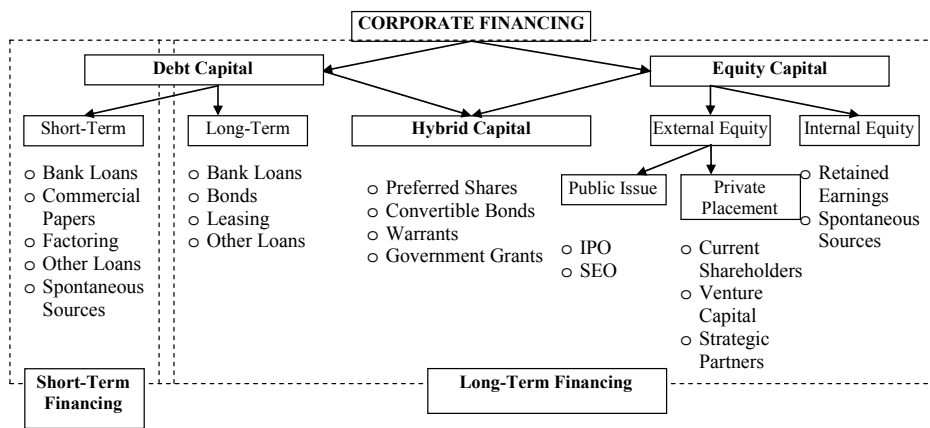
Investment decisions are all about creating additional value for the owners, i.e. the company should invest only in assets that have positive (or at least not negative) net present value. Investments are not only made in fixed assets, but also in current assets (these decisions are usually considered a part of working capital management) and human capital (e.g. training employees, providing recreation facilities for employees). Mergers and acquisitions as well as disinvestment decisions (e.g. selling off some subsidiary or closing a plant) are also analyzed within the same framework. Investment decisions are the major determinant of operating cash flows. They also largely determine the risk level of the company and hence the cost of capital (Vernimmen 2005).

Dividend (payout) decisions involve choices about how much, in which form and whether at all to distribute the profit created by company to its owners (see e.g. Jong *et al* 2001). They are one connecting link between financing and investments decisions. Although dividend decisions are prepared by the management of the company, they require acceptance from the owners. Therefore, if the owners want more dividends the company may be forced to reduce planned investments or acquire outside financing. The survey among large Estonian companies showed that financial managers consider future investment opportunities an important determinant of payout decisions (see Sander and Trumm 2006).

Financing decisions help to increase value by ensuring that the company has enough financial resources to carry out planned investments and finance

ongoing activities and that these resources are as cheap as possible (i.e. that the cost of capital is as low as possible). Financing decisions involve choices about different sources of financing (see figure 2), about the maturity and currency structure of debt capital, about timing the issue of securities, about alternative methods of raising capital, about the distribution of control rights, etc.

Since Modigliani and Miller (1958, 1961), the separability of investment and financing decisions has been a standard assumption of investment theory (Schaller 1993). But if the availability of external financing is not always guaranteed or it may come at a different cost, the firm's investment and financing decisions are interdependent (see Cornelli *et al* 1996). Also, Mougoue and Muhkerjee (1994) showed that dividend, investment and financing decisions are interdependent.



**Figure 2.** Different sources of corporate financing (Source: Sander, P. Ettevõtte finantseerimine – Äripäeva finantsjuhtimise käsiraamat, 2004)

Practitioners face these interdependencies quite often. Not all financing sources depicted in figure 2 are available for all projects and firms. A start-up company can very rarely obtain funds through initial public offerings of shares, but its projects may attract venture capital or be eligible for government grants. Usually it is relatively easy to finance the purchase of new machinery through debt capital, but it is much more difficult to obtain loans from banks to carry out research and development activities. Also, different projects have a different debt capacity, either due to differences in collaterals, risk level or flexibility (Copeland *et al* 2005). Surveys in different countries have shown that the characteristics of the project to be financed represent one of the most important determinants of financing decisions (see Pinegar and Wilbricht (1989), Hittle *et*

*al.* (1992), Kjellman and Hansen (1995), Kamath (1997), Nakamura and da Silva Mota (2004)).

Under the distributed profit taxation system, the dividend policy determines how much income tax the company has to pay, while the corporate profit is not taxed until it is distributed to the owners and due to the tax heterogeneity among investors and sources of income, payout decisions on some occasions affect the tax advantage of debt (see Sander 2005).

Due to the interdependencies between different financial decisions and the complex nature of financing decisions, there is a myriad of factors influencing them. The next subchapter describes the factors that affect one of the central issues of financing decisions – the choice between debt and equity capital.

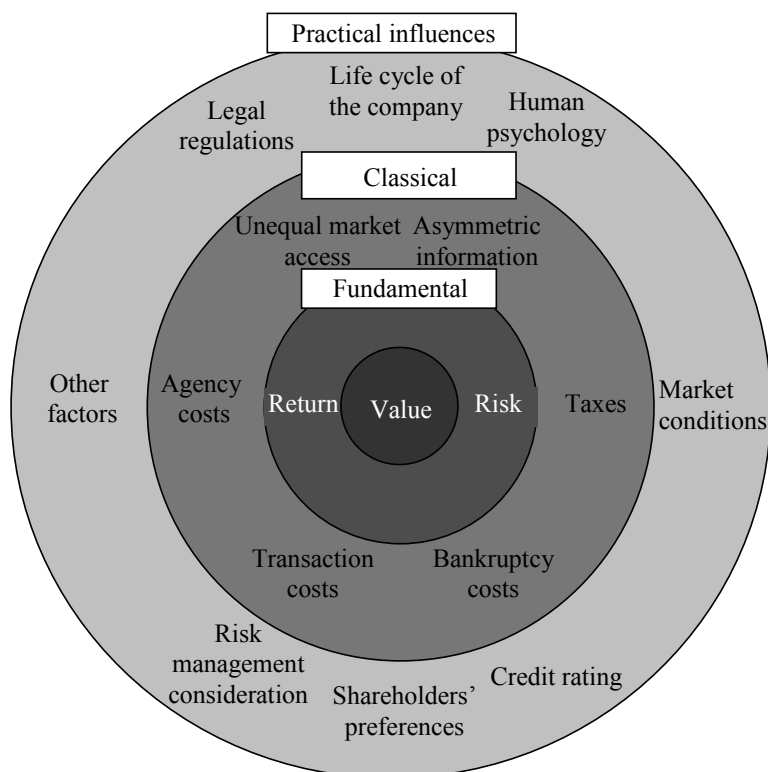
## **1.2. Determinants of capital structure**

In their seminal paper Modigliani and Miller (1958) showed the assumptions under which financing decisions do not affect the value of the company. By doing so, they implicitly stated which factors should influence financing decisions. Those factors, which in this dissertation are called classical determinants of capital structure, are: taxes, bankruptcy costs, transaction costs, agency costs, asymmetric distribution of information (i.e. factors that make capital markets imperfect) and unequal access to the market. Much of the subsequent research has been addressed to investigate these factors and there are already several comprehensive literature surveys that summarize the results of hundreds of studies dealing with the impact of market imperfections on capital structure decisions (see Harris and Raviv (1991), Prasad *et al* (2001), Frank and Goyal (2005)).

However, survey-based research has revealed that practitioners often also consider a number of other factors when making financing decisions (see Pinegar and Wilbricht (1989), Hittle *et al.* (1992), Kjellman and Hansen (1995), Kamath (1997), Graham and Harvey (2001), Bancel and Mittoo (2002), Nakamura and da Silva Mota (2004)). Some of these factors are probably just proxies for capital market imperfections that are difficult to quantify, others stem from the interdependencies between different financial decisions, or imperfections in other markets, and some may have no rational and/or theoretically sound basis at all.

To provide a more systematic picture of the factors influencing financing decisions, the author of the dissertation suggests differentiating these factors into three layers: fundamental factors (layer I), classical determinants (layer II), and practical influences (layer III) (see figure 3). Previous literature reviews have usually only covered the impact of classical determinants (see e.g. Harris and Raviv (1991)) or if they also included other factors, these factors were not presented in a systematic way (see e.g. Prasad *et al* (2001)). The novelty of the

current approach consists in also reviewing those papers that investigate the theoretical link between factors in layer III (i.e. practical influences) and financing decisions in a systematic way.



**Figure 3.** The three layers of determinants of capital structure (compiled by the author)

In the next three subchapters (1.2.1, 1.2.2, and 1.2.3) the existing literature about factors influencing financing decisions will be summarized. The purpose of such a literature review in this dissertation is twofold. First, it provides theoretical bases for study I, which investigates which factors are viewed by Estonian CFOs as important determinants of financing decisions. Secondly, as the studies incorporated into this dissertation do not cover in-depth each and every factor influencing financing decisions, but rather have concentrated on very specific aspects of some factors, this literature review provides some starting points for those readers who want to obtain more information about the other aspects not covered in this dissertation.

### 1.2.1. Fundamental determinants of capital structure

The value maximization principle presented in the previous subchapter should also be kept in mind when making financing decisions in the company. The value of an investment depends both on risk and return (see figure 1). The choice of capital structure (or more precisely the choice between debt and equity) affects the return earned by shareholders as well as the risk faced by them.

Most corporate finance textbooks include formulas or graphs showing the positive relationship (under the assumption that return on invested capital exceeds cost of debt) between return on equity (ROE) or earnings per share (EPS) and financial leverage (see e.g. Brigham *et al* 1999, Ross *et al* 2000, Vernimmen *et al* 2005). A separate issue is whether accounting figures like ROE or EPS are suitable for measuring shareholder return, but according to Ross *et al* (2000) similar results can be obtained by using cash flows. Although the author of this dissertation suggests that for an investor owning shares in a listed company total shareholder return (TSR) combining dividends paid and capital gain (price appreciation) would be a more natural measure of actual return, one must keep in mind that price appreciation depends more on whether the company manages to exceed the investors' expectations than on absolute performance. Therefore, at least in the short term, the link between TSR and ROE seems rather weak<sup>6</sup>. Besides, stock prices are determined in the market, with all its imperfections, and therefore, the relationship between leverage and stock return would not be so straightforward any more and would reflect not only the direct link between these two variables, but also several interdependencies between market imperfections and other factors affecting stock prices or leverage. Even if TSR or stock return would be better measures for actual return than ROE, they can only be applied to listed companies, which limit their use considerably. The use of ROE as a return measure when investigating the relationship between leverage and return is therefore pretty much justified.

There are only a few empirical analyses investigating how financial leverage affects stock return (see e.g. Cai and Zhang 2006, George and Hwang 2007). These studies have surprisingly found a strong negative relationship between leverage and stock returns. George and Hwang (2007) argue that companies that are more vulnerable in financial distress use less debt, and therefore, the return premium to low leverage firms relative to high leverage firms appears to be compensation for large costs borne in states of systematic financial distress. Cai and Zhang (2006) found that an increase in leverage negatively affects the next quarter stock returns. They explain this result based

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<sup>6</sup> As an extreme example, AS Klementi (apparel company listed on the Tallinn Stock Exchange) had negative ROE (approx. -76%) in 2002, but nevertheless investments in the shares of this company showed the highest return in that year (almost +200%).

on the dynamic version of pecking order theory according to which an increase in leverage reduces the safe debt capacity and leads to future underinvestment.

It has been shown that the use of leverage increases the volatility (standard deviation) of return on equity or earnings per share (see Brigham *et al* 1999, Ross *et al* 2000, Vernimmen *et al* 2005). Already in 1959, Mayer argued that firm risk consists of two components, business risk and financial risk. Business risk is influenced by the level of fixed production costs, while financial risk is influenced by the amount of debt in the capital structure (Levy and Brooks 1986). Classical financial theory mostly uses the standard deviation of returns or the beta coefficient (measure of systematic risk) as an appropriate risk measure. Hamada already developed the relationship between leverage and beta for the case of unlimited liability in 1972, and Galai and Masulis for the case of limited liability in 1976. The paper by Ang *et al* (1985) reviews several of the earlier empirical studies on the determinants of risk. Earlier studies have typically (though not uniformly) found a positive relationship between leverage and risk. Also more recent empirical studies have mostly confirmed such a relationship (see e.g. Marston and Perry 1996). But the problem is that practitioners do not often perceive the risk as volatility, but rather as a loss.

Although the concept of downside risk was introduced to modern corporate finance already in 1952 by Roy, who developed the safety first rule, and Harry Markowitz, in his seminal paper “Portfolio Selection” (1952), considered semi-variance to be a better measure of risk than variance or standard deviation, the widespread use of downside risk measures started in the 1990s, when value-at-risk (VaR) became one of the standard risk measures in the financial industry.

The choice between debt and equity affects both the return and the risk of equity investment, but does this also mean that financing decisions have an impact on the value of the company.

Miller and Modigliani (1958) showed that under some strong assumptions the choice between debt and equity financing has no effect on company value. Their theory says that since financial leverage does not affect the size of the operating income or the level of business risk, it shouldn't affect the value of the company (*Ibid*).

This theorem became widely known as capital structure irrelevance theory (hereafter MM-theory). The theory was further developed by Miller and Modigliani (1959), Stiglitz (1969, 1974), Fama (1978) etc. Most of the early proofs of capital structure irrelevance used arbitrage arguments. The general idea is that if financing a firm affects its market value, there are arbitrage opportunities. Since the existence of such opportunities is inconsistent with equilibrium in a perfect capital market, one can conclude that financing decisions cannot affect the value of a company (Fama 1978).



There are five common assumptions in the case of arbitrage proofs of irrelevance theory (*Ibid*):

- Perfect capital market (no transaction costs when issuing and trading securities, no bankruptcy costs, no taxes, and no agency costs).
- Individuals and firms have equal access to the capital markets.
- Homogeneous expectations; that is, there is no information asymmetry.
- Only wealth counts. Thus, the effects of a firm's financing decisions on the welfare of its security holders can be equated with effects on security holder wealth.
- Given investment strategies; that is, there is no interaction between investment and financing decisions.

The original proof of MM-theory had several additional explicit or implicit assumptions:

- All cash flows are perpetuities; that is, all firms expect zero growth (Brigham et al 1999).
- Firms can be divided into “equivalent return” class such that return on the shares issued by any firm in any given class is proportional to (and hence perfectly correlated with) the return on the shares issued by any other firm in the same class (Miller, Modigliani 1958). Shares belonging to the same risk class are perfect substitutes for each another.
- Firms issue only two types of claims: risk-free debt and (risky) equity (Hansen 1994).

Although, Miller and Modigliani (1958) tried to empirically prove the validity of their propositions, they recognized later that most of the assumptions were violated in real life. This is also the most common ground for criticisms of MM-theory. Critics also argue that individuals and firms behave in a way that indicates that financial decisions are important. For example, firms in the same industry usually have much more similar leverage than firms from different industries (Masulis 1988). However, Miller (1977) has noted that these persistent financing patterns may be nothing more than some kind of “neutral mutations”. Albeit, the MM-theory doesn't describe financing decisions in the real-life context, its influence on financial economics has been compared to the impact of Keynes on macroeconomics (Weston 1989). With the MM propositions as guidelines, much of the financial economics literature of the last generation has been directed to the identification of relevant deviations from the perfect market assumptions (*Ibid*).

### 1.2.2. Classical determinants of capital structure

Until the end of the 1980s, most of the investigations on capital structure originated from the idea of finding out what happens if one or several of the MM-theory assumptions were relaxed (Frank and Goyal 2005). The investigation of market imperfections lead to the formation of two groups of theories: trade-off theories and pecking order theories. Trade-off theories imply an optimal mix of debt and equity (i.e. there is a target debt ratio); while pecking order theories imply an optimal financing hierarchy (i.e. companies have clear preferences about financing sources). These theories are based on one or a combination of several classical determinants of capital structure including taxes, bankruptcy costs, transaction costs, agency costs, asymmetric distribution of information and unequal access to market.

#### *Taxes*

Taxes were among the first market imperfections to be studied in terms of their impact on capital structure. Miller and Modigliani themselves realized that their irrelevance theory was too far from reality and introduced the impact of corporate level taxes into their “correction” paper in 1963. Since then a lot of theoretical and empirical work has been done in this research area. Later advances include the introduction of personal level taxes (see e.g. King (1964), Farrar and Selwyn (1967), Miller (1977)), non-debt tax shields (tax amortization, investment tax credits, etc) (see e.g. DeAngelo and Masulis (1980)), tax loss carry-backs and carry-forwards (see e.g. Mayer (1986)), tax timing options (see e.g. Lewellen and Mauer (1988)), interaction with growth (see e.g. Berens and Cuny (1995)), interaction with investor investment horizon (see e.g. Lewellen and Lewellen (2004)) and interaction with the use of tax shelters (see e.g. Graham and Tucker (2005)). Indirectly, papers dealing with dynamic tax-avoidance strategies (see e.g. Miller and Scholes (1978), Stiglitz (1983), Chaplinsky and Seyhun (1990) and Scholes *et al.* (2005)) should also have an impact on capital structure research.

The empirical research is numerous and has taken several directions (examinations of exchange offers, cross-sectional regressions, simulation analyses, natural experiments and surveys). Surveys of previous research can be found in Prasad *et al* (2001), Graham (2003), and Frank and Goyal (2005). There is enough evidence to show that taxes are one of the determinants of capital structure, but the question remains whether they are of first-order importance. Study I showed that taxes were not viewed by CFOs in large Estonian com-

panies as first-order determinants of financing choices<sup>7</sup>; at the same time, they play a very important role in dividend decisions (Sander and Trumm 2006). According to Graham (2003), there are still several unresolved issues and topics that have received too little attention. In particular, the need for research that highlights capital structure comparisons between classical and other tax systems was mentioned (*Ibid*).

### *Bankruptcy costs*

In earlier trade-off models, the tax benefits of debt were balanced with the deadweight costs of bankruptcy (see e.g. Kraus and Litzenberger (1973)). There are several types of costs associated with bankruptcy (or more generally with financial distress): administrative expenses paid to various third parties involved in the bankruptcy proceedings, loss of tax credits when the company goes bankrupt and so-called indirect costs, which include occasional piecemeal forced divestiture of assets at uneconomic prices, foregone investment opportunities, the need to operate an overly stringent credit policy, inefficiencies arising from low inventory levels, lost sales through forced reduction in the scale of operations or through loss of customer confidence, loss of key employees (Lister and Evans 1988). In addition, there may be price pressure from competitors trying to increase their market share. Financially weak firms are probably not able to lower the prices of their product and lose part of their market share (Opler and Titman 1994).

How substantial are these costs? Several studies have found that direct costs of bankruptcy are relatively small (see e.g. Warner 1977), but the indirect costs may be considerable. In a recent study, Molina (2005) finds that *ex ante* costs of financial distress are comparable to the current estimates of the tax advantage of debt.

Haugen and Senbet (1978) argued that some indirect costs are not linked to bankruptcy *per se*, but only occur when the company is liquidated, which in essence is a capital budgeting decision and should not be affected by the capital structure. They pointed out that “*bankruptcy costs associated with a formal reorganization through the courts must be limited to the lesser of the cost of formal bankruptcy and the transactions costs associated with the informal reorganization of the capital structure through the capital markets*” (*Ibid*, p. 387) and claimed that in a market with a large number of rational participants, who are all price-takers, bankruptcy costs are trivial or non-existent (*Ibid*).

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<sup>7</sup> The comparison of several studies conducted in foreign countries can be found in Sander (2005).

The empirical evidences are controversial. As the costs of financial distress cannot very easily be measured directly, most cross-section studies use several proxies, like the firm's size, Altman's Z-score, etc. Although in most studies these proxies have the same sign as predicted by the theory, using proxies leaves some room for ambiguity. Surveys in different countries (see study I for Estonian evidence) have shown that bankruptcy costs are not considered by financial managers as an important determinant of capital structure (see e.g. Pinegar and Wilbricht (1989), Hittle *et al.* (1992), Kjellman and Hansen (1995), Kamath (1997), Nakamura and da Silva Mota (2004)). At the same time, credit rating (a measure of the probability of financial distress) seems to be of utmost importance when making decisions about debt financing (Graham and Harvey (2001), Bancel and Mittoo (2002)). Overviews of empirical studies can be found in Prasad *et al* (2001), Frank and Goyal (2003a) and Frank and Goyal (2005).

### *Transaction costs*

Although the absence of transaction costs is also one prerequisite for a perfect capital market, these costs were mostly ignored in the capital structure literature. Neither Prasad *et al* (2001) nor Harris and Raviv (1991) cited any research that deals directly with the link between transaction costs and capital structure. But the situation has changed and now many dynamic trade-off models also take into account adjustment costs (see Frank and Goyal 2005).

The dynamic trade-off models without adjustment costs implied a rapid rebalancing in capital structure, which is something not very common in practice. To avoid an unrealistically rapid rebalancing problem, Fischer *et al* (1989) introduced transaction costs to the analysis of dynamic capital structure. The most apparent effect of transaction costs generally is periods of inactivity, as agents wait for the benefits of adjustment to become sufficient to offset the costs (Leary and Roberts 2005). Leary and Roberts (2005) argued that different forms of adjustment costs are likely to induce different patterns of leverage changes.

The existence of transaction costs can also induce firms to prefer internal equity to debt and debt to external equity; that is, they create the same pattern in the financing hierarchy as an asymmetric distribution of information (see e.g. Baskin 1989).

Usually, only corporate level transaction costs (i.e. flotation costs<sup>8</sup>) are taken into the account. Investor level transaction costs (brokerage fees, bid-ask spreads, etc) are still ignored by the capital structure literature, although it has been shown that they affect the cost of capital (see Amihud and Mendelson 1993).

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<sup>8</sup> These costs can be considerable (see Lee *et al* 1996).

### *Unequal market access*

MM-theory assumes that both individuals and firms have equal access to capital markets. This, however, may not be the case (see Weston 1967, Shelton 1981, Ho and Robinson 1994). Equal market access implies that both corporations and individuals have the ability to issue securities under similar conditions (e.g. both could issue securities with limited liabilities). If this is not the case (and it isn't) it is possible to prove under the assumption of an incomplete market<sup>9</sup> that the value of a levered firm is greater than the value of an unlevered firm even if there are no other market imperfections (Ho and Robinson 1994).

Equal market access criteria are also not fulfilled due to the fact that interests on personal borrowing are in general not treated as costs that reduce the taxable income of a natural person. Furthermore, investors usually require a premium on individual debt (Shelton 1981). Discrimination between corporate and individual debt may also simply reflect the higher transaction costs associated with processing a number of small individual claims versus one large corporate debt (Benston and Smith 1976).

### *Agency costs*

According to Harris and Raviv (1991), a significant portion of the efforts of researchers has been devoted to models in which capital structure is determined by agency costs; that is, costs due to conflicts of interest. Modern research in this area was initiated by Jensen and Meckling (1976) (*Ibid*), although some basic principles were probably known even before. These conflicts may arise between managers and shareholders, between creditors and shareholders, between shareholders and other stakeholders (customers, suppliers, employees, competitors, etc), as well as between majority and minority shareholders.

The conflict of interest between shareholders and creditors may emerge due to asset substitution (see Jensen and Meckling 1976), underinvestment (see Myers 1977), claim dilution and/or an increase in dividend payments (see Smith and Warner 1979). Shareholder-bondholder conflict can be mitigated by adjusting the properties of the debt contract (i.e. by including debt covenants, by using collateral, by using convertible bonds or by shortening the maturity of the debt) (de Jong and van Dijk 2002).

The conflicts between shareholders and management stem from the separation of ownership and control, which can lead to excessive consumption of perquisites and lower efforts (see Jensen and Meckling 1976), myopic invest-

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<sup>9</sup> The capital market is incomplete in the sense that there are more states of nature than securities.

ments (see Masulis 1988), overinvestment (see Jensen 1986), excessive risk aversion (Hunsaker 1999), failure to liquidate (Harris and Raviv 1990, Stulz 1990) and resistance to takeovers (Garvey and Hanka 1999). These conflicts can be mitigated by the proper use of debt capital, adequate management compensation policy and monitoring (de Jong and van Dijk 2002).

Conflicts of interest may also arise between majority and minority shareholders. Classical finance assumes that all common stock has been created as equal and each shareholder receives the same payoff per share owned (Dyck and Zingales 2002). But in practice a controlling shareholder can obtain some benefits that are not available to other shareholders (*Ibid*)<sup>10</sup>. As these private benefits have some value, financing decisions also depend on corporate control considerations, i.e. financing decisions are affected by the ownership structure (Harris and Raviv 1991). The first models linking corporate control and financing decisions started to appear in the late 1980s and early 1990s (see e.g. Stulz 1988, Aghion and Bolton 1992). Recently, papers investigating the direct link between capital structure and ownership structure have also appeared (see e.g. Brailsford *et al* 2002, Mahrt-Smith 2005, Driffield *et al* 2007).

Some of the models dealing with the interaction between capital structure and product/input market are also, in principle, based on conflicts of interest. Titman (1984) and Maksimovic and Titman (1991) study the relationship between capital structure choice and interaction with customers (or suppliers); Sarig (1988) investigates the interaction between capital structure and negotiations with trade unions<sup>11</sup>.

### *Asymmetric information*

MM-theory assumed homogeneous expectations, but in real life different contracting parties have different information. This may affect financing decisions and capital structure in particular in several ways. Asymmetric information may lead companies to follow a financing hierarchy (so-called pecking order theory) (see e.g. Myers 1984 and Myers and Majluf 1984). According to the classical version of pecking order theory, firms prefer those financing sources that are less sensitive to information (i.e. internal equity or if outside financing is needed secured debt capital) and use outside equity only in the last

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<sup>10</sup> Examples of such benefits are influence over who is elected to the Board of Directors or the position of CEO, the power to build business empires, and the ability to transfer assets on non-market terms to related parties or consume perquisites at the expense of the firm (Nenova 2003).

<sup>11</sup> A thorough review of more recent literature on the interaction between product/input markets and capital structure can be found in Franck and Huyghebaert (2004).

resort<sup>12</sup>. There are many theoretical papers that refine the pecking order theory by including two-side informational asymmetries (see e.g. Eckbo et al 1990), by considering multi-period setting (Viswanath 1993) or a start-up company (Ravid and Spiegel 1997) and by introducing heterogeneous expectations of risk (Halov and Heider 2004).

The empirical evidence of the use of pecking order theory as a guideline in making financing decisions is controversial. Some econometric studies have found evidence in support of pecking order behaviour (see e.g. Shyam-Sunder and Myers (1999)) while others (see e.g. Frank and Goyal (2003) and Helwege and Liang (1996)) have shown evidence to the contrary. There are many surveys confirming that most financial managers try to follow a financing hierarchy (see e.g. Pinegar and Wilbricht (1989), Hittle *et al.* (1992), Kamath (1997)), but there are also several surveys showing that many companies have a target debt ratio (see e.g. Kjellman and Hansen (1995), Graham and Harvey (2001), Bancel and Mitto (2002)).

Another stream of literature, initiated by Ross (1977) and Leland and Pyle (1977), views capital structure decisions as signals to outside investors. According to Masulis (1988), capital structure changes are managerial responses to changes in a firm's current and expected economic condition and its outside environment. Therefore, capital structure choices can impart information to the market about management's expectations for the firm. Several event studies have confirmed that leverage increasing decisions usually generate a positive price reaction in accordance with the prediction by Ross (1977) and vice versa<sup>13</sup>. But surveys of financial managers showed little or no evidence of signalling being an important determinant of financing decisions in practice (Graham and Harvey (2001), Bancel and Mitto (2002)).

### **1.2.3. Practical influences of capital structure**

There is a lack of normative capital structure theories intended to provide advice to CFOs (Frank and Goyal 2005). Therefore, practitioners also rely heavily on factors (e.g. credit rating, capital market cycle, risk management considerations, etc) which impact on financing decisions has not yet undergone very thorough investigation (see Graham and Harvey (2001), Bancel and Mitto (2002)). These practical influences will be considered shortly in this subsection.

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<sup>12</sup> Basically, we are dealing here with adverse selection problems similar to those identified originally by Akerlof (1970). An asymmetric distribution of information also creates moral hazards and costly state verification problems.

<sup>13</sup> See Smith (1993) for a summary of many event studies about this subject.

### *Credit rating*

According to recent surveys among practitioners (see Graham and Harvey (2001), Bancel and Mittoo (2002)) one of the most important factors affecting company debt policy is credit rating. Also, consultants from McKinsey have advocated the usefulness of credit ratings in capital structure decisions (see Goedhart *et al* 2006). They argue that credit ratings can be modelled well with just three factors: industry, size and interest coverage, and thus debt level can be chosen to achieve and maintain the target credit rating. The first academic paper formally indicating the impact of credit rating on capital structure was published by Kisgen in 2006. He confirmed empirically that capital structure decisions are affected by the potential for both an upgrade as well as a downgrade in the credit rating (*Ibid*). The impact of credit rating on capital rationing has been recognized for some time (see e.g. Hodgman 1960).

### *Legal regulations*

Managers must follow several rules and regulations when making financing decisions. These statutory requirements may include requirements on the minimum size of share capital, requirements on the minimum size of equity, limitations on the distribution of profits as dividends, minimum size of mandatory dividends, thin capitalization rules<sup>14</sup>, etc. While those regulations affect every company, special attention to the legal regulations when making financing decisions should be paid in regulated industries (which are usually natural monopolies). It has been shown (see Spiegel and Spulber 1994) that a firm's capital structure has a significant effect on the regulated price. Consequently, the firm chooses its equity and debt strategically to affect the outcome of the regulatory process (*Ibid*). The whole legal system affects the financing decisions of companies to some extent (see La Porta *et al* (1998) and Pistor *et al* (2000)).

### *The lifecycle of the company*

While the impact of a firm's lifecycle on its capital structure is mentioned in several textbooks (see Damodaran 2001, Vernimmen *et al* 2005), there are only a few academic papers on the subject. The little that has been done suggests, in

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<sup>14</sup> The purpose of thin capitalization rules is to ensure that companies operate within reasonable equity-to-debt margins by restricting the deduction of interest costs on "excessive" debt financing. Thin capitalization rules are found to be effective in restricting debt financing (see Buettner *et al* 2006).



line with static trade-off theory, that debt ratios should follow a low-high-low pattern over the firm's life (Frielinghaus *et al* 2005). One of the first theoretical models linking capital structure and the lifecycle of the company can be found in Fluck (2000), according to which the optimal mix of debt and equity evolves over the lifecycle of the company and is often path-dependent. Frielinghaus *et al* (2005) present a pilot study empirically investigating the link between capital structure and the stages in the life of the firm.

### *Market conditions*

According to surveys (see Graham and Harvey (2001), Bancel and Mittoo (2002)) executives attempt to time market (i.e. issue debt when they feel that market interest rates are particularly low and issue equity when they feel that share prices are high). This has led to the formulation of the “window of opportunity” theory of capital structure (which is in essence a dynamic version of pecking order theory). Baker and Wurgler (2002) argued that there is no optimal capital structure, and capital structure is largely the cumulative outcome of past attempts to time the equity market. There are also many papers investigating the link between interest rates and debt issues and/or maturity, which show that managers also try to time the debt market<sup>15</sup>. Nowadays, market timing theory is thought of as the alternative to trade-off and pecking order theories (Kaya 2007).

### *Risk management consideration*

Smith and Stulz (1985) argued that hedging reduces the probability of default and thus also the expected costs of financial distress and therefore raises the debt capacity of the firm. Both interest rate risk and foreign exchange risk interacts with financing decisions. Firms can reduce the variability of their cash flows by matching the interest rate exposure of the liabilities to that of their assets (Faulkender 2005). Matching the currencies of cash inflows and outflows reduces the variability of cash flows in a similar fashion<sup>16</sup>.

Both econometric studies (see e.g. Burgman 1996,) and surveys (see Graham and Harvey (2001), Bancel and Mittoo (2002)) show that companies use foreign denominated debt as a natural hedge against foreign currency

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<sup>15</sup> See Kaya (2007) for a comprehensive review of literature about market timing on both equity and debt markets.

<sup>16</sup> Risk management practices in Estonian companies have been investigated by Juhkam (2002, 2004).

devaluation. Risk management practices also explain the choice between short-term and long-term debt (*Ibid*).

### *Human Psychology*

While most of the papers cited above assume rational behaviour on the part of those making financing decisions, the new stream of literature about behavioural finance has cast some serious doubt about human rationality. Bertrand and Schoar (2003) confirmed that the realizations of all investment, financing, and other organizational strategy variables appear to systematically depend on the specific executives in charge. Managerial traits create heterogeneity among otherwise identical firms. More recently, Hackbarth (2007) developed a trade-off model to study the financial policy implications of optimism and overconfidence and reached the conclusion that optimistic and/or overconfident managers choose higher debt levels and issue new debt more often. Similar results were obtained by Ben-David *et al* (2007), and Oliver (2005). Ben-David *et al* (2006) also confirmed that overconfident managers try more aggressively to time the market.

### *Shareholder preferences*

While the classical corporate finance literature pretty much ignores the impact of shareholder preferences on capital structures due to the separation of ownership and control, it plays a vital role in the literature on SMEs and entrepreneurship. Barton and Gordon (1987) argued that financing decisions in SMEs are determined to a large extent by the owners' values, business objectives and aspirations. The survey conducted by Romano *et al* (2000) confirmed the existence of such a relationship. At the same time surveys conducted among CFOs of large corporations showed that investor level aspects (like personal taxes) play a very minor role in financing decisions in those institutions (see Graham and Harvey (2001), Bancel and Mittoo (2002)). Still, as many strategic financing decisions require the acceptance of the board or stockholders' meeting, their willingness to cede control and their risk aversion should influence the financing policy even in large companies.

### *Other factors*

While those listed above constitute a large part of all the forces behind financing decisions, the list is in no way complete. Different aspects of corporate strategy (diversification, innovation policy etc), credit rationing, competitors'

decisions, cash management considerations, national culture, and so on, were not reviewed. It should be noted that the relative importance of capital structure determinants depends on the type of firm (small or large, listed or non-listed, etc) and not all determinants listed above are equally important.

This overview was concentrated on the main forces and principles behind capital structure decisions and specific factors were not taken into consideration. The discussion on specific factors affecting capital structure can be found for example in Frank and Goyal (2003), who listed 39 factors affecting financing decisions.

### **1.3. Links between the studies conducted**

Previous subchapters showed the broad scope and complexity of financing decisions. The current subchapter explains the links between the four studies conducted and included in this dissertation.

First, all the studies investigate the factors that affect financing decisions. Study I covers factors from all three layers depicted in figure 3; that is, it investigates the importance of the fundamental factors (layer I), classical determinants of capital structure (layer II) as well as practical influences (layer III) in making financing decisions. Study II concentrates on the relationship between financial leverage and risk (layer I factor). Study III considers corporate control issues, arising due to the conflict of interest between minority and majority shareholders (layer II factor) and Study IV investigates some tax aspects (layer II factor).

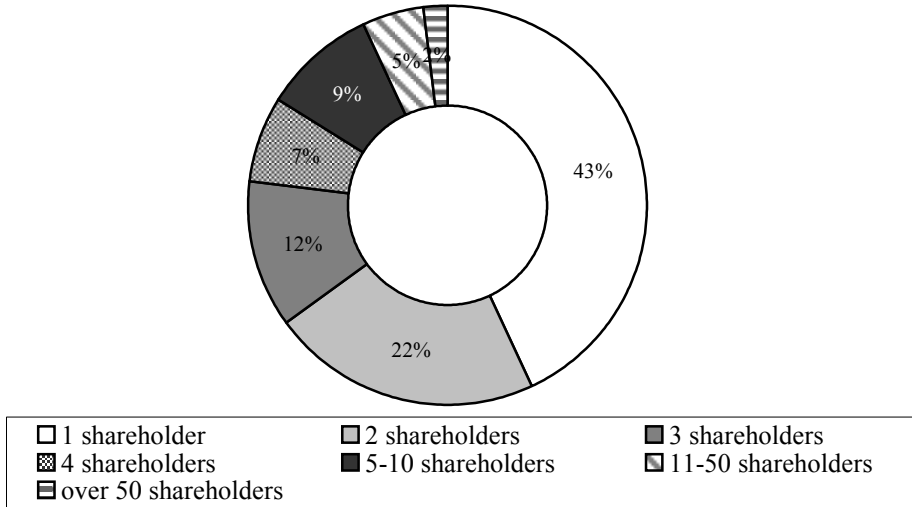
Second, all four studies deal with issues that are important in the Estonian context. Even Study II, which is purely theoretical, was motivated by the views of CFOs in Estonian companies about the relationship between financial leverage and risk. Studies I, III and IV are all based on Estonian data, although they all use different types of data and different research methods. The author believes that in the field of corporate finance the linkage between theory and practice should be very strong. The advances in corporate finance should help financial managers make better decisions. This however, requires that researchers are aware of the state of business practices and the problems faced by practitioners.

There are clearly some differences in business environments in different countries, but are these differences important enough to affect decision making? Are there some universal principles that should be followed? To answer these questions one should also compare business practices in different countries. Both Study I and III deal with these types of questions

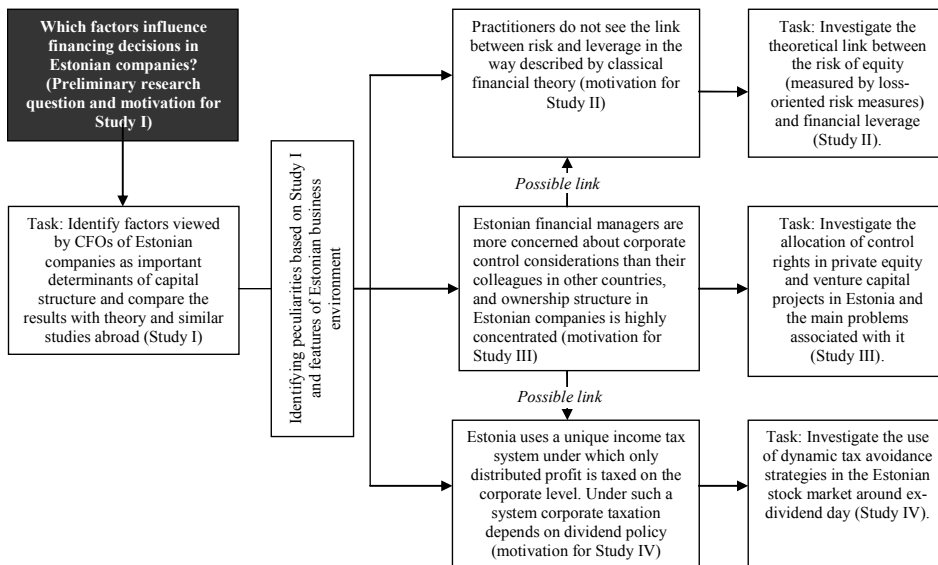
In the Estonian context one particular topic is the impact of our income tax system on investment, financing and dividend decisions. Many theoretical models investigating the link between financing decisions and taxes have incorporated personal level taxes into equations (see e.g. King (1964), Farrar

and Selwyn (1967), Miller (1977)). At the same time CFOs in large American companies do not care much about what impact their financing decisions have on the taxes the investors have to pay (i.e. personal level taxes) (see e.g. Pinegar and Wilbricht 1989). While it is possible that they ignore personal level taxes due to the separation of ownership and control, it is also possible that the reason lies in the fact that investors can effectively change their tax burden via different strategies (see e.g. Miller and Scholes (1978), Stiglitz (1983), Chaplinsky and Seyhun (1990) and Scholes *et al.* (2005)). Study IV investigates the use of one such strategy – the ex-dividend strategy – in the Estonian context.

And last but not the least, in some sense the dissertation is based on the exploratory research approach, and the results of Study I provided the motivation for Studies II–IV. The research started with a single research question: “What are the factors that influence financing decisions in Estonian companies?” This research task was investigated in Study I. In this study, the author uses the survey instrument to shed light on current financing decision practices in Estonian companies. While the surveys, as the research instrument, have several drawbacks (see e.g. Aggarwal 1993), they enable the gathering of information that would otherwise be unavailable. It is also widely acknowledged that survey responses can suggest new avenues for future research (see Baker and Mukherjee 2007). As a fact, Study I revealed several discrepancies between theory and current practice as well as statistically significant differences in the importance of several factors in different countries. Some of these discrepancies were chosen for more thorough analysis (see figure 5). The survey conducted for Study I (see Appendix 1) showed that practitioners see the relationship between financial leverage and risk quite often in a way that contradicts classical financial theory. This motivated us to start studying the theoretical relationship between financial leverage and different loss-oriented risk measures (see Study II). Study I also included questions about the importance of corporate control considerations in making financing decisions. The responses to these questions as well as the existence of high ownership concentration in Estonian companies (see figure 4) motivated us to investigate the problems associated with the allocation of control rights in the venture capital setting (see Study III).



**Figure 4.** Distribution of Estonian public limited companies according to the number of shareholders. *Source:* Estonian Central Registry of Securities Statistics — Investor and Entrepreneur, autumn 2004.



**Figure 5.** The links between the studies included in this dissertation through the formation of research ideas (compiled by the author)

According to the several studies, the interests of minority shareholders are relatively well protected in Estonia (see Pistor *et al* 2000, Pajuste 2002). But those studies only evaluated the formal existence of specific protective regulations in business laws. The enforcement of laws and regulations (effectiveness) in transition countries usually lag behind the quality of law (extensiveness) (Pajuste 2002).

Study I also included questions about the importance of taxes in financing decisions. The results obtained in conjunction with the results of other studies conducted by the author of this dissertation (in particularly Sander (2003, 2005, 2005a), Sander and Trumm (2006)) provided the motivation to start Study IV. In Estonia, the legal status of the investor(s) affects personal level taxes (i.e. there is tax heterogeneity among investors), dividend policy is affected by taxes and owners' wishes (see Sander and Trumm (2006) for survey evidence and Hazak (2007) for a theoretical model of dividend policy under distributed profit based taxation) and corporate dividend policy influences the tax advantage of debt financing in some instances (see Sander 2005). If investors can use dynamic tax-avoidance strategies, their marginal tax rates may be much lower than the statutory tax rates, which may affect the dividend policy of the company (as the dividend policy is under the control of the owners<sup>17</sup>), and this in turn could affect corporate taxes. Such possibilities should be taken into the account when making capital structure decisions. Therefore Study IV investigates whether it is possible to use such strategies in Estonia and whether they are actually used in practice

There are also some direct links between taxation and the distribution of control<sup>18</sup>, taxation and risk<sup>19</sup>, risk and the distribution of control<sup>20</sup>. Those links however, are not the subject of the current thesis.

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<sup>17</sup> There are no mandatory dividends in Estonia, although the proposal to introduce such a system was made by the Ministry of Justice in 2004. The proposal was withdrawn due to heavy opposition from business leaders. The analysis of the potential consequences of such a proposal (including on taxes) can be found in Sander (2005a).

<sup>18</sup> There is an interaction between the income tax system and ownership concentration. Means (1930) and Desai *et al* (2005) argue that progressive income taxation leads to the diffusion of ownership.

<sup>19</sup> Formulas derived in Study II assume that there are no taxes. The impact of the tax system on risk of equity is analyzed in several articles (see Galai (1988), Lund (2002, 2003)).

<sup>20</sup> For example, Cornelli and Yosha (2003) suggest that distribution of control rights between entrepreneurs and private equity investors is often made contingent upon financial risk.

## **2. PUBLICATIONS**







Sander, P (2003)  
Capital Structure Choice in Estonian Companies: A Survey.  
*Management of Organizations: Systematic Research*,  
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Sander, P. (2007)  
Tax Heterogeneity and Trading Volume around Ex-Dividend Day:  
Estonian Evidence.  
Working Paper No. 54,  
Tartu University Press,



## 3. CONCLUSIONS

### 3.1. The main findings

The thesis focuses on financing decisions in companies. The study does not cover all aspects of financing decisions, but instead concentrates on those topics that the author of the thesis thought to be more relevant to Estonian companies due to the distinct characteristics of our business environment or because there is some gap between financial theory and practice. The following topics were studied in the thesis: 1) managerial assessment of factors influencing financing decisions; 2) the relationship between financial leverage and risk of equity measured using downside risk measures; 3) the allocation of control in private equity and venture capital financing deals; 4) the use of dynamic trading strategies around ex-dividend day.

The theoretical literature review revealed that classical determinants of capital structure have received a lot of attention in scientific literature. But surveys among practitioners have found many other potentially important factors influencing financing decisions. Some of these have gained only relatively modest coverage in finance literature. Some aspects of financing decisions are also more thoroughly treated in venture capital or small-firm finance literature.

The current thesis proposed a three layer approach for the investigation of the capital structure determinants. Every financial decision should be directed by the value maximization principle. What impact on value a financing decision has depends on how it affects the return and risk characteristics of equity. While the choice of capital structure affects both of these variables, it has been shown by Miller and Modigliani (1958) that under certain conditions financing decisions have no impact on value. However, in reality those conditions are not fulfilled. Thus, financing decisions impact the value due to market imperfections (existence of taxes, bankruptcy costs, agency costs, transaction costs, the asymmetric distribution of information and unequal access to capital markets) and are influenced by legal regulations, market conditions, credit rating and risk management considerations, shareholder preferences, human psychology and many other factors.

Next a summary of the main results of the four papers comprising the thesis will be presented.

#### **Capital structure choice in Estonian companies: A survey (study I)**

In this study the results of the survey conducted among chief financial officers in large Estonian non-financial companies were analyzed. Based on the results of this survey and comparisons made with similar studies conducted in the United States, the following main conclusions can be drawn:

- The financing preferences of financial executives in large Estonian companies resemble those of their American colleagues. Internal financing is preferred to external financing and if external financing is needed, companies mostly try to rely on straight debt capital (either in the form of bank loans or bond issues).
- Financial managers assess factors directly related to the project to be financed (cash flows from the project, risk and size of the project) as the most important determinants of capital structure.
- The importance of several classical determinants of capital structure (like bankruptcy costs and taxes), on the other hand, turned out to be modest.
- The main financial planning principle is not maximization of market value as one could expect, but instead ensuring the long-term ability of the firm to survive and maintaining financial flexibility and financial independence for the company. Similar results were obtained for listed companies in the United States.
- Estonian financial managers are more cash-flow oriented and care more about bankruptcy costs and corporate control than their American colleagues. They do not care much about maximizing share prices, which is understandable, as most of the sample companies in this survey were not listed. Also, CFOs in Estonian companies are more open to new opportunities and are more willing to use financing sources they have not used before.

**The impact of financial leverage on the risk of equity measured using loss-oriented risk measures: An option pricing approach (study II)**

In this study we investigated how financial leverage influences the risk of equity in companies with limited liability. In our paper, this relationship was examined for the loss-oriented risk measures in the theoretical setting, where the value of the equity was modeled using the price of a call option. The following risk measures were under consideration: Downside Probability, Value at Risk, Expected Failure, Downside Potential and Downside Deviation. The numerical and economic analysis of the mathematical formulas derived allow us to conclude the following:

- A positive relationship exists between all the risk measures listed above and financial leverage if the value of equity is fixed. This result did not depend on whether we calculated risk measures for the rate of return of equity or for the level of equity.
- Some risk measures (specifically Value at Risk, Expected Failure, Downside Potential and Downside Deviation) demonstrated a negative relationship between risk and debt ratio under some specific conditions. This result occurred only when the debt ratio was high and we calculated the risk measure for the level of equity holding the value of assets fixed. Although

such behavior contradicts classical financial theory, it can be explained by the impact of limited liability.

### **The allocation of control rights in financing private companies: Views of Estonian private equity and venture capitalists (study III)**

In this study we carried out structured interviews with the main venture capital and private equity providers in Estonia in order to reveal their views about the allocation of corporate control in private equity and venture capital financing deals and to identify the main problems in this field. The current study enables us to state following:

- Unlike venture capitalists in common law countries, Estonian private equity and venture capitalists use common shares as the primary financing instruments, as do their colleagues in other civil law countries. The use of preferred shares, the most common instrument in venture capital financing in common law countries, is severely hindered by different legal restrictions.
- Estonian private equity and venture capitalists usually take the role of minority shareholders. Therefore, their position in the company is relatively weak unless they protect themselves through explicit allocation of control rights in a financial contract.
- Despite their minority shareholder status, private equity and venture capitalists almost always obtain seats on the supervisory board and sometimes even on the management board. As there are no mandatory dividends in Estonia and no rules forcing the majority shareholder or the company to buy back shares owned by minority shareholders, it is quite difficult for minority shareholders to exit the company at a fair price. Additional clauses and vetoes are needed to strengthen the position of private equity or venture capitalists in the company, and they are indeed often used.

### **Tax heterogeneity and trading volume around ex-dividend day: Estonian evidence (study IV)**

The fourth study focused on the ex-dividend day trading volume in Estonia. The main results are as follows:

- The analysis of Estonian income tax law revealed the existence of tax heterogeneity among investors and sources of income. This heterogeneity creates an opportunity for tax-induced trading mostly between resident and non-resident investors around the ex-dividend day.
- While the relatively high level of average bid-ask spreads (around 4%) could hinder dynamic trading around ex-dividend day, dividends were mostly paid by those listed companies that had stocks listed on the main list and had considerably lower bid-ask spreads. Consequently, the analysis showed that quasi-arbitrage conditions were violated in some cases and trading opportunities existed in practice, too.

- The analysis detected statistically significant abnormal volumes on the cum- and ex-dividend day as well as one day before the cum-dividend and four days after the ex-dividend date. In some cases the increase in trading volume was massive.
- More than half of this trading was carried out in OTC markets without intermediation via brokers. The analysis also confirmed the existence of a learning effect. While these trading opportunities existed already in 2000, the widespread use of dynamic trading around ex-dividend day started a couple of years later.
- The short-term changes in ownership structure during the event window coincide with the forecast movements that resulted from the analysis of the income tax structure in Estonia.

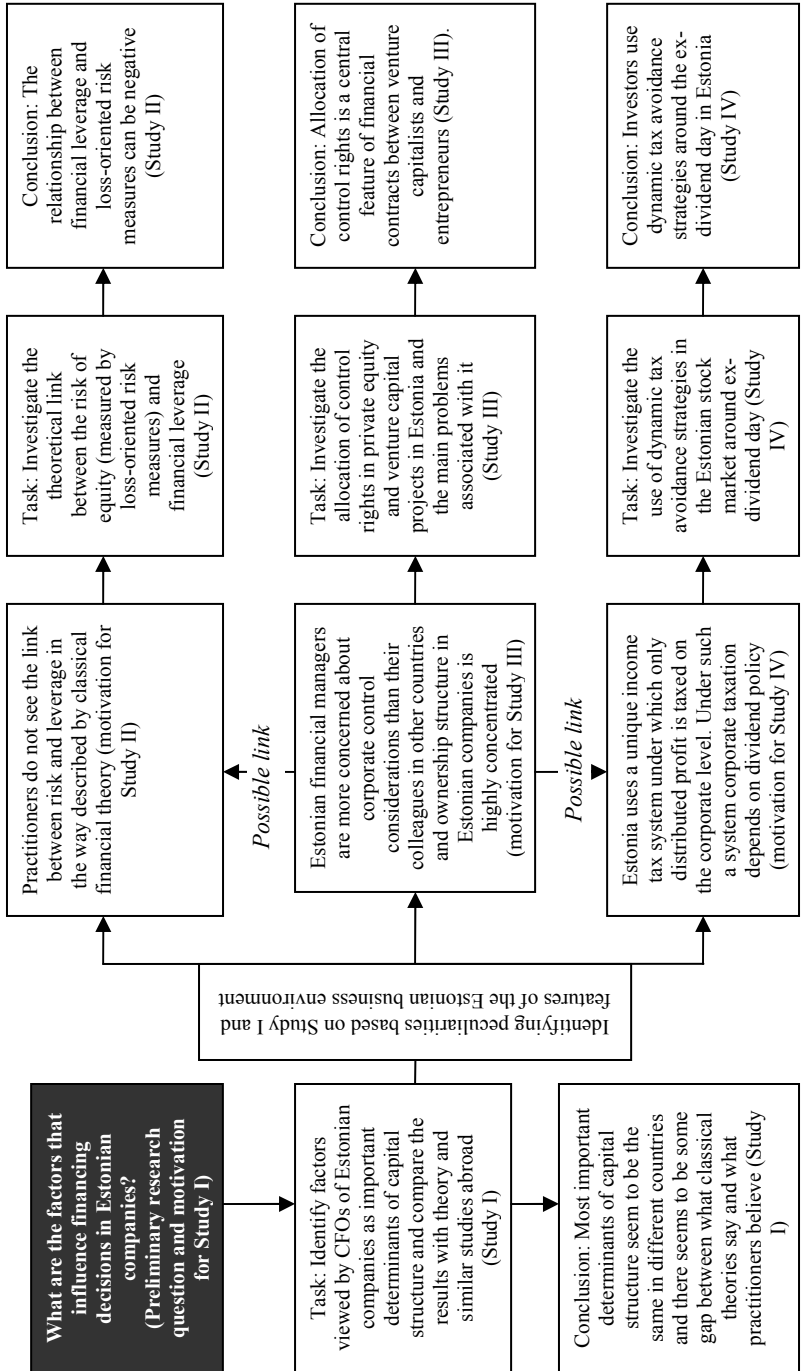
### **3.2. The main implications for decision-makers**

These four studies included in the current dissertation illustrate the broad scope and complexity of financing decisions. The next graph (see figure 6) links the research tasks with the main conclusions of this dissertation.

The current study showed that while there are some differences, the most important determinants of capital structure seem to be the same in different countries and that practitioners quite often rely on factors that have not been studied very thoroughly (or at least not studied enough) by academicians.

We were also able to confirm that under certain conditions the relationship between specific measures of risk of equity and leverage could be negative. In accordance with the information at the author's disposal, this is the first time someone has mathematically shown the possibility of a negative relationship between financial leverage and risk. Whether it is reasonable to view the risk in such a way, is another question, but the survey conducted for study I indicated that in some cases practitioners actually see risk to be negatively related to leverage. This indicates that decision-makers should put more emphasis on the size of the maximum total loss and also use more loss-oriented risk measures when analyzing projects.

Interviews with Estonian private equity and venture capitalists confirmed that the allocation of control rights is a central feature of financial contracts between venture capitalists and entrepreneurs in Estonia. The importance of the distribution of control rights would diminish if the legal system could effectively offer more protection of the rights of minority shareholders.



**Figure 6.** Research tasks and the main conclusions of the dissertation (compiled by the author)

The importance of control issues in corporate and venture capital financing also implies that current legislation *per se* could be improved to provide more protection for minority shareholders.

The current study also confirmed that investors use dynamic tax avoidance strategies around the ex-dividend day in Estonia. CFOs and other decision-makers in companies should keep this result in mind when analyzing or developing dividend or financing policy for the company. In countries where such strategies can be used, one cannot just rely on statutory tax rates when analyzing the tax shield of debt financing, but should also take into account the effect of tax-reducing dynamic trading strategies. For legislators, this analysis shows that there are still aspects in our tax laws that could be improved and despite the efforts already made some tax heterogeneity among investors still exists.

As the current study dealt only with some very specific aspects of financing decisions, there is still ample room for future research in this field.

### **3.3. Suggestions for future research**

In this section suggestions for future research will be given on three levels. First, possible methods for elaborating the four topics considered in the current dissertation will be discussed. Second, the author's own views about what is important to investigate concerning capital structure and financing decisions in the Estonian context in the future will be presented. This part also refers to some works in progress. Third, some broader views about future research directions in this field will be discussed based on recent suggestions found in literature and the author's own opinion.

In order to obtain a more comprehensive picture of the factors that influence financing decisions in Estonian companies one could expand the sample to also include small companies or use a combination of different research methods (econometric analysis of financial data, surveys, field studies) on the same sample. It is also possible to enlarge the sample to include companies from other Baltic States or CEE countries. The current study concentrated on large Estonian companies and used a survey instrument. Secondly, as many financing decisions are made at the board level or even require acceptance from the general shareholders meeting, an interesting research perspective would be to compare the views of CFOs with the views of members of the board.

We did not consider downside beta while studying the impact of financial leverage on risk of equity. Although, the use of downside beta is not as widespread as Value at Risk, several scientists advocate its use (see e.g. Estrada 2000, 2004, 2006, Ang *et al* 2006). Therefore, one obvious way to elaborate the research about the relationship between risk and leverage is to develop mathematical formulas linking financial leverage and downside beta.

The relationship between ownership structure and financing decisions in Estonian companies is largely unexplored territory. As the current study concentrated on the views of Estonian private equity and venture capitalists, an obvious way to elaborate this stream of research would be to conduct similar studies among entrepreneurs. As the number of entrepreneurs is much higher, this would allow researchers to use survey instruments and thus to obtain enough data to also conduct a statistical analysis of the results.

The relationship between dividend policy, ownership structure and financing decisions is an intriguing topic in Estonia. The current study concentrated on a very specific aspect, namely the use of tax induced trading around ex-dividend day. The available dataset had some limitations and with a better dataset one could also investigate the impact that corporate level taxes might have had on trading patterns around ex-dividend day during 2000–2002 and the impact of the wash-sale rules introduced in 2006.

Although there are many research questions that have a practical importance for managers in Estonian companies, the author believes that one of the most important issues is the impact of the Estonian income tax system on corporate investment, financing and dividend decisions. In particular, the interdependence between capital structure, ownership structure and dividend policy needs to be investigated. While the first steps in this direction have been made (see Sander, 2005), the research effort should be directed towards the application of a more general approach that would lead to some explicit and practical recommendations for companies. Also the curricula of corporate finance courses at universities and business schools in Estonia would benefit if instead of or in addition to the impact of a classical tax system on capital structure and cost of capital, the impact of a distributed profit taxation system would also be covered based on the results of scientific research. Such analysis could also cover the potential changes in income tax law that will probably take place in the coming years.

Future research in the area of corporate and venture capital financing in general has many possible directions. In fact, most of the factors listed in section 1.2.3 of this dissertation deserve much deeper investigation as their importance for decision-making process has been confirmed by surveys among financial managers, but their theoretical underpinning is still relatively weak and the link with the existing capital structure theories largely unexplored. But there is also much work to be done in studying the classical determinants of capital structure. For example, Graham (2003) has listed numerous tax issues (incl. capital structure and payout policy comparison between classical and other tax regimes, impact of personal level taxes on asset prices, etc) worthwhile investigating.

The most ambitious challenge would be the development of a unifying model capable of simultaneously accounting for the main stylized facts about

capital structure (Frank and Goyal 2005). Existing capital structure theories are not designed to be general; they are conditional theories of capital structure (Myers 2001). As such, these theories are not suitable for developing specific financing policies for actual companies. At this stage of development, very little of the theory in finance is intended as advice for CFOs (Frank and Goyal 2005). The author of this dissertation is convinced that the need for such theories as well as for additional research dealing with specific topics that are important in the Estonian legal and economic environment clearly exists.



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## APPENDICES

### Appendix 1. Questionnaire for the survey about interest rate risk and capital structure management in Estonian large non-financial firms (Study I)

#### Intressiriski ja kapitalstruktuuri juhtimine Eesti mittefinantsettevõtetes: Empiiriline analüüs

#### Ankeet-küsimustik

#### Sisukord

|  |   |
|--|---|
| A. Intressiriskile avatuse hindamine           | 3 |
| B. Intressiriskile avatuse maandamine          | 5 |
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Ettevõtte nimi: \_\_\_\_\_

#### Intressiriski (intressimäära muutuse mõju ettevõttele) mõõtmine

**1. Palun märkida, kas Teie ettevõtte on mõõtnud ajavahemikul 1998–2000 intressiriski mõju ettevõttele (intressimäära muutuse mõju ettevõttele ja uutele investeerimisprojektidele).**

- a) PIDEVALT
- b) MÕNIKORD
- c) EI

**2. Kui Te ei mõõtnud intressiriskile avatust, siis palun märkida põhjus(ed).**

- a) Riski ei pea oluliseks, sest laenukapitali kasutame ja turul kaubeldavatesse võlakirjadesse ja võlakirjafondidesse investeerime harva ja vähe:  
JAH EI
- b) Intressiriskil ei ole mõju ettevõtte toodete ja teenuste nõudlusele:  
JAH EI

- c) Intressiriski juhtimisega tegeleb ettevõtte emaettevõtte tsentraliseeritult:  
JAH EI

**3. Palun märkida, kas mõõtsite (1998–2000) arvestuslikku kahjumit intressimäära muutuse tõttu, mis tekib turul kaubeldavate võlakirjade või võlakirjafondi osakute väärtuse ümberhindlusest ettevõtte raamatupidamises.**

JAH EI

**3". Kui vastasite jaatavalt punktis 3, siis palun märkida meetodid, mida kasutate nimetatud kahjumi (riski) hindamiseks.**

- a) Stsenaariumi analüüsi (Selgitus: hinnatakse intressimäära 1 protsendipunktilise muutuse mõju ettevõtte poolt omatavate võlakirjade või võlakirjafondi osakute hinnale ning seeläbi arvestuslikule kahjumile)  
JAH EI
- b) Stressitesti (Selgitus: hinnatakse äärmuslike intressimäära muutuste mõju ettevõtte poolt omatavate võlakirjade või võlakirjafondi osakute hinnale ning seeläbi ettevõtte arvestuslikule kahjumile)  
JAH EI
- c) Kestuse (*duration*) ehk intressitundlikkuse meetodit  
JAH EI
- d) VAR-meetodit (Selgitus: meetod mõõdab maksimaalset kahjumit intressimäära muutusest kindla perioodi jooksul teatud statistilise tõenäosusega)  
JAH EI
- e) Kui mõnda teist meetodit, siis palun märkida, millist  
.....

**4. Palun märkida, millise näitaja valisite intressimäära muutuse mõju mõõtmise aluseks.**

- a) Mõju intressikuludele ja seeläbi ettevõtte kasumile
- b) Mõju ettevõtte realiseerimise netokäibe
- c) Mõju EBITDA-le (ettevõtte kasum enne intressimakseid, makse, amortisatsiooni ja allahindlusi)
- d) Mõju ettevõtte aktsia (või omakapitali) väärtusele või tulususele
- e) Kui mõnele teisele näitajale, siis palun märkida, millisele  
.....

**4". Kui vastasite jaatavalt punktis 4 toodud küsimusele, siis milliseid meetodeid kasutasite nimetatud näitajale intressiriski mõju hindamiseks.**

- a) Stsenaariumi analüüsi (Selgitus: näiteks hinnatakse intressimäära 1 protsendipunktilise muutuse mõju ettevõtte intressikuludele ja kasumile)  
JAH EI

- b) Stressitesti (Selgitus: näiteks hinnatakse äärmuslike intressimäära muutuste mõju ettevõtte intressikuludele ja kasumile)  
JAH EI
- c) Regressioonanalüüsi (Selle alusel hinnatakse ajalooliste andmete põhjal intressimäära muutuse mõju ülalloetletud näitajatele, näiteks aktsia tulususele)  
JAH EI
- d) VAR- (*value at risk*) meetodit (Selgitus: meetod mõõdab maksimaalset kahjumit intressimäära muutusest kindla perioodi jooksul teatud statistilise tõenäosusega)  
JAH EI
- e) Kui kasutate mõnda teist meetodit, siis palun märkida, millist  
.....

**5. Kui tihti informeeritakse ettevõtte juhatust ettevõtte intressiriskist ehk intressimäära muutuse võimalikust mõjust ettevõttele?**

- a) Vähemalt iga päev
- b) Vähemalt korra nädalas
- c) Vähemalt korra kuus
- d) Vähemalt korra kvartalis
- e) Vähemalt korra aastas

**B. Intressiriski (intressimäära muutuse mõju) maandamine**

**6. Palun märkida, kas Teie ettevõtte on maandanud intressiriski perioodil 1998–2000.**

- a) PIDEVALT
- b) MÕNIKORD
- c) EI

**7. Kui Teie ettevõtte maandas intressiriski, siis palun märkida, kuidas.**

- a) Valikuliselt, vastavalt ootustele intressimäärade muutuse suhtes
- b) Vastavalt kindlale reeglile/korrale

**8. Kui Teie ettevõtte maandas intressiriski, siis milline on olnud riski maandamise ulatus.**

- a) On maandanud kogu intressiriski
- b) On maandanud enamuse intressiriskist
- c) On maandanud riski vaid vähesel määral

**9. Palun märkida, millisele näitajale intressiriski mõju maandasite.**

- a) Intressikulutustele
- b) Puhaskasumile

- c) Ettevõtte aktsia tulususele või hinnale turul
- d) EBITDA-le (ettevõtte kasum enne intressimakseid, makse, amortisatsiooni ja allahindlusi)
- e) Omandatud võlakirjade või võlakirjafondi osaku väärtusele

**10. Milliseid intressimäära tuletisinstrumente olete kasutanud intressiriski maandamiseks perioodil 1998–2000?**

- a) Intressimäära swappe  
(Selgitus: leping, millega vahetatakse fikseeritud intressimäär ujuva intressimäära vastu või vastupidi)  
JAH EI
- b) FRA-d (intressimäära *forward*-lepinguid)  
(Selgitus: leping, millega fikseeritakse intressimäär tulevaseks laenu- või investeerimisperioodiks)  
JAH EI
- c) Intressimäära optsoone  
(Selgitus: optsoon intressimäärale, näiteks *cap*'i puhul fikseeritakse intressitaseme ülempiir ja *floor*'i puhul intressitaseme alampiir)  
JAH EI
- d) Teisi intressimäära tuletisinstrumente  
JAH EI

**11. Kas kasutate intressiriski maandamiseks tihti tuletisinstrumente?**

JAH EI

**12. Kui Teie ettevõtte ei ole kasutanud (või on kasutanud väga harva) aja- vahemikul 1998–2000 intressiriski maandamiseks tuletisinstrumente, siis palun märkida selle põhjuste suhteline tähtsus (skaala 1–5, kusjuures 1 – ebaoluline, 5 – väga oluline) ja vajadusel põhjus (e – h)?**

- a) Intressirisk ei ole ettevõtte jaoks oluline  
1 2 3 4 5
- b) Instrumendid on kallid  
1 2 3 4 5
- d) Instrumentide mahud on liiga suured ja seetõttu tehinguks kättesaamatud  
1 2 3 4 5
- d) Vaja oleks täiendavaid teadmisi ja kogemusi intressiriski tuletisinstrumentide kasutamise vallas  
1 2 3 4 5
- e) Ettevõttes on keelatud intressiriski tuletisinstrumentide kasutamine  
JAH EI
- f) Intressiriski tuletisinstrumentidega tegeleb vaid välismaine emaettevõtte  
JAH EI

- g) Eelistame kasutada ettevõttesiseseid intressiriski maandamise meetodeid (vt järgmist küsimust)  
JAH EI
- h) Kui on muu põhjus, siis palun märkida
- .....
- .....
- .....

**13. Milliseid ettevõttesiseseid meetodid olete kasutanud (1998–2000) intressiriski maandamiseks?**

- a) Laenukapitali osakaalu vähendamine ja selle võrra omakapitali osakaalu suurendamine ettevõtte finantseerimises  
JAH EI
- b) Ettevõtte uusinvesteeringutest ja põhitegevusest tuleneva rahavoo ja võõrkapitali tagastamise ajaline koordineerimine (Selgitus: näiteks 3-aastase tasuvusajaga investeering finantseeritakse 3-aastase tähtajaga ja fikseeritud intressiga laenukapitali arvel)  
JAH EI
- c) Ettevõtte intressitundlike varade (lühiajalised intressikandvad nõuded, ujuva intressimääraga nõuded) ja ettevõtte intressitundlike kohustuste (lühiajalised kohustused, ujuva intressimääraga kohustused) vahet vähendatakse või nullitakse.  
JAH EI

**14. Kui Teie ettevõtte ei ole kasutanud uuritava ajavahemikul ettevõttesiseseid riskimaandamise meetodeid, siis palun märkida põhjus.**

- a) Intressiriski maandamiseks eelistame kasutada intressimäära tuletisinstrumente
- b) Vaja oleks täiendavaid teadmisi ja kogemusi ettevõttesiseste meetodite kasutamise vallas

**15. Kas olete kasutanud teiste riskide (valuutarisk, aktsiarisk, kaubarisk) maandamiseks ajavahemikul 1998–2000 järgmisi tuletisinstrumente?**

- a) Optsioone
- b) Forvardeid
- c) Swappe
- d) Futuure

**16. Palun märkida, kas intressiriski juhtimine oli ajavahemikul 1998–2000 Teie ettevõtte kontsernis tsentraliseeritud (selgitus: vastustus intressiriski juhtimise eest lasub ettevõtte keskusel, mitte igal Teie tütarettevõttel eraldi).**

JAH EI

**17. Palun märkida, kes vastutas (1998–2000) intressiriski juhtimise eest Teie ettevõttes.**

- a) Juhatusesimees
- b) Finantsdirektor
- c) Riskijuht (selleks eraldi palgatud)
- d) Raamatupidaja
- e) Kui keegi teine siis märkida, kes .....

**18. Kas ettevõttes oli (1998–2000) intressiriski juhtimise poliitika kirjalikult vormistatud ning pädeva juhtorgani poolt vastu võetud?**

JAH EI

**19. Kas ettevõttes oli ajavahemikul 1998–2000 tööl riskijuht (tegeleb riskide hindamise ja maandamisega)?**

JAH EI

**20. Kas ettevõttes oli ajavahemikul 1998–2000 kehtestatud intressiriski limiit, millest suuremat intressiriski ei tohi ettevõtte võtta? (Selgitus: näiteks kui intressimäärad või intressikulud tõusevad teatud tasemele, siis ettevõtte peab intressiriski maandama.)**

JAH EI

### **C. Intressiriskile avatuse maandamise motiivid**

**21. Palun määrake järgmiste intressiriski maandamise põhjuste suhteline tähtsus Teie ettevõtte jaoks. (Skaala 1–5: kusjuures 1 – ebaoluline, 5 – väga oluline.)**

a) Vähendada tõenäosust, et ettevõtte ei ole võimeline toime tulema oma laenude, sh. riski tõttu kasvavate intressimaksete teenindamisega. Seega vähendada makseraskustesse sattumise tõenäosust. Intressiriski maandamise tulemusena suureneks ettevõtte laenude kaasamise suutlikkus, sest väheneks oht sattuda makseraskustesse kreditoride ees. (Selgitus: tõusvad intressimäärad vähendaksid ettevõtte suutlikkust investeerida uutesse projektidesse ja tootearendusse, pärsiks ettevõtte tegevuspaindlikkust oma toote või teenuste hindade langetamisel, jne...)

1 2 3 4 5

b) Vähendada ettevõtteväliste finantseerimisallikate (uue aktsia emissioon, uued laenud, uus võlakirjaemissioon) kasutamist uute investeeringute finantseerimisel. (Selgitus: kindlustamaks kasulike investeerimisvõimaluste finantseerimine ettevõttesisestest allikatest (ettevõtte poolt loodava raha arvelt) ehk kordineerida ettevõtte poolt loodavat rahavoogu uute investeeringute rahavooga)

1 2 3 4 5

c) Kindlustada ettevõtte kasumi stabiilsus ja teostatavate investeerimisprojek-  
tide tasuvus. (Selgitus: vähendades intressimäära riski, oleks võimalik stabili-  
seerida ettevõtte puhaskasumit ja seni teostamisel olevate investeeringute  
tasuvust.)

1 2 3 4 5

d) Kindlustada stabiilsete dividendide maksmine omanikele. (Selgitus: kui  
intressimäära tõusu tõttu suureneb liigselt ettevõtte intressikoormus, siis seab  
see ohtu ettevõtte senise stabiilse dividendipoliitika jätkamise)

1 2 3 4 5

**22. Kas Te leiate, et Teie ettevõtte jaoks oleks vaja rohkem intressiriski  
juhtimise alast informatsiooni ja teadmisi?**

JAH EI

#### **D. Muud küsimused:**

**23. Palun märkida Teie ettevõtte tegutsemise aeg 2000. aasta lõpuni.**

- a) 0–5 aastat
- b) 6–10 aastat
- c) 11–15 aastat
- d) 16–... aastat

**24. Palun märkida ettevõtte dividendimakse suurus aktsia kohta järgmiste  
majandusaastate eest (kui Teil on toimunud fondiemissioon, siis palun seda  
mitte arvestada).**

1995: \_\_\_\_\_  
1996: \_\_\_\_\_  
1997: \_\_\_\_\_  
1998: \_\_\_\_\_  
1999: \_\_\_\_\_  
2000: \_\_\_\_\_

**25. Palun märkida, kui palju oli Teie ettevõtte poolt kasutatavaid  
sõiduautosid 2000. aasta lõpu seisuga.**

- a) 1–10
- b) 11–20
- c) 21–30
- d) 31–40
- e) 41–50
- f) 51 ja enam

**26. Kui palju on ettevõtte juhatuse poolt omatavaid aktsiaid aktsiakapitalist 2000. aasta lõpu seisuga?**

- a) 0%
- b) 1–20%
- c) 21–50%
- d) 51% ja enam

**27. Kas Teie ettevõttes on ajavahemikul 1998–2000 tehtud riskijuhtimise (sh intressiriski) efektiivsuse kontrolli?**

- a) Välisaudiitori poolt: JAH EI
- b) Sisekontrolli(siseaudiitori) poolt: JAH EI

### **E. Ettevõtte kapitalistruktuuri juhtimine**

**28. Oletame, et eksisteerib võimalus paigutada 4 mln EEK riskantsesse, kuid tasuvasse äriprojekti. Projekti elluviimiseks luuakse uus piiratud vastutusega äriühing (nt AS). Millist allpooltoodud finantseerimisskeemi peate aktsionäride jaoks riskantsemaks?**

- a) Aktsionärid paigutavad ettevõttesse aktsiakapitalina kogu vajamineva summa (4 mln EEK)
- b) Aktsionärid paigutavad ettevõttesse aktsiakapitalina üksnes osa vajaminevast kapitalist (nt 0.8 mln) ning ülejäänud summa (3.2 mln) hangitakse laenuandjatelt

**29. Kui olete langetanud põhimõttelise otsuse kasutada mõne investeerimisprojekti finantseerimisel nii laenu- kui ka omakapitali, siis mida eelistate.**

- a) Hankida laenukapitali nii palju kui võimalik
- b) Hankida laenukapitali mitte rohkem kui hädavajalik
- c) Hoida kindlat laenu- ja omakapitali suhet

**30. Mida eelistate pikaajalise laenukapitali hankimisel muudel võrdsetel tingimustel?**

- d) Muutuva intressimääraga laenu
- e) Fikseeritud intressimääraga laenu

**31. Järjestage järgmised pikaajalise finantseerimise allikad vastavalt oma eelistustele (1 – esimene valik, 8 – viimane valik).**

- a) Ettevõttesiseselt genereeritud vahendid (jaotamata kasum jms) (...)
- b) Eelisaktsiate emissioon (...)
- c) Võlakirjade emissioon (...)
- d) Pangalaenu (...)
- e) Vahetusvõlakirjade emissioon (...)



- f) Lihtaktsiate avalik emissioon (....)
- g) Lihtaktsiate suunatud emissioon (senised aktsionärid) (....)
- h) Lihtaktsiate suunatud emissioon (strateegilised partnerid) (....)

**32. Palun märkida Teie ettevõtte poolt teostatavate uute investeringute finantseerimisallika eelistus.**

- a) Ettevõtte tegevuse poolt loodav raha (sisemised finantseerimisallikad)
- b) Uute laenude kaasamine, aktsiate või võlakirjade emiteerimine (välised finantseerimisallikad)

**33. Palun määrake järgmiste tegurite suhteline tähtsus uue investeerimisprojekti finantseerimisallika valikul (skaala 1–5, kusjuures 1 – ebaoluline ja 5 – väga oluline).**

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| Oodatav inflatsioon  | 1 | 2 | 3 | 4 | 5 |
| Oodatavad rahavood finantseeritavast projektist            | 1 | 2 | 3 | 4 | 5 |
| Finantseeritava projekti riskantsus                        | 1 | 2 | 3 | 4 | 5 |
| Finantseeritava projekti maksumus                          | 1 | 2 | 3 | 4 | 5 |
| Riigi maksupoliitika (dividendide maksustamine jms)        | 1 | 2 | 3 | 4 | 5 |
| Amortisatsiooni suurus                                     | 1 | 2 | 3 | 4 | 5 |
| Firma kasvuvõime   | 1 | 2 | 3 | 4 | 5 |
| Ettevõtte võimaliku pankrotistumisega seotud kulud         | 1 | 2 | 3 | 4 | 5 |
| Aktsiate kontrollpaki säilitamine senistele aktsionäridele | 1 | 2 | 3 | 4 | 5 |
| Aktsionäridele kuuluva tuluosa vähendamisest hoidumine     | 1 | 2 | 3 | 4 | 5 |

**34. Palun määrake järgmiste finantsplaneerimisprintsipiide suhteline tähtsus finantseerimisallika valikul (skaala 1–5, kusjuures 1 – ebaoluline ja 5 – väga oluline).**

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| Finantsilise paindlikkuse säilitamine           | 1 | 2 | 3 | 4 | 5 |
| Finantsilise iseseisvuse säilitamine            | 1 | 2 | 3 | 4 | 5 |
| Ettevõtte lihtaktsiate hinna maksimeerimine     | 1 | 2 | 3 | 4 | 5 |
| Varem kasutatud allikate eelistamine            | 1 | 2 | 3 | 4 | 5 |
| Ettevõtte pikaajalise ellujäämise kindlustamine | 1 | 2 | 3 | 4 | 5 |
| Konkurentide finantsotsuste arvestamine         | 1 | 2 | 3 | 4 | 5 |

## Appendix 2. Protocol Questions for the study III

The main themes were divided into five different parts: 1) general information, 2) deal structuring, 3) cost of venture capital, 4) corporate governance and investor protection, and 5) valuation of venture capital projects.

Sources of Data:

- Organizational chart
- Web pages
- Fund managers

Part 1. General information

- Who are the founders of the fund?
- How many funds do you manage?
- Which sectors do you invest in?
- How many portfolio companies do you have? Which?
- How long is the investment period?
- What is the minimum and maximum capital amount you invest?
- How long is your investment horizon? Why?

Part 2. Venture capital deal structuring

- Do you use syndication? Why?
- Which financial instruments do you use in providing money? Why?
- Which stages do you finance? Why?
- Do you take majority or minority ownership? Why?
- Is dilution a problem to you? Why?

Part 3. Cost of venture capital

- How do you find the cost of venture capital? Why?
- How big is your average required rate of return?
- Do you take into account non-systematic risk? Why?
- Do you take into account systematic risk? Why?

Part 4. Corporate governance and investor protection

- How do you protect your shareholding? Why?
- Do you have any problems with commercial legislation? Which?
- Do you have any problems in using financial instruments according the Estonian Business Code? Which?
- Are there any problems at the board level? Which?

## Part 5. Valuation of venture capital projects

- How do you make the valuation of venture capital projects? Why?
- Who makes the financial forecasts?
- Are there any heterogeneous expectations?
- Do you use the real option method?

## SUMMARY IN ESTONIAN

### UURIMUSI ETTEVÕTETE FINANTSEERIMISOTSUSEID MÕJUTAVATEST TEGURITEST: RISKI-, KONTROLI- JA MAKSUASPEKTID

#### Töö aktuaalsus

Nii mitmedki rahandusteadlased on seisukohal, et investeerimisotsused on väärtusloome seisukohalt tunduvalt olulisemad kui finantseerimisotsused. Dissertatsiooni autor jagab täielikult nende seisukohta, kuid see ei tähenda, et ettevõtete finantseerimisotsuseid pole mõtet uurida. Copeland jt (2005, lk 558) väitsid “See, kas on olemas optimaalne kapitali struktuur, on üks olulisemaid teemasid ettevõtte rahanduses – ning üks kõige komplekssemaid”. Hoolimata väga intensiivsest uurimistööst antud valdkonnas viimase 50 aasta jooksul ning suurest hulgast uurimustest puudub siiani üldine kapitali struktuuri valiku teooria ning isegi kui selline teooria kunagi loodaks, on eri riikide majanduskeskkonna erisuste tõttu vaja uurida seda teemat igas riigis eraldi.

Kuigi enamik empiirilisi uurimusi selles valdkonnas on tehtud arenenud riikide andmetele tuginedes (Prasad *et al* 2001), on hoogustunud vastavad uurimistööd ka arenevates ja üleminekumajandusega riikides. Eesti andmestik on lülitatud mitmete rahvusvaheliste empiiriliste uurimuste koosseisu (vt nt Haas ja Peeters (2004), Nivorozhkin (2005), Jõeveer (2006)). Kuigi sellised riigiüleised regressioonanalüüsid on vägagi sobivad hindamiseks makroökonomiliste ja institutsionaalsete tegurite mõju ettevõtete kapitali struktuurile, ei võimalda nad täielikult peegeldada praktikas esinevat mitmekesisust (vt Beattie *et al* 2006). Uurimuste hulk, mis analüüsiksid süvitsi kapitali struktuuri valikut Eesti ettevõtetes, on endiselt vägagi piiratud.

Kuid peale kõrgetasemeliste teadusuuringute vähesuse on teinegi põhjus, miks uurida Eesti ettevõtete poolt langetatavaid finantseerimisotsuseid – see on Eesti unikaalne tulumaksusüsteem. 1994. aastal asendati Eestis progresseeruv tulumaksusüsteem proportsionaalse tulumaksusüsteemiga. See oli järgmise ning veelgi radikaalsema maksureformi eeltingimus. 2000. aastal asendati kasumi-põhine ettevõtete tulumaks jaotatud kasumi põhise maksustamisega. Selle maksureformi makroökonomilist mõju on analüüsitud mitmetes teadusuuringustes (nt Funke (2002), Funke ja Strulik (2003), Staehr (2005)), tõsiselt uurimist väärib aga ka tema mõju ettevõtetetasandi otsustele. Nii mitmedki klassikalised valemid ja soovitusel, mida võib leida rahandusõpikutest, ei pruugi olla sobilikud Eesti maksukeskkonnas ning nende kasutamine võib viia ebasoovitavate otsuste langetamiseni. Teaduslikud uurimised jaotatud kasumi maksustamisel põhineva süsteemi mõjust ettevõtete investeerimis-, dividendi- ja finantsee-

rimispoliitikale võimaldaksid langetada ettevõtetes paremaid otsuseid ning aitaksid ka seadusandjatel kujundada uusi maksuseadusi.

Eesti maksusüsteemile iseloomulike joonte tõttu on autori arvates tihedad seosed ettevõtete finantseerimisotsuste, dividendipoliitika ja omanike struktuuri vahel. Seega ei tohiks kapitali struktuuri alased uurimused Eestis ignoreerida dividendipoliitika ja omanikestruktuuri mõjutusi. Seetõttu on käesolevasse dissertatsiooni lülitatud ka uurimusi, mille seos finantseerimisotsustega võib esmapilgul tunduda nõrgavõitu, kuid mis Eesti tulumaksusüsteemi valguses on sellega siiski tihedalt seotud.

Eesti majanduskeskkonnal on veel teisigi iseloomulikke jooni: valuutakomitee süsteemil põhinev fikseeritud vahetuskurss, pankade suur roll majanduses, suur välisinvestorite osakaal, kontsentreeritud omanikestruktuur jne. Kõik ülaltoodu motiveeriski autorit uurima finantseerimisotsuseid mõjutavaid tegureid.

## **Uurimuse eesmärk ja ülesanded**

Doktoritöö eesmärgiks kõige laiemas mõttes on uurida finantseerimisotsuste langetamist ettevõtetes. Käesolevas dissertatsioonis keskendutakse eelkõige sellistele teemadele, mis autori arvates on olulisemad Eesti ettevõtetele kas meie majanduskeskkonna iseloomulike aspektide tõttu (nt unikaalne tulumaksuseadus, kontsentreeritud omanikestruktuur) või mille puhul klassikalise finants-teooria seisukohad ja igapäevane majanduspraktika on mõnevõrra erinevad. Kuigi empiirilised uurimused on tehtud tuginedes peamiselt Eesti andmetele, on uurimuste sihiks anda oma panus finantsalasesse teaduskirjandusse laiemalt.

Dissertatsiooni aluseks oleva nelja artikli poolt täidetavad uurimisülesanded on järgmised.

*Esimene uurimisülesanne* on välja selgitada, milliseid tegureid peavad Eesti suurettevõtete finantsjuhid olulisteks finantseerimisotsuste tegemisel (uurimus I).

*Teine uurimisülesanne* on välja selgitada finantsvõimenduse ning oma-kapitali riskitaseme seos omanike piiratud vastutuse korral (uurimus II).

*Kolmas uurimisülesanne* on uurida kontrolliõiguste jaotust Eesti riski- ja erakapitali pakkuvate ettevõtete poolt finantseeritavates projektides (uurimus III).

*Neljas uurimisülesanne* on välja selgitada, kas investorid kasutavad Eesti aktsiaturul dünaamilisi kauplemisstrateegiaid dividendiõiguseta aktsiatega kauplemise päeva ümbritseval ajaperioodil maksukoormuse vähendamiseks (IV uurimus).

## Doktoritöö teoreetiline taust

Kõige laiemas mõttes tugineb dissertatsioon ettevõtte rahanduses hetkel valitsevale paradigmale, mille kohaselt peaksid kõik (finants)otsused olema suunatud ettevõtte väärtuse maksimeerimisele. Ettevõtte väärtus sõltub tema poolt tulevikus loodavate rahavoogude suurusest, ajastatusest ja riskitasemest. Rahavoogude riskitase leiab kajastust kasutatavas diskonteerimismääras (st kapitali hinnas) ning ajastatus võetakse arvesse rahavoogude diskonteerimisprotsessis. Rahavoogude suurus ja kapitali hind on olulisel määral mõjutatavad ettevõtte finantsjuhtimises langetatavate otsuste poolt. Tüüpiliselt eristatakse kolme otsustegrupi: investeerimisotsused, finantseerimisotsused ja kasumijaotusotsused<sup>21</sup> (Damodaran 2001).

Rahandusteoorias on neid otsuseid vaadeldud tüüpiliselt eraldiseisvatena, kuid praktikas on nad sageli üksteisega tihedalt seotud. Finantseerimisotsused, mis on käesoleva dissertatsiooni uurimisobjektiks, peavad tagama ettevõtte poolt planeeritavate investeeringute ja igapäevase äritegevuse piisava rahastamise võimalikult odava hinnaga. Finantseerimisotsuste sisuks on eri liiki finantseerimisallikate valik, kontrolliõiguse jaotusega seonduvate küsimuste lahendamine, väärtipaberiemissioonide ajastamine, kaasatava kapitali tähtja ja ning valuuta valik jms. Just kapitali struktuuri kujundamine ehk erinevate finantseerimisallikate (eelkõige oma- ja laenukapitali) valik on rahanduses üheks uuritumaks valdkonnaks. Kapitali struktuuri teooriad annavad pildi teguritest, mis mõjutavad (või peaksid mõjutama) eelkõige valikut oma- ja laenukapitali vahel, kuid avaldavad mõju ka finantseerimisotsuse teistele aspektidele.

Käesolevas dissertatsioonis jaotati need tegurid kolme gruppi: fundamentaalsed, klassikalised (siia alla kuuluvad peamiselt turu ebatäiuslikkuse ilmingud) ning praktilised. Investeeringu väärtus sõltub esmajoones kahest rahandusnäitajast – tulususest ja riskist. Tulusus ja risk ongi iga rahandusotsuse (sealhulgas finantseerimisotsuse) fundamentaalseteks mõjuriteks. Klassikaline rahandusteooria eeldab positiivse seose olemasolu nii finantsvõimenduse ja omakapitali tulususe kui ka finantsvõimenduse ja omakapitali riskitaseme vahel. Praktikud tavaliselt usuvad, et laenukapitali kaasamine suurendab omakapitali tulusust. Samas paljudki neist ei tunneta positiivset seost finantsvõimenduse ja omakapitali riskitaseme vahel (kuigi sellise seose olemasolu klassikaliste riskinäitajate puhul on tõestatud mitmes empiirilises uurimuses (vt nt Ang *et al* 1985)), mis võib olla tingitud asjaolust, et klassikalised riskinäitajad (standardhälve, beetakordaja) ei kajasta adekvaatselt seda, mida investorid riski all mõistavad. Kuigi laenukapitali kasutamine mõjutab omakapitali oodatavat tulusust ja riskitaset, ei tähenda see automaatselt, et finantsvõimenduse muutmine

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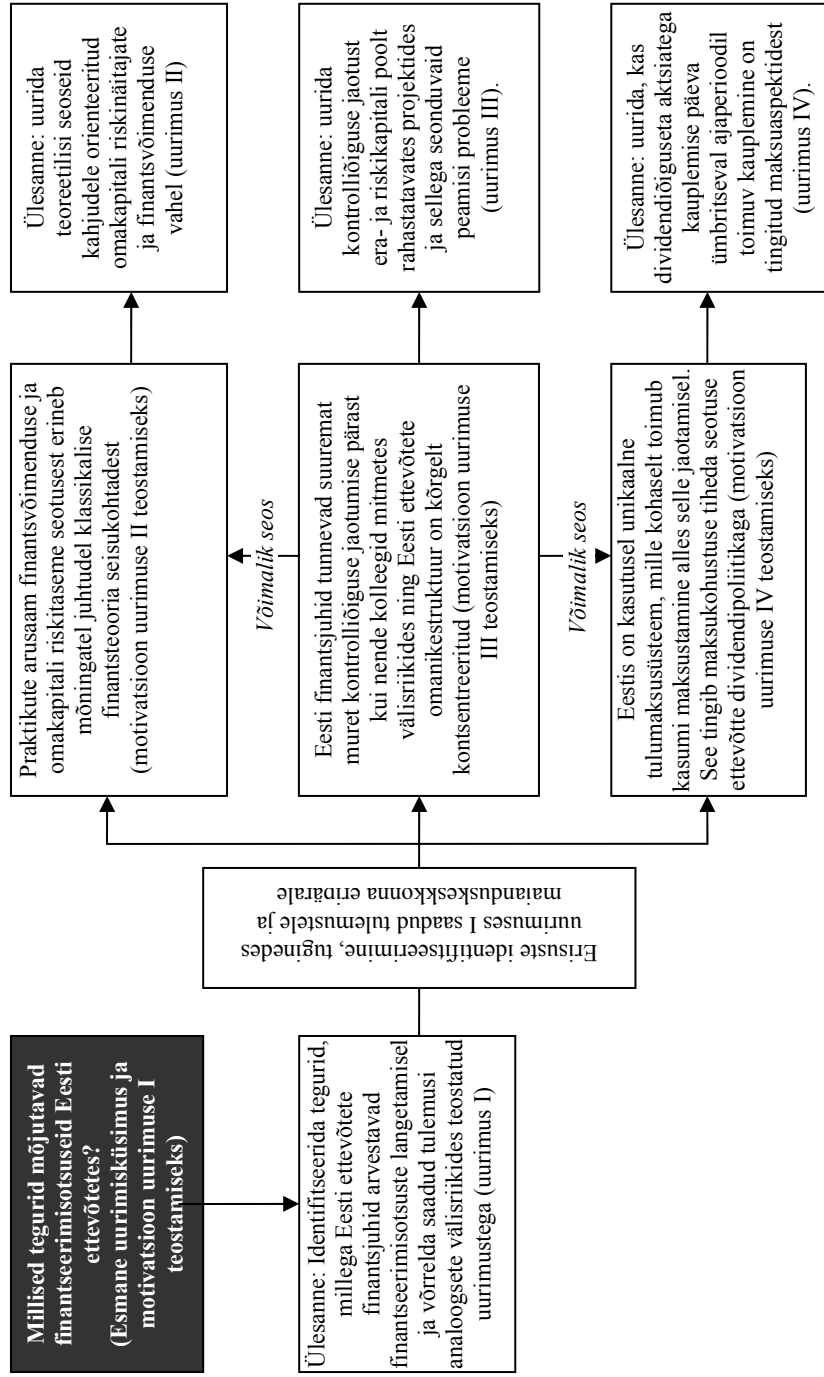
<sup>21</sup> Tänapäeva finantsjuhi tööülesanded on siiski tunduvalt laiemad, hõlmates sageli ka riskijuhtimist, motivatsiooniskeemide väljatöötamist, tegevustulemuste hindamist jne.

avaldaks mõju omakapitali väärtusele. Miller ja Modigliani (1958) tõestasid, et täiusliku kapitalituru korral ei mõjuta ettevõtte kapitali struktuur ettevõtte väärtust.

Enamus hilisematest uurimustest vaatlebki, kuidas üks või teine kapitalituru ebatäiuslikkuse ilming mõjutab ettevõtete valikut oma- ja laenukapitali vahel. Finantseerimisotsust mõjutavateks klassikalisteks teguriteks ongi turu ebatäiuslikkuse ilmingud (maksude, pankroti-, agentuuri- ja transaktsioonikulude olemasolu ning informatsiooni asümmeetriline jaotus turuosaliste vahel) ning turuosaliste ebavõrdne ligipääs turule. Ülaltoodud tegurite baasil on välja kujunenud kaks kapitali struktuuri teooriate gruppi: kompromissiteooriad, mille kohaselt eksisteerib optimaalne oma- ja laenukapitali vahekord, ning finantshierarhia teooriad, mille kohaselt eksisteerib finantseerimisallikate paremusjärjestus.

Olemasolevad kapitali struktuuri teooriad kipuvad aga keskenduma mingile kindlale detailile (st ei ole piisavalt üldised), sisaldavad mitmeid ebareaalset eeldusi ega anna praktikutele kindlapiirilisi soovitusi finantseerimisotsuste langetamiseks (Frank ja Goyal 2005). Ulatuslikud küsitlusuuringud USA-s ja Euroopa arenenud riikides (vt Graham ja Harvey 2001, Bancel ja Mitto 2002) näitavad, et praktikud lähtuvad finantseerimisotsuste langetamisel sageli hoopis praktilisematest kaalutustest (nt krediidireiting, aktsiahindade ja intressimäärade tase, õiguslikud regulatsioonid jms). Praktiliste mõjurite hulka kuuluvad veel ettevõtte elufaas, riskijuhtimise kaalutlused, aktsionäride subjektiivsed eelisted, inimpsühholoogia, krediidi kättesaadavuse piirangud jms. Võrreldes klassikaliste teguritega, on praktilistele mõjuritele pööratud teadlaste poolt tunduvalt vähem tähelepanu ning nii mitmeigi ülalmainitud teguri seost olemasolevate kapitali struktuuri teooriatega pole põhjalikult uuritud.

Teoreetilise kirjanduse ja varasemate empiiriliste uurimuste baasil saab väita, et finantseerimisotsused sõltuvad väga suurest hulgast tihti omavahel seotud teguritest, mistõttu puudubki universaalne kapitali struktuuri teooria ja Myersi (2001) sõnul pole seda lähiajal ka oodata. Lisaks tuleb arvestada, et eri riikide majandusliku või õigusliku keskkonna eripärad raskendavad ühes riigis tehtud uurimuste tulemuste ja nende baasil praktikutele antud soovitude kasutamist mõnes teises riigis. Seega peaksid autori arvates iga riigi teadlased vajadusel välja töötama oma asukohariigi oludele vastavad mudelid ning praktikutele suunatud käitumisjuhendid. Just sellest põhimõttest on kantud ka käesolevasse dissertatsiooni lülitatud uurimuste valik (vt joonis 1).



**Joonis 1.** Dissertatsiooni lülitatud artiklite uurimisiდედე formeerimine (autori koostatud).



## Andmed ja meetodid

Dissertatsioon koosneb neljast iseseisvast, kuid samas sisuliselt tüksteisega seotud uurimusest. Uurimused I, III ja IV on oma olemuselt empiirilist, uurimus II teoreetilist laadi.

Uurimus I baseerub 2001. aastal korraldatud küsitlusuuringul “Intressiriski ja kapitalistruktuuri juhtimine Eesti mittefinantsettevõtetes” (vt Lisa 1)<sup>22</sup>. Kuigi küsitlusel kui uurimismeetodil on mitmeid puudusi (vt nt Aggarwal 1993), võimaldab ta koguda informatsiooni, mis ei ole teisiti kättesaadav ning küsitlusuuringu tulemused võivad viia uute huvitavate uurimissuundadeni (Baker ja Mukherjee 2007). Küsitlusankeedi see osa, mis puudutab kapitali struktuuri juhtimist, tugineb peamiselt Pinegari ja Wilbrichti 1989. aastal väljatöötatud küsimustikul tagamaks tulemuste rahvusvahelist võrreldavust. Küsimustik sisaldab ka dissertatsiooni autori modifikatsioone, mis peaksid tagama selle parema sobivuse Eesti ettevõtete finantseerimiseeliste analüüsimiseks. Küsitlusuuringu valimi moodustasid 200 Eesti suurimat mittefinantsettevõtet, millest 43 ehk ca 22% nõustusid uuringus osalema. Saadud tulemusi võrreldi välisriikides korraldatud analoogsete uurimuste tulemustega ning teoreetilises kirjanduses väljendatud seisukohtadega.

Uurimus II on teoreetilist laadi ning sisaldab erisuguste kahjudele orienteeritud riskinäitajate ning finantsvõimenduse fundamentaalset seost kirjeldavate matemaatiliste valemite tuletamist ning nende seoste numbrilist ja majanduslikku analüüsi. Omakapitali väärtuse modelleerimisel tugineti Black-Scholesi optsoonihindamise mudelile. Tuletatud matemaatiliste valemite õigsuse kontrollimiseks tehti Monte Carlo simulatsioonanalüüs (kasutades Crystal Ball'i tarkvara).

Uurimuse III jaoks tehti ajavahemikus 2004–2005 struktureeritud intervjuud Eestis tegutsevate riski- ja erakapitali pakkuvate ettevõtete esindajatega. Uurimuses nõustus osalema 6 ettevõtet. Intervjuud hõlmasid laia küsimusteringi (vt Lisa 2), sealhulgas käesolevas uurimuses kajastatud kontrolliõiguse jaotusega seonduvaid probleeme. Intervjueeritavateks olid enamasti era- ja riskikapitali pakkuvate ettevõtete juhatuse esimehed, mõnel juhul ka finantsjuhid ning arvestusspetsialistid. Tulemuste interpreteerimisel tugineti olemasolevatele rahandusteooriatele, varasematele uurimustele ning Eesti äriseadustikule.

Uurimuses IV kasutati statistilise analüüsi meetodeid kinnitamaks hüpoteesi, et kauplemisaktiivsuse tõus Eesti aktsiaturul dividendiõigusteta aktsiatega kauplemise päeva ümbritseval ajaperioodil on ajendatud võimalusest vähendada seeläbi investorite maksukohustust. Vaatluse alla võeti ajavahemik 2000–2006, mille jooksul valimisse kuuluvad börsiettevõtted teostasid 50 dividendimakset. Andmed dividendide suuruse, toimumisaja, sulgemishindade ning parimate

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<sup>22</sup> Küsitlejateks olid dissertatsiooni autor ning lektor A. Juhkam Tartu Ülikoolist.

ostu- ja müüginoteeringute ning kauplemismahu kohta pärinevad Tallinna Börsi koduleheküljelt. Börsivälisel turul tehtud tehingute kohta saadi info Eesti Väärtpaperikeskuse koduleheküljelt. Detailne kauplemisinfo koos iga tehinguga kaasnevate omanikemuutustega pärineb Tallinna Börsilt. Ettevõtete finantsseisundit kajastav informatsioon saadi ettevõtete aastaaruannetest ning tulumaksuseaduse muudatuste dokumenteerimisel lähtuti elektroonilisest õigusaktide andmebaasist – Elektrooniline Riigi Teataja (eRT).

## Ülevaade artiklite tulemustest

**I. Sander, P.** (2003) “Capital structure choice in Estonian companies: a survey”, *Management of Organizations: Systematic Research* No. 27, pp. 123–135.

Artiklis uuritakse, millistest teguritest lähtuvad Eesti suurettevõtete finantsjuhid finantseerimisotsuste langetamisel. Uurimiseesmärgi täitmiseks korraldati 2001. aastal küsitlusuuring 200 suurima Eesti mittefinantsettevõtte hulgas. Tuginedes saadud 43 täidetud ankeedile ning võrdlustele analoogsete uurimustega välisriikides järeldati, et Eesti suurettevõtete finantseerimiseelistused on sarnased USA ettevõtete omadega; sarnased on ka peamised finantseerimisotsuseid mõjutavad tegurid. Ettevõtted eelistasid tüüpiliselt kasutada sisemisi finantseerimisallikaid ning alles nende ebapiisavuse korral kaasatakse välist kapitali. Väliste kapitali kaasamisel eelistati laenukapitali (pangalaenu, võlakirjad) omakapitalile. Seega vastasid Eesti ettevõtete finantseerimiseelistused finantshierarhia teoorias pakutud klassikalisele finantseerimisallikate paremusjärjestusele. Finantseerimisotsuseid mõjutavatest teguritest peeti eriti oluliseks konkreetset finantseeritavat projekti iseloomustavaid näitajaid (rahavoogude suurus, projekti suurus ja riskitase), millele teoorias nii suurt rõhku ei pöörata; samas nii mitmedki klassikalised kapitali struktuuri mõjutegurid (pankrotikulud, maksud) ei osutunud praktikute arvates eriti oluliseks. Finantseerimisotsuste langetamisel peeti silmas ettevõtte pikaajalise ellujäämise, finantspaindlikkuse ja iseseisvuse säilitamist, omanike rikkuse maksimeerimise printsiip seevastu osutus teisejärguliseks. Eesti ettevõtete finantsjuhid olid oma Ameerika kolleegidest rohkem orienteeritud rahavoo suurusele ning tähtsustasid enam pankrotikulude ning kontrolliõiguse jaotusega seonduvaid aspekte. Aktsia hinna maksimeerimine või varem kasutatud finantseerimisallikate eelistamine oli Eestis tunduvalt vähem oluline kui Ameerika Ühendriikides. Kokkuvõtvalt saab väita, et hoolimata mõningastest erisustest juhitud nii Eesti kui ka vaadeldud välisriikide (USA, Soome) suurettevõtete finantsjuhid finantseerimisotsuste langetamisel sarnastest teguritest ning printsiipidest.

**II. Karma, O., Sander, P. (2006)** “The impact of financial leverage on risk of equity measured by loss-oriented risk measures: An option pricing approach” *European Journal of Operational Research*, Vol. 175, Issue 3, pp. 1340–1356.

Artikkel käsitleb finantsvõimenduse mõju omakapitali riskitasemele omanike piiratud vastutuse korral. Vaatluse alla võeti kahjudele orienteeritud riskinäitajad: languse tõenäosus (*Downside Probability*), ohus olev kapital (*VaR*), oodatav puudujääk (*Expected Shortfall*), languse potentsiaal (*Downside Potential*), allahälve (*Downside Deviation*). Tuginedes *Black-Scholes*'i optioonihindamise mudelile, tuletati artiklis matemaatilised valemid väljendamaks finantsvõimenduse ja omakapitali riskitaseme seost ülaltoodud riskinäitajate lõikes.

Esitatud seoste numbriline ja majanduslik analüüs võimaldab väita, et üldjuhul on finantsvõimenduse ja omakapitali riskitaseme vahel positiivne seos. Mõningatel tingimustel võib aga osa riskinäitajate (ohus olev kapital, languse potentsiaal ja allahälve) puhul rääkida omakapitali riskitaseme ja finantsvõimenduse negatiivsest seosest. Kuigi niisugune tulemus on vastuolus klassikalise finantsteooria seisukohtadega, võib seda põhjendada omanike piiratud vastutuse mõjuga. Seega õnnestus artiklis näidata (autoritele teadaolevalt esmakordselt), et paljude praktikute poolt iseenesestmõistetavaks peetud, kuid klassikalise finantsteooriaga vastuolus olev riski ja finantsvõimenduse negatiivne seos võib teatud tingimustes olla ka teoreetiliselt põhjendatud.

**III. Sander, P., Kõomägi, M. (2007)** “The allocation of control rights in financing private companies: views of Estonian private equity and venture capitalists” *TRAMES*, Vol. 11, No. 2, pp. 189–205.

Artikkel käsitleb kontrolliõiguse jaotusega seonduvaid küsimusi välise omakapitali kaasamisel. Uurimuse käigus viidi läbi struktureeritud intervjuud peamiste riski- ja erakapitali pakkuvate ettevõtete esindajatega Eestis. Selgus, et erinevalt tavaõigusega riikide praktikast, kasutavad riski- ja erakapitalistid Eestis ettevõtete finantseerimisel eelkõige lihtaktsiaid. Tavaõigusega riikides laialt levinud eelisaktsiate kasutamine on piiratud mitmete Äriseadustikus sisalduvate klauslite tõttu. Eestis riski- ja erakapitali pakkuvad ettevõtted rahuldavad enamasti vähemusaktsionäri rolliga finantseeritavas ettevõttes, mis seaks nad üsnagi nõrka positsiooni, kui nad ei kaitseks enda huvisid otseste kontrolliõiguse jaotust väljendavate kokkulepetega. Hoolimata vähemusaktsionäri positsioonist kuuluvad riskikapitalistid tüüpiliselt alati ettevõtte nõukogusse ning mõnel juhul võtavad osa ka ettevõtte tegevjuhtimisest juhatuse koosseisus. Kuna Eestis ei nõuta ettevõtetelt kohustuslikus korras mingi osa kasumi jaotamist dividendideks ega oma aktsiate tagasiostmist aktsionäride nõudel, võib vähemusaktsionäril investeringust väljumine õiglase hinna eest olla üsnagi keeruline. Seetõttu sisaldavad finantseerimislepingud mitmeid vetosid ja

klausleid, mis tugevdavad riskikapitalisti positsiooni ettevõttes. Uurimus kinnitas seega, et kontrolliõiguste jaotus on üheks keskseks küsimuseks ettevõtja ja riskikapitalisti vahelises finantseerimislepingus.

**IV. Sander, P.** (2007) “Tax heterogeneity and trading volume around ex-dividend day: Estonian evidence” Working paper No. 54, Tartu University Press, 39 p.

Artiklis kontrollitakse hüpoteesi, et Eesti aktsiaturul sooritatakse dividendideta aktsiatega kauplemise päeva ümbritseval ajaperioodil tehinguid, mille eesmärgiks on vähendada investorite maksukohustust. Artiklis võetakse vaatluse alla 50 dividendide maksmise juhtumit ajavahemikust 2000–2006.

Eesti tulumaksuseaduse sätete analüüs näitas, et erineva juriidilise staatusesega investorite ja eri liiki tulude maksustamisel on hulk erinevusi, mis loovad soodsa pinnase *ex-dividend*-strateegia kasutamiseks. Et Eesti börsiettevõtetest on senini maksnud dividende eelkõige likviidsemad põhinimekirjas noteeritud ettevõtted, olid teoreetilised võimalused kvaasi-arbitraaziks isegi tehingukuludid arvestades. Kauplemismahtude analüüs näitas statistiliselt olulist tehingumahu tõusu nii päeval enne viimast dividendidega aktsiate kauplemise päeva, viimasel dividendidega aktsiate kauplemise päeval kui ka dividendideta aktsiatega kauplemise ning neljal sellele järgneval päeval. Samuti oli täheldatav õppimiseefekti olemasolu – kui 2000. ja 2001. aastal tõusis kauplemismaht oluliselt üksnes mõne dividende maksva börsiettevõtte puhul, siis hilisemal ajal võis seda märgata juba peaaegu kõikidel juhtudel. Tehingute detailne analüüs näitas, et enne dividendideta aktsiatega kauplemise päeva olid aktsiate müüjateks peamiselt mitteresidendist investorid ja ostjateks residendist investorid (eelkõige juriidilised isikud). Täpselt selliseid lühiajalisi muutusi omanikestruktuuris võiski prognoosida maksuseaduste analüüsi alusel.

Seega leidis kinnitust püstitatud hüpotees, et Eestis toimub dividendideta aktsiatega kauplemise päeva ümbritseval ajal maksukohustuse vähendamisele suunatud kauplemine. Sellise kauplemise mõju tuleks arvestada ettevõttele sobiva dividendi- või finantseerimispoliitika väljatöötamisel. Seega ei saa, käsitledes maksude mõju finantseerimisotsustele, tugineda üksnes seaduses sätestatud maksumääradele, vaid tuleb arvestada ka võimalust, et dünaamiliste kauplemisstrateegiate kaudu on investoritel võimalik oma reaalset maksukohustust vähendada.

## Soovitusi tulevasteks uuringuteks

Ettevõtete finantseerimine on vägagi lai ja keeruline teema, mis nõuab kindlasti edasist uurimist nii Eesti kontekstis kui ka laiemalt.

Töös käsitleti Eesti suurettevõtete finantsjuhtide seisukohti finantseerimisotsuseid mõjutavate tegurite suhtes. Kuid enamik Eesti ettevõtetest on väikesed ning väikeettevõtete-alaseid uurimusi on selles valdkonnas nii Eestis kui ka mujal maailmas tehtud tunduvalt vähem. Samuti võiks tulevane küsitlusuuring hõlmata lisaks finantsjuhtidele ka ettevõtte nõukogu liikmeid ja tuumikaktsionäre, sest paljud finantseerimisotsused nõuavad nende heakskiitu. Erinevate uurimismeetodite (küsitlusuuring, aastaruannetes sisalduval infol baseeruvad ökonomeetrilised mudelid, intervjuud) kombineerimine ühel ja samal valimil võiks viia samuti huvitavate tulemusteni.

Kuigi töös vaadeldi finantsvõimenduse seost mitmete kahjudele orienteeritud riskinäitajatega, jäi vaatluse alt välja allapoole suunatud süstemaatiline risk (*downside beta*), mis pole küll sama laialt levinud riskinäitaja kui *VaR*, kuid millel on siiski kindel toetajaskond rahandusteadlaste hulgas (vt nt Estrada 2000, 2004, 2006, Ang *et al* 2006). Matemaatilise seose tuletamine allapoole suunatud süstemaatilise riski ja finantsvõimenduse vahel oleks kindlasti vajalik edasiarendus selles valdkonnas.

Eesti ettevõtete finantseerimisotsuste ning omanikestruktuuri seost on senini väga vähe uuritud. Et käesolevas dissertatsioonis vaadeldi riski- ja erakapitali pakkuvate ettevõtete seisukohti kontrolliõiguse jaotuse küsimustes, oleks loomulikuks edasiarenduseks samasisulise uurimuse korraldamine riskikapitali saanud ettevõtetes. Sellisel juhul oleks ka potentsiaalne valim tunduvalt suurem, mis muudaks võimalikuks nii statistiliste testide tegemise kui ka riskikapitali saavate ja pakkuvate ettevõtete seisukohtade võrdlemise.

Töös jõuti järeldusele, et kauplemismahu tõus dividendiõigusega aktsiatega kauplemise päeva ümbritseval ajaperioodil on tingitud heterogeensetest maksudest. Samas ei võimaldanud valimi piiratud maht uurida kauplemisaktiivsust mõjutavaid tegureid statistiliselt. Kätesaadavate andmete piiratuse tõttu jäeti analüüsist välja ettevõtte tasandi maksud, kuigi Eesti maksusüsteemi eripära tõttu aastatel 2000–2002 võisid need mõjutada *ex-dividend*-strateegia kasutamist. Ka 2006. aastal tulumaksuseadusesse sisse viidud kauplemispiirangute mõju analüüs jääb ootama edasisi uurimusi.

Eesti kontekstis on dissertatsiooni autori arvates rahanduse valdkonnas üheks olulisemaks uurimissuunaks meie tulumaksuseaduse mõju rahandusotsustele. Eesti tulumaksusüsteemi eripära ei luba sageli kasutada klassikalistes rahandusõpikutes esitatud valemeid ega tugineda seal toodud soovitudele. Käesolevas dissertatsioonis tõestati (vt IV artikkel), et Eestis kasutatakse *ex-dividend*-strateegiat maksukohustuse vähendamiseks ning väideti, et sellise kauplemisega peaks arvestama, andes soovitusi ettevõtete dividendipoliitika ja kapitali struktuuri kujundamisel. Ühes teises dissertandi artiklis (Sander 2005)

näidati, et laenukapitali maksueelis, dividendipoliitika ning omanike struktuur on Eestis kasutusel oleva tulumaksusüsteemi puhul tihedalt seotud. Hazak (2006, 2007) on võrrelnud klassikalise ja Eestis kasutusel oleva tulumaksusüsteemi mõju ettevõtete kapitali struktuurile ja dividendipoliitikale. Kindlasti on aga vajalikud veel lisauuringud jõudmaks juba konkreetsete soovituseni, kuidas Eesti maksusüsteemi oludes leida kapitali hinda ning kujundada finantseerimis- ja dividendipoliitikat. Lisaks maksudele on veel terve rida tegureid, mis pole küll Eestile ainuomased, kuid vajaksid siiski Eesti tingimustes põhjalikumat uurimist.

Ka üldisemas mastaabis pole kuhugi kadunud vajadus jätkata ettevõtete finantseerimisotsuste ja neid mõjutavate tegurite uurimist. Hoolimata aastakümnetepikkusest tööst ootavad nii mitmedki teoreetilised küsimused kapitali struktuuri kujundamise kohta alles vastuseid. Enamik alapeatükis 1.2.3 loetletud finantseerimisotsuseid mõjutavatest praktilistest teguritest vajaksid põhjalikumat uurimist, sest kuigi nende olulisust praktikute jaoks kinnitavad mitmed küsitlusuuringud, on neist nii mõnegi teoreetilist tagapõhja ja seost olemasolevate kapitali struktuuri teooriatega uuritud suhteliselt vähe. Ka klassikaliste turu ebatäiuslikkuse ilmingute mõju analüüsimisel on veel palju teha (vt nt Graham 2003).

Ülimaks väljakutseks oleks aga üldise finantseerimismudeli koostamine, mis suudaks dünaamilises keskkonnas ühendada finantseerimisotsused ettevõtte investeerimis- ja dividendipoliitikaga ega läheks vastuollu olemasolevate faktidega ettevõtete finantseerimistavade kohta (Frank and Goyal 2005). Senised kapitali struktuuri teooriad on paljuski piiratud ning pole sobivad finantseerimispoliitika väljatöötamiseks reaalses ettevõttes (Myers 2001). Dissertatsiooni autor on seisukohal, et tulevased uurimused peaksid viima selliste kapitali struktuuri teooriateni, mis aitaksid praktikutel langetada paremaid finantseerimisotsuseid. See nõuab aga veelgi detailsemaid uurimusi erinevate tegurite mõjust ettevõtete finantseerimisotsustele.

# CURRICULUM VITAE

## Priit Sander

### Place and date

**of birth:** Tartu, September 1, 1973

**Nationality:** Estonian

**Civil Status:** Single

**Present position:** Lecturer

**Home Institution:** Institute of Finance and Accounting, Faculty of Economics and Business Administration (FEBA), University of Tartu

**Address:** Narva Road 4, Tartu 51009,  
phone +372 7 376 331, fax 7 376 312,  
e-mail: priit.sander@ut.ee

**Education:** 1998 University of Tartu, MA in economics (*cum laude*)  
1995 University of Tartu, BA in corporate finance and banking (*cum laude*)  
1991 Tartu Secondary School No 10

**Language Skills:** English (good), Russian (satisfactory), German (elements).

### Professional Experience Record

1999–to date Lecturer, University of Tartu, FEBA

1995–1999 Assistant, University of Tartu, FEBA

### Studies, research abroad

2006 Training at Zernike Group, Netherlands

2004 PhD course “Advanced Financial Statement Analysis”  
at Helsinki School of Economics, Finland

2003 Training at Zernike Group, Netherlands

### Lecturing

Main subjects

- Investments and Securities Analysis I, II
- Financial Management I
- Corporate Finance and Investments
- Strategic Financial Management
- Value-Based Management

### Administrative work experience

Faculty Council (FEBA) member

1999-2006 ERASMUS departmental coordinator at FEBA

## **Main Research Areas**

Capital structure  
Dividend Policy  
Financial risks  
Business Valuation



# CURRICULUM VITAE

## Priit Sander

- Sünniaeg ja -koht:** 1. september 1973, Tartu linn
- Kodakondsus:** Eesti
- Perekonnaseis:** vallaline
- Aadress:** Narva mnt 4, Tartu 51009, tel 737 6331, faks: 737 6312,  
e-post: priit.sander@ut.ee
- Töökoht:** Tartu Ülikool, majandusteaduskond, ärirahanduse ja investeringute lektor
- Haridus:** 1998 Tartu Ülikool, majandusteaduskond, majandusteaduse eriala, MA (*cum laude*)  
1995 Tartu Ülikool, majandusteaduskond, panganduse ning ärirahanduse ja investeringute erialad, BA (*cum laude*)  
1991 Tartu 10. Keskkool
- Keelteoskus:** inglise keel (hea), vene keel (rahuldav), saksa keel (algteadmised).
- Teenistuskäik** 1999 – tänaseni Tartu Ülikooli majandusteaduskonna lektor  
1995–1999 Tartu Ülikooli majandusteaduskond, assistent

### Erialane enesetäiendus

- 2006 stažeerimine *Zernike Group*'is, Holland  
2004 doktorantide kursus "Advanced Financial Statement Analysis" *Helsinki School of Economics*, Soome  
2003 stažeerimine *Zernike Group*'is, Holland

### Õppetöö

Peamised loengukursused

- Investeeringud ja väärtpaberite analüüs I, II
- Finantsjuhtimine I
- Ettevõtte rahandus ja investeeringud
- Strateegiline finantsjuhtimine
- Ettevõtte väärtuse juhtimine

## **Administratiivtöö ja muud tööülesanded TÜ-s**

Tartu Ülikooli majandusteaduskonna nõukogu liige  
1999-2006 ERASMUS'e koordinaator Tartu Ülikooli  
majandusteaduskonnas

## **Peamised uurimisvaldkonnad**

Kapitali struktuur  
Dividendipoliitika  
Finantsriskid  
Ettevõtte väärtuse hindamine

# DISSERTATIONES RERUM OECONOMICARUM UNIVERSITATIS TARTUENSIS

1. **Олев Раю.** Экономическая ответственность и ее использование в хозяйственном механизме. Tartu, 1994. Kaitstud 20.05.1991.
2. **Janno Reiljan.** Majanduslike otsuste analüütiline alus (teooria, metodoloogia, meetodika ja meetodid). Tartu, 1994. Kaitstud 18.06.1991.
3. **Robert W. McGee.** The theory and practice of public finance: some lessons from the USA experience with advice for former socialist countries. Tartu, 1994. Kaitstud 21.06.1994.
4. **Maaja Vadi.** Organisatsioonikultuur ja väärtused ning nende vahelised seosed (Eesti näitel). Tartu, 2000. Kaitstud 08.06.2000.
5. **Raul Eamets.** Reallocation of labour during transition disequilibrium and policy issues: The case of Estonia. Tartu, 2001. Kaitstud 27.06.2001.
6. **Kaia Philips.** The changes in valuation of human capital during the transition process in Estonia. Tartu, 2001. Kaitstud 10.01.2002.
7. **Tõnu Roolah.** The internationalization of Estonian companies: an exploratory study of relationship aspects. Tartu, 2002. Kaitstud 18.11.2002.
8. **Tiia Vissak.** The internationalization of foreign-owned enterprises in Estonia: An extended network perspective. Tartu, 2003. Kaitstud 18.06.2003.
9. **Anneli Kaasa.** Sissetulekute ebavõrdsuse mõjurite analüüs struktuurse modelleerimise meetodil. Tartu, 2004. Kaitstud 15.09.2004.
10. **Ruth Alas.** Organisational changes during the transition in Estonia: Major influencing behavioural factors. Tartu, 2004. Kaitstud 22.12.2004.
11. **Ele Reiljan.** Reasons for de-internationalization: An analysis of Estonian manufacturing companies. Tartu, 2004. Kaitstud 25.01.2005.
12. **Janek Uiboupin.** Foreign banks in Central and Eastern European markets: their entry and influence on the banking sector, Tartu, 2005. Kaitstud 29.06.2005.
13. **Jaan Masso.** Labour Reallocation in Transition Countries: Efficiency, Restructuring and Institutions, Tartu, 2005. Kaitstud 7.11.2005.
14. **Katrin Männik.** The Impact of the Autonomy on the Performance in a Multinational Corporation's Subsidiary in Transition Countries, Tartu, 2006. Kaitstud 29.03.2006.
15. **Andres Vesilind.** A methodology for earning excess returns in global debt and currency markets with a diversified portfolio of quantitative active investment models, Tartu, 2007. Kaitstud 13.06.2007.
16. **Rebekka Vedina.** The diversity of individual values and its role for organisations in the context of changes, Tartu, 2007. Kaitstud 16.11.2007.