VILNIUS GEDIMINAS TECHNICAL UNIVERSITY

FACULTY OF MECHANICS

DEPARTMENT OF INDUSTRIAL ENTERPRISE MANAGEMENT

Agnė Ļiplytė

FINANCING OF INVESTMENT PROJECTS AND POSSIBILITIES FOR ITS IMPROVEMENT IN LITHUANIAN MANUFACTURING

INVESTICINIŲ PROJEKTŲ FINANSAVIMAS IR JO TOBULINIMO GALIMYBĖS LIETUVOS PRAMONĖJE

Final Master Work

Studiesóprogram: Industry Engineering and Management, State Code 62608T204

Study area of Industrial Engineering

Vilnius, 2010

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Vilnius, 2010

VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETAS
MECHANIKOS FAKULTETAS
PRAMONĖS ĮMONIŲ VALDYMO KATEDRA

Pramonės inžinerijos studijų kryptis

Pramonės inžinerijos ir vadybos studijų programa, valstybinis kodas 62608T204

TVIRTINU
Katedros vedėjas

_____
(Parašas)
_____Rolandas Strazdas _
(Vardas, pavardė)
_____
(Data)

BAIGIAMOJO MAGISTRO DARBO UŽDUOTIS

2010-02-01.....Nr. .....4.....
Vilnius

Studentui (ei) .....Agnei Ėiplytei.....
(Vardas, pavardė)

Baigiamojo darbo tema: Investicinių projektų finansavimas ir jo tobulinimo galimybės Lietuvos pramonėje.

patvirtinta 2009 m. spalio 27 d. dekano potvarkiu Nr. 297me .

Baigiamojo darbo užbaigimo terminas 2010 m. gegužės 31 d.

BAIGIAMOJO DARBO UŽDUOTIS:

1) Išanalizuoti investicijų finansavimo aspektus mokslinėje-ekonominėje literatūroje ir nustatyti investicinio projekto finansavimo principus;.....

2) Aptarti investicinių projektų finansavimo tendencijas pagal specifines ūkio šakų ypatumų charakteristikas Lietuvos pramonėje;.....

3) Surinkus apibūdinamąją informaciją apie gamybos šakų investicinę elgseną įvertinti veiksnius, turinčius įtakos investicinių projektų finansavimo galutinio pasirinkimui;.....

4) Atlikti investicijų finansavimo galimybių įgyvendinimo analizę;.....

5) Empiriniais duomenimis pagrįsti paskatas finansavimo tobulinimui išleidžiant šakos obligacijas.....

Baigiamojo darbo rengimo konsultantai:

.....
(Moksl. laipsnis, vardas, pavardė)

Vadovas ....dr. Dalia Treigienė.....
(Parašas) (Moksl. laipsnis, vardas, pavardė)

Užduotį gavau

..
(Parašas)
Agnė Ėiplytė...
(Vardas, pavardė)
2010-02-02.. ....
(Data)

Vilnius Gediminas Technical University
Faculty of Mechanics
Department of Industrial Enterprise Management

ISBN ISSN
Copies No. .....
Date .....-.....-.....

Master Degree Studies **Industry Engineering and Management** study programme Master's Thesis

Title	**Improvement of Financing of Investment Projects in Lithuanian Industry**
Author	**Agnė Čiplytė**
Academic supervisor	**Dr Dalia Treigienė**

Thesis language:
English

Annotation

Since creative financing is usually done during times of financial stress, the thesis analyses the importance of funding source role in the manufacturing investment projects by incorporating information standing beyond investment behavior, analyzing it to make assessments whether the various factors have more or less influence on the choice of financing source, as well as the motivation behind its use presumably has a direct impact on investment performance to compare the main methods of financing with alternatives, which is more attractive to the enterprise, and under what circumstances and the approaches which could be used instead. With reference to analysis of investment project financing trends in Lithuanian manufacturing considering firmsô specific characteristics, investment financing feasibility expansion analysis is carried out. Most of investigated results are directly applicable to the comparison of bank funding via bond market, providing an excellent review of the reasons why a company may wish to make that choice based on reputation building and/or adverse selection arguments, desire for greater diversification of finance and the relaxation of constraints among other reasons. Drawing on stylized facts from the empirical literature investment project financing selection creditworthiness based model is build, orienting to create incentives for high grow firm to obtain bond market finance and highlighting factors make financing decisions value relevant.

Thesis consists of these parts: introduction with turning down profitable projects problem, scientific-economic aspects of investment financing, manufacturing funding realities, creditworthiness based model solution in order to develop both reputation and a positive signal of net worth, concluding with proposals for quality/functionality improvement, further reading list.

Volume of the final masterwork: 91 p. without appendices, 25 figures, 10 tables, with reference to 45 bibliographical entries. Annexes included.

Keywords

investment choices, financing sources, distribution of firm size, incentives to issue bonds, creditworthiness strengthening, reputation building, financing improvement.

Vilniaus Gedimino technikos universitetas
Mechanikos fakultetas
Pramonĕs DZmoniÔvaldymo katedra

ISBN ISSN
Egz. sk. ....
Data ..........-.....-.....

Antrosios pakopos studijÔ **Pramonės inžinerijos ir vadybos** programos baigiamasis darbas

Pavadinimas **Investicinių projektų finansavimo tobulinimas Lietuvos pramonėje**

Autorius **Agnė Čiplytė**
Vadovas **dr. Dalia Treigienė**

Kalba: anglÔ

Anotacija

Kuomet galimybĕ pritaikyti nestandartinius sprendimus finansÔ iģtekliÔ pritraukimui DZmonĕse svarstoma tik susidÎrus su prastĕjanļia finansine pozicija, baigiamajame magistro darbe plaļiai nagrinĕjama tokiÔ priemoniÔ svarba Įgyvendinantinvesticiniusprojektuspramonĕs sektoriuje. Siekiant finansavimo ģaltiniÔ pasirinkimo kokybĕs, analizuojami veiksniais, kuriais gali bÎti grindģiami investavimo sprendimai ir jÔ reikģmingumas optimaliÔ priemoniÔ parinkimui, elgsenos motyvacija, apsprendģianti investavimo kryptis ir skolinimosi kriterijus. Apģvelgiamos projektÔ finansavimo Lietuvos pramonĕje tendencijas pagal specifines DZmoniÔ dydģio charakteristikas, atlikta investicijÔ finansavimo galimybiÔ iģplĕtimo analizĕ, empiriniais DZrodymais pagrDZstos paskatos finansavimo tobulinimui iģleidģiant DZmonĕs obligacijas. Efektyvus finansavimo metodÔ ir galimÔ alternatyvÔ palyginimas leidģia nustatyti, kurie iģ jÔ ir kokiomis aplinkybĕmis palankesni gamybos DZmonei ir sudaryti modelDZ nuosekliam finansavimo pagrDZimui. Kreditingumo DZvertinimu paremta finansavimo patraukimo galimybiÔ studijos struktÎra ne tik palengvina atitinkamos vertĕs finansavimo sprendimo priĕmimŃ, bet sudaro galimybes iģvengti skolinimosi iģ bankÔ apribojimÔ, stiprinant DZmonĕs kreditingumŃ DZskaitant grynŃjŃ vertň ir reputacijŃ.

DarbŃ sudaro ģios dalys: DZvadas, kuriame iģdĕstyta plĕtros apribojimÔ dĕl finansavimo sunkumÔ problema, moksliniai-ekonominiai investicijÔ finansavimo aspektai, pramonĕs skolinimosi realijos, kreditingumu pagrDZstas finansavimo sprendimÔ modelis, remiantis reputacijos ir DZmonĕs vertĕs kÎrimo vystymŃ, iģvados ir pasiÎlymai kokybiniam/funkciniam finansavimo gerinimui, literatÎros sŃraģas.

Baigiamojo darbo apimtis ï 91 p. be priedÔ, 25 paveikslai, 10 lenteliÔ, 45 bibliografiniai ģaltiniai. Atskirai pridedami darbo priedai.

Prasminiai žodžiai

investavimo sprendimÔ pagrDZimas, finansavimo ģaltiniai, pasiskirstymas pagal DZmoniÔ dydDZ, paskatos iģleisti obligacijas, kreditingumo stiprinimas, reputacijos kÎrimas, finansavimo gerinimas.

Content

List of figures and tables

INTRODUCTION

Today, manufacturing developers and operators find themselves not only aggressively competing for a constantly changing pool of funds (both equity and debt), but also having to deal with increasingly complex terms and conditions for the efficient use of those funds. Consequently, the investment choices of the enterprises must not be considered successful by definition. Their degree of success depends on a plethora of factors that are directly related to the internal and external environment in which they are implemented. The financing cost is often a determining factor.

On the other hand, the financing decision addresses two important questions. First, is how much should be raised to fund the firmôs existing and proposed operations? Second, what is the best mix of financing in relation to the overall value of the firm? Besides the ability of the firm to hold financial assets such as shares and loan deposits, it can also sell claims on its own reputation. In the scramble for short-term cash flow, firms are sacrificing long-term value; therefore, entrepreneurs must seize opportunities, identify priorities, and achieve results. Financing alternatives are plentiful - but so are financial blunders.

Relevance of the theme. The financial crisis had a strong and negative effect on investment and itôs financing. Bank loan has become not only inaccessible as a financing source for manufacturing development, but even a large luxury it can not afford due to the overall ratio of debt to equity beyond which the costs of potential financial distress begin to outweigh the benefits of leverage. Since creative financing is usually done during times of financial stress, the lack of bank lending is driving many manufacturing business owners to rethink going public financing myths.

Problematic question. The recovery phase poses special problems for those manufacturing businesses seeing much-welcomed growth, as they struggle in the current climate to access the extra working capital they need to fund their expansion. Although there is a need for a massive flow of financial resources, Lithuanian bond market does not function in the concrete. Whereas, high growth firms constrained by bank hold-up problems experience a net positive effect from strategically prepared public issues.

The testing level of the problem. Investment project financing feasibility studies are not broadly defined in empirical literature, especially with regard to manufacturing. Prior empirical studies link the choice of debt instrument and document the relationships between the use of corporate bond financing and to the specific firmsô attributes, such as size, leverage, financial stress, liquidity, growth opportunities and profitability. However, situation an ñover debt-to-invested capitalò lead to significant destructive impact the overall value of the property is ignored.

The object of research. Lithuanian industry borrowing decisions, funding source role in the manufacturing investment projects, as well as the motivations behind its use.

The research aim. Drawing on existing finance theory, detailed case studies, and extensive field research to evaluate the investment strategies/choices in the sector of manufacturing with accordance to constraints provided by firms that are engaged in financing and ñlong-termò firm characteristics, to make assessments of whether the various factors have more or less influence on the choice of investment financing source. In reliance to the influence of firmsô financial characteristics to ascertain the choice between raising funds directly via the corporate bond markets, which is more attractive to the enterprise, and under what circumstances.

The research tasks:

1. To analyze scientific-economic aspects of investment financing, determining project financing principles;
2. To analyze investment project financing trends in Lithuanian manufacturing in accordance with firmsôspecific size characteristics;
3. To gather information standing beyond investment behavior of manufacturing enterprises to make assessments of factors influencing on the choice investment financing source;
4. To carry out investment financing feasibility expansion analysis;
5. To ground incentives to issue bonds on empirical evidence for funding improvement.

Hypothesis. Particular segments of firms have higher incentives to issue bonds for efficient realization of their potential, greater diversification of finance and the relaxation of constraints due to the degree to which they are limited in raising further finance internally or from other sources.

Consistency of the research. Final master work consists of three parts. The progression of ideas in this thesis begins with theoretical aspects related to the manufacturing enterprises facing choices among different financing methods. The second section considers manufacturing funding realities, how the financial institutions might react to company require the amount of financing it needs to obtain a pre-understanding of the problem field and to form an idea of the research consequence. The empirical research then introduces the evaluation of investment choices, recognizing that there still are intermediate steps to a fully functioning bond issuing system for manufacturing financing. The last section of the thesis submits drawing mode selection method according to the firm specific creditworthinessôcharacteristics creating incentives to high grow firm to obtain bond market finance.

The research methodology:

1. Comparative analysis of existing finance literature, scientific articles and publications and statistic data;
2. Quantitative and qualitative analysis method;

3. Extensive field questionnaire research;
4. Systematic analysis method for summarizing results of empirical reach;
5. Graphical presentation of data and associations.

The theoretical significance of the results. Carried out purposeful analysis on the investment strategies/choices in the sector of manufacturing, assesses current borrowing situation of enterprise, providing an excellent review of the reasons why a company may wish to choose bond market via bank funding desire for greater diversification of finance and the relaxation of constraints among other reasons. Drawing method of funding selection according to firm specific creditworthinessô characteristics, allows manufacturer to gain further develop an important competitive advantage by smart financing; because it highlights the factors that make financing decisions value relevant.

The practical significance of the results. Drawing on stylized facts from the empirical finance literature investment project financing selection firm creditworthiness based model is build, orienting to create incentives to the high grow firm to obtain bond market finance and highlighting various factors have influence on successful issuance track record.

1. INVESTMENT FINANCING PROBLEM IN MANUFACTURING

1.1. How do firms finance their investments?

Most of the operations management literature assumes that a firm can always finance production decisions at an optimal level or borrow at a constant interest rate; however, operational decisions are constrained by limited capital and often critically depend on external financing. [7]

Borrowings from financial institutions play a special role in the European financial system. First, the European financial system is more bank than market oriented. Private firms do not have the option to increase their capital through new issue of shares and those listed on the market rely also on the credits obtained from financial institutions as the priori source. Second, in line with the pecking order theory, only firms that are not able to increase their leverage, issue shares.

Project finance costs are significantly above 2007 levels, after a financial crisis wrecked banksô balance sheets, drying up credit and stoking the cost of borrowing. On the one hand, when firms have low net worth, they cannot put up collateral for investment projects. Then banks do not lend to them, since the firms have little to lose from project failure, and are more likely to choose or accept poor projects. This yields under-borrowing. [25] Turning down or canceling profitable projects are a lesser known cost of the current financial crisis.

The recovery phase poses special problems for those manufacturing businesses seeing much-welcomed growth, as they struggle in the current climate to access the extra working capital they will need to fund their expansion. Across all sectors we are seeing trade creditors increasingly seizing the opportunity of an improved economic climate, to take action against their debtors in order to raise much needed working capital. This shift in behaviour heralds a new phase in the cycle, putting manufacturing companies experiencing financial problems at greater risk of failure than ever.

Project financing requires substantial investment upfront and then the servicing of the debt is from the long-term cash flow thus these types of loans tend to have a longer maturity than straight-forward corporate lending.

Many loans were issued based on overly optimistic forecasts, but they did not materialize, resulting in a clear divide between the enterprisesô cash flow and debt-servicing costs. This problem affects not only the companyôs liquidity problems, but also has significant indirect effects - the time is used by management to negotiate with the banks rather than companyôs management, the manufacturing has no funds for development.

By some accounts, the focus of finance over the last five years has often been more about control and compliance than about enabling and steering business strategy and performance. [40]

Most decisions taken during the downturn, focused on the short term.

In the course of the recent six months, majority of banks have not tightened conditions for granting different types of loans of for the first time since the end of 2007. According to the bank lending survey, April 2010 data credit policy, which has followed a tightening trend during the several recent years, is likely to change over the next six months since a number of banks intend to ease somewhat the lending conditions applied to enterprises. At the same time, the year 2009 was the third year in a row when over 80% of the total ĂInvestment and the business of guaranteeñ, UAB (INVEGA) guarantee portfolio was allocated for securing the repayment of investment loans taken by entrepreneurs. Likely, bank debt has been exhausted. Even if banks are intent to ease lending conditions applied to enterprises, previous commitments to the bank overshadow any relief.

One of the issues in project finance is the ratio of debt to equity. Debt can be beneficial, of course, but only up to a point - beyond which the costs of potential financial distress begin to outweigh the benefits of leverage. [20] Manufacturing developers need to understand the alternatives to securing debt, as well as the feasibility of numerous financing strategies - an intimidating task in increasingly volatile markets.

Factors to consider include the type of financing best suited to the investment, including the ideal blend of debt and equity to maximize the return on investment, the source of the financing, and the terms of financing. Rates vary significantly, as do terms of repayment, financial restrictions and other considerations.

Companies that require large amounts of capital for major projects may have to seek more patient or strategic capital - often in the form of public debt or equity, which come from specialized mezzanine funds or private equity funds that invest over longer time horizons. While alternatives to securing debt and equity are considerably more expensive, they enable a company to fund a strategically important project when traditional bank financing is not available - thus allowing the manufacturer to further develop an important competitive advantage. [37]

However these opportunities come with risks which, for many existing securities, involve investments that are often hard to evaluate. Therefore investment financing is controversial decision, which should not be initiated by ñlearningò to avoid real changes to fall considerably short to the objectives placed. Consistently prepared responsible decision on funding covers constant supervision of credit history (if ignored, persistence in financing choices could lead to biased estimates of the sensitivities of financing to investments and income), reputation and a positive signal of net worth gaining if decided to go public. Then, companiesô investment strategies possibly have relations associated with financing strategies, including possibilities for investment project financing improvement.

2. THEORETICAL ASPECTS OF PROJECT FINANCING ENVIRONMENT

2.1. Conception of investment financing

In fact, two main points are emphasized that include both: the economical and financial dimension of the conception. In theoretical economics, investment means the purchase (and thus the production) of capital good ï goods which are not consumed but instead used in future production.

Investments are various real or intellectual values that are put in business or other objects and spheres that make profit or invoke a social effect.

Investment plays six macroeconomic roles:

1) it contributes to current demand of capital goods, thus it increases domestic expenditure;

2) it enlarges the production base (installed capital), increasing production capacity;

3) it modernizes production processes, improving cost effectiveness;

4) it reduces the labor needs per unit of output, thus potentially producing higher productivity and lower employment;

5) it allows for the production of new and improved products, increasing value added in production;

6) it incorporates international word ï class innovations and quality standards, bridging the gap with more advanced countries and helping exports and an active participation to international trade. [30]

Concerned with real investments as contrasted with financial investments, a financial investment is one in which the investor allocates his resources to some from of financial instrument, such as stocks or bonds, which represents claims on real assets. Real investments are represented by physical assets themselves. When an investor buys shares of the stock he truly perceives that he is making an investment, but the person from whom hew purchased that share of stock has, correspondingly, disinvested. A change of ownership took place, but from an overall perspective the investment was balanced by an equal disinvestment. By contrast, real investment takes place when new assets are put in place.

The fundamental pattern of all investments is characterized by an initial commitment of resources, followed by a later payback. [17]

In addition, the most important considerations in evaluating the investment decision are:

1. the value system;
2. the futurity of investment flows and return flows;
3. the economic context of the project;
4. risk;

5. inflation;
6. finance (implementation);
7. performance measurement (accounting);
8. perspective of the investor (the point of view from which the investment is made).

Business Finance is basically the methodology of allocating financial resources, with a financial value, in an optimal manner to maximize the wealth of a business enterprise. There are three major decisions to be made in this allocation process: *capital budgeting*, *financing,* and *dividend policy*. [23]

Capital budgeting is the decision regarding the choice of which investments are to be made with the resources that have been brought into the business or earned and retained by the business. The choice depends on the returns to be made from the investment exceeding the cost of capital.

Financing is the decision of which resources or funds are to be brought into the business from external investors and creditors in order to be invested in profitable projects. Company financing falls into two broad categories: *equity* and *debt*.

Equity is the ownersô initial and subsequent investment in the company. For the majority of companies most of the additional equity comes from retained earnings. Retained earnings are after-tax profits remaining in the company after payment of dividends to shareholders. Issuing new shares in the company provides a further possible source of new equity when needed. [7]

The remaining source of external financing, loosely termed *debt*, consists mainly of various short-term and long-term borrowings including the issuance of corporate bonds. Borrowing is the most accessible external funding, and the interest on the debt is tax-deductible. Unfortunately, borrowing burdens the company with legally enforceable obligations to pay interest and to repay the debt on a contractually agreed schedule. [12]

The goal of the financing decision is to obtain all the resources necessary, to make all the investments that yield a return in excess of the cost of the funds invested or the required rate of return, and to obtain these funds at the lowest average cost, so as to reduce the required rate of return and increase the net present value of the projects selected.

Dividend policy is the decision regarding funds to be distributed or returned to the equity investors. This can be done with *common stock dividends*, *preferred stock dividends*, or *stock repurchase* by the business of its own stock. The aim of this decision is to retain the resources in the business that are required to run the business or make additional investments in the business, as long as the returns earned exceed the required return. [8]

2.2. Financing sources of investment

Given that the economic choice has been made, there is another question that concerns financing of investment: how can capital be management to implement the investment choice? The financial analysis, which should follow the economic assessment of any investment project, is for the purpose of determining the best means of implementing the investment choice. Financial analysis must include consideration of the most efficient source of funding.

Sources of finance are classified on different basis. Summarizing different characteristics to suit different types of requirements provided by finance theory authors, three major bases of classification are time period, ownership and control, and source of generation of capital. Figure 1 helps focus on the leverage points in the principle financing scheme available to the enterprise.

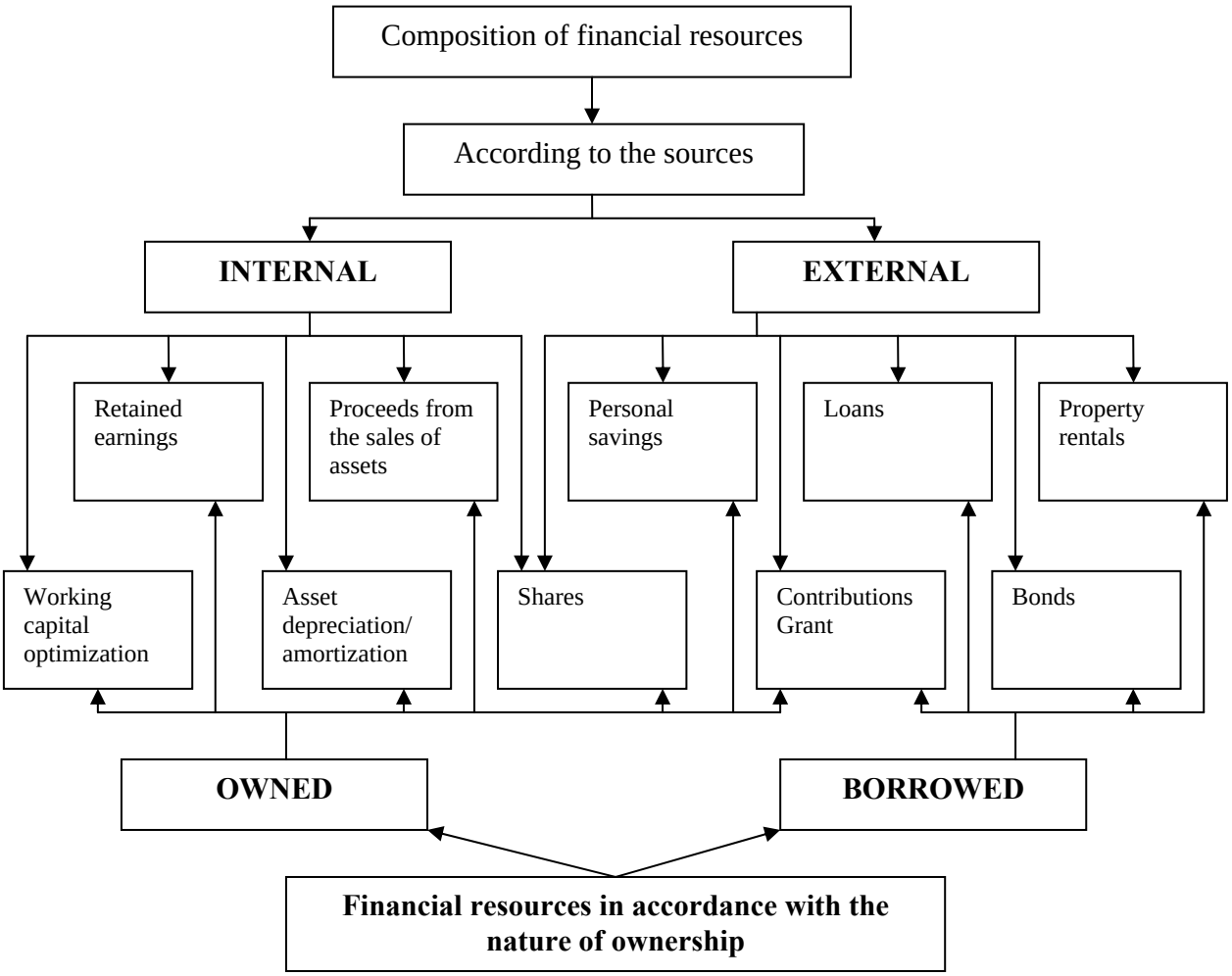


Fig. 1. Principle scheme of business investment financing sources [5]

Choosing right source and right mix of finance is a key challenge for every investing company. The process of selecting right source of finance involves in-depth analysis of each and

every source of finance. For analyzing and comparing the sources of finance, it is required to understand all characteristics of the financing sources. [17]

ACCORDING TO OWNERSHIP AND CONTROL:

Sources of finances are classified based on ownership and control over the business. ôOwnership of Capitalô and ôControl over Managementô is an important consideration while deciding or selecting a source of finance for the business. Whenever we bring in capital, there are two types of costs ï one is interest and another is sharing of ownership and control. Some entrepreneurs may not like to dilute their ownership rights in the business and hence they will take decision accordingly. [11]

Owned Capital: Owned capital is also referred as equity capital. It is sourced from promoters of the company or from general public by issuing new equity shares. Business is started by the promoters by bringing in the required capital for start up. Ownersô capital is sourced from following sources:

- Equity Capital
- Preference Capital
- Retained Earnings
- Convertible Debentures
- Venture Fund or Private Equity

Further, when the business grows and internal accruals like profits of the company are not enough to satisfy financing requirements, the promoters have choice of selecting ownership capital or non-ownership capital. This decision is up to the promoters. Still, to discuss, certain advantages of equity capital are as follows:

- It is a long term capital which means it stays permanently with the business.
- There is no burden of paying interest or installments like borrowed capital. So, risk of bankruptcy also reduces. Businesses in infancy stages prefer equity capital for this reason. [15]

Borrowed Capital: Borrowed capital is the capital borrowed from outside sources. Outside sources include the following

- Financial institutions,
- Commercial banks or
- General public in case of debentures.

In this type of capital, the borrower has a charge on the assets of the business which means the borrower would be paid by selling the assets in case of liquidation. Another feature of borrowed capital is regular payment of fixed interest and repayment of capital. Certain *advantages of borrowing capital* are as follows:

- There is no dilution in ownership and control of business.

- Cost of borrowed funds is low since it is a deductible expense for taxation purpose which ends up saving on taxes for the company.

ACCORDING TO SOURCE OF GENERATION:

Internal Sources: Internal source of capital is the capital which is generated internally from the business. Internal sources are as follows:

- Retained profits
- Reduction or controlling of working capital
- Sale of assets etc.

The internal source has the same characteristics of owned capital. The best part of the internal sourcing of capital is that the business grows by itself and does not depend on outside parties. Disadvantages of both equity capital and debt capital are not present in this form of financing. Neither ownership is diluted nor fixed obligation / bankruptcy risk arises. [17]

External Sources: External source of finance is the capital which is generated from outside the business. Apart from the internal sources finance, all the sources are external sources of capital.

ACCORDING TO TIME-PERIOD:

Sources of financing a business are classified based on the time period for which the money is required. Time period are commonly classified into following three:

Long Term Financing: Long term financing means capital requirements for a period of more than 5 years to 10, 15, 20 years or may be more depending on other factors. Capital expenditures in fixed assets like plant and machinery, land and building etc of a business are funded using long term finance. Part of working capital which permanently stays with the business is also financed with long term sources of finance. [10] Long term financing sources can be in form of any of them:

- Share Capital or Equity Shares
- Preference Capital or Preference Shares
- Retained Earnings or Internal Accruals
- Debenture / Bonds
- Term Loans from Financial Institutes, Government, and Commercial Banks
- Venture Funding
- Asset Securitization
- International Financing by way of Euro Issue, Foreign Currency Loans, ADR, GDR etc.

Medium Term Financing: Medium term financing means financing for a period between 3 to 5 years. Medium term financing is used generally for two reasons. One, when long term capital is not available for the time being and second, when deferred revenue expenditures like advertisements are made which are to be written off over a period of 3 to 5 years. Medium term financing sources can in the form of one of them:

- Preference Capital or Preference Shares
- Debenture / Bonds
- Medium Term Loans from
  - Financial Institutes,
  - Government, and
  - Commercial Banks
- Lease Finance
- Hire Purchase Finance

Short Term Financing: Short term financing means financing for period of less than 1 year. Need for short term finance arises to finance the current assets of a business like inventory of raw material and finished goods, debtors, minimum cash and bank balance etc. Short term financing is also named as working capital financing. It is called working capital financing because this money assists finance manager in smooth running of daily working of the business. Short term finances are available in the form of:

- Trade Credit
- Short Term Loans like Working Capital Loans from Commercial Banks
- Fixed Deposits for a period of 1 year or less
- Advances received from customers
- Creditors
- Payables
- Factoring Services
- Bill Discounting etc.

In practice, generally the long-term and short-term funding techniques are identified in order to simplify the financial evaluation of enterprise, as *Medium Term* is more of a management-term than a finance/accounting term. For instance, S. Zablockis claims business financing is divided into long-term financing for business development and financing of short-term business stability.

From the standpoint of the company, short-term debt is riskier than long-term debt. First of all, long-term interest rates are generally more stable over time than short-term rates. The firm that borrows predominantly on a short-term basis may experience widely fluctuating interest rate payments. Short-term borrowings have to be renewed regularly. Thus, not only has the firm to pay the going rate at the time, but if the renewal comes at a point when either the firm or the banker is experiencing financial difficulties, then the rate may be raised or the bank may refuse to renew loan. It is clearly important to ensure that the right balance is struck between short-term and long-term debt and that the maturity profile of debt does not introduce repayment difficulties. The business

environment can change very rapidly, hence the treasurer is advised to ensure that an excessive amount of the debt does not fall due in any one year. [13]

Wrong source of finance increase the cost of funds which in turn would have direct impact on the feasibility of project under concern. Improper match of type of capital with requirements may go against smooth functioning of the business. [10]

2.2.1. Equity versus debt

Drawing on existing finance theory firms prefer internal finance to external finance and, if resort to external finance becomes necessary, debt finance is preferred to equity finance.

Debt finance allows a company to raise funds at a lower cost than equity, and more flexibility when managing the pool of capital (debt can be repaid, refinanced, restructured or ósyntheticallyô altered using derivatives, for example). Furthermore, it can enhance the return on equity via the leverage affect. In some cases, significant debt funding can be made available relatively quickly. [23]

The terms of a debt funding agreement may require the borrower to provide significant commitments by way of security, representations, warranties and covenants (financial and otherwise), depending on the balance between the return for the lender and its perception of the risk involved. The owners of the business will, effectively, have less control due to these financing commitments. [15]

As dividend payments are not tax-deductible, and new issues of equity involve high transaction costs, equity issues are a less significant source of external financing than debt. By law, debt holders have a prior claim on the companyôs assets, and shareholders can claim only what is left after lendersô claims have been satisfied. This makes borrowing more risky than equity from the companyôs standpoint. Although moderate borrowing can be less costly than new equity, the company must limit borrowing to control risk and to maintain a favorable credit rating with lenders. [12]

Under what circumstances will a utility prefer equity over debt financing? In principle, as an enterprise becomes more highly leveraged with debt (illustrative by an increasing debt to equity ratio and increasing debt service costs as a proportion of operating expenses), the costs of debt to the enterprise will increase since the risk of delayed payments or failure to pay increases. In practice, however, manufacturing enterprises in emerging markets are eligible for the same cost of debt capital regardless of their financial condition, as long as public sector lending institutions have sufficient capital. However, over time, either public sector lending institutions will have to raise their own capital in the market, and hence pay market costs, or enterprises will have to raise their own capital directly, such as borrowing from banks or issuing bonds.

Figure 2 illustrates the hypothetical relationship between the cost of debt and the cost of equity. For a firm with low leverage (low debt to equity ratio), the total cost of capital can be lowered by increasing debt relative to equity. At some point, which varies by type of industry/market, the debt to equity ratio threatens the probability of debt repayment, which causes lenders to charge a higher premium for additional debt. In that region, it is generally preferable for the enterprise to substitute more equity for debt. For most emerging market public utilities, however, financial leverage strongly favors debt financing. [28]

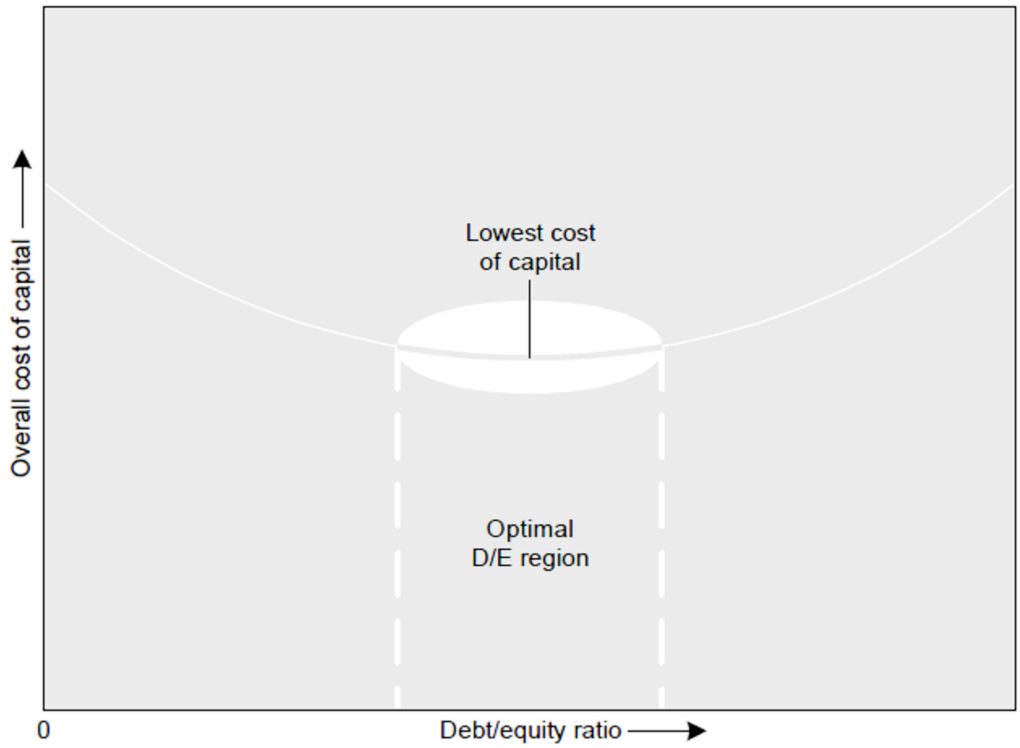


Fig. 2. Optimal Debt-to-Equity region for an organization [28]

Debt can be beneficial, of course, but only up to a point - beyond which the costs of potential financial distress begin to outweigh the benefits of leverage. That is an important issue for investment because debt-to-invested capital affects an enterprise cost of capital and, therefore, the overall value of the property. [20]

Debt and equity financing should not be seen as substitutes for each other. Instead, they are very different in nature and complement each other. Debt needs to be repaid in cash. Equity needs to be rewarded with long-term profits. Depending on individual circumstances and opportunities the trick for each investment is to find the best mix of both. [26]

Debt to equity ratio: Debt / Ownersô Equity - indicates the relative mix of the companyôs investor-supplied capital. A company is generally considered safer if it has a low debt to equity

ratio - that is, a higher proportion of owner-supplied capitalð though a very low ratio can indicate excessive caution. In general, debt should be between 50 and 80 percent of equity.

Analyzing the overall debt ratio, it is really important not only to count the rate, but also to evaluate the causes of the formation, considering the ability to repay debts. In addition, the structure of liabilities is worth to investigate in determination of proportion of the long-term and short-term liabilities. [30]

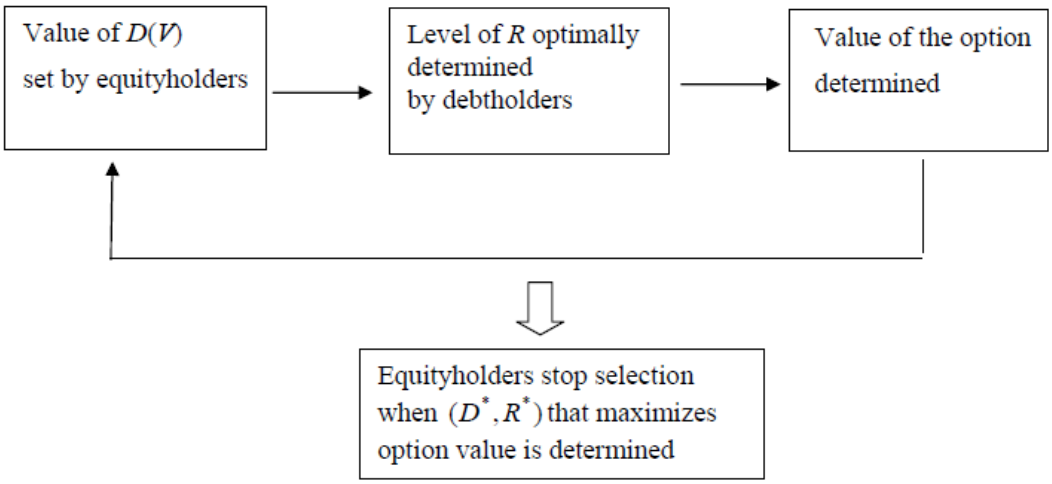


Fig. 3. Optimal debt level determination [29]

Before pursuing debt-financing alternatives enterprises need first to consider four basic elements, namely:

(1) Business risk

Business risk is inherent in the property, and is related to the volatility of its sales and its degree of operating leverage. In most cases, enterprises can compensate for a large amount of business risk by employing a relatively conservative capital structure (high equity and little debt).

(2) The need for financial flexibility

The fact that interest must be paid on debt (but dividends do not have to be paid on equity) has important implications for firms that want as much financial flexibility as possible. The debtï equity ratio can be affected by the extent to which suppliers of debt capital fail to assess the risk of financial distress accurately.

(3) The degree of ownership's risk aversion

Owners have to be comfortable with the risk that they are taking. If owners have a great aversion to taking risk, they will seek to use a conservative amount of debt. This is one that gives the property the maximum amount of financial flexibility and imposes the least amount of leverage. Aggressive owners, on the other hand, may be willing to incur the risk inherent in employing a large amount of debt in the capital structure precisely because of the leverage it gives to the bottom line.

(4) Tax considerations

Tax considerations include the marginal tax rate of the ownership entity, and the way the tax law treats payments to various suppliers of investment capital. For example, the fact that interest on debt capital is tax deductible, while dividends paid to suppliers of preferred or common equity capital are not, can influence the targeted debt levels. Generally, the higher the marginal tax rate is, the greater the incentive to use more debt. [20]

Although the focus of this paper is on financing alternatives, it is important to remember that two other elements may influence the choice of debt versus equity. To the extent that private equity investment also brings new technology and new management tools to the utilityôs operations, the impact on operations cost and hence profits which may be reinvested, or paid in dividends, may offset the likely higher cost of equity financing. The flow of revenue from sales into equity and dividends is affected by the efficiency with which assets produce sales. If private capital investment such as in the form of concession contracts brings with it management and/or technology improvements, the proportion of sales revenues that are operating expenses will decrease, and the flow of profit to dividends and equity will increase. [28]

2.2.2. Short – term financing theoretical analysis

Short Term Debt Financing usually applies to money needed for the day-to-day operations of the business, such as purchasing inventory, supplies, or paying the wages of employees. Short term financing is referred to as an operating loan or short-term loan because scheduled repayment takes place in less than one year. Owing to, short-term financing is mainly used to ensure the stability of the business.

Merits of short-term finance:

a) ECONOMICAL: Finance for short-term purposes can be arranged at a short notice and does not involve any cost of raising. The amount of interest payable is also affordable. It is, thus, relatively more economical to raise short-term finance.

b) FLEXIBILITY: Loans to meet short-term financial need can be raised as and when required. These can be paid back if not required. This provides flexibility.

c) NO INTERFERENCE IN MANAGEMENT: The lenders of short-term finance can not interfere with the management of the borrowing. The management retains their freedom in decision making.

d) MAY ALSO SERVE LONG-TERM PURPOSES: Generally business firms keep on renewing short-term credit, e.g. cash credit is granted for one year but it can be extended up to 3 years with annual review. After three years it can be renewed. Thus, sources of short-term finance may sometimes provide funds for long-term purposes. [26]

Short-term finance suffers from a few *demerits* which are listed below:

a) FIXED BURDEN: Like all borrowings interest has to be paid on short-term loans irrespective of profit or loss earned by the organization. That is why business firms use short-term finance only for temporary purposes.

b) CHARGE ON ASSETS: Generally short-term finance is raised on the basis of security of moveable assets. In such a case the borrowing concern cannot raise further loans against the security of these assets nor can these be sold until the loan is cleared (repaid).

c) DIFFICULTY OF RAISING FINANCE: When business firms suffer intermittent losses of huge amount or market demand is declining or industry is in recession, it loses its creditworthiness. In such circumstances they find it difficult to borrow from banks or other sources of short-term finance.

d) UNCERTAINTY: In cases of crisis business firms always face the uncertainty of securing funds from sources of short-term finance. If the amount of finance required is large, it is also more uncertain to get the finance.

e) LEGAL FORMALITIES: Sometimes certain legal formalities are to be complied with for raising finance from short-term sources. If shares are to be deposited as security, then transfer deed must be prepared. Such formalities take lot of time and create lot of complications. [9]

In Lithuanian reality, V. Aleknevi ienã identifies the following short-term funding sources, as illustrated in Figure 4.

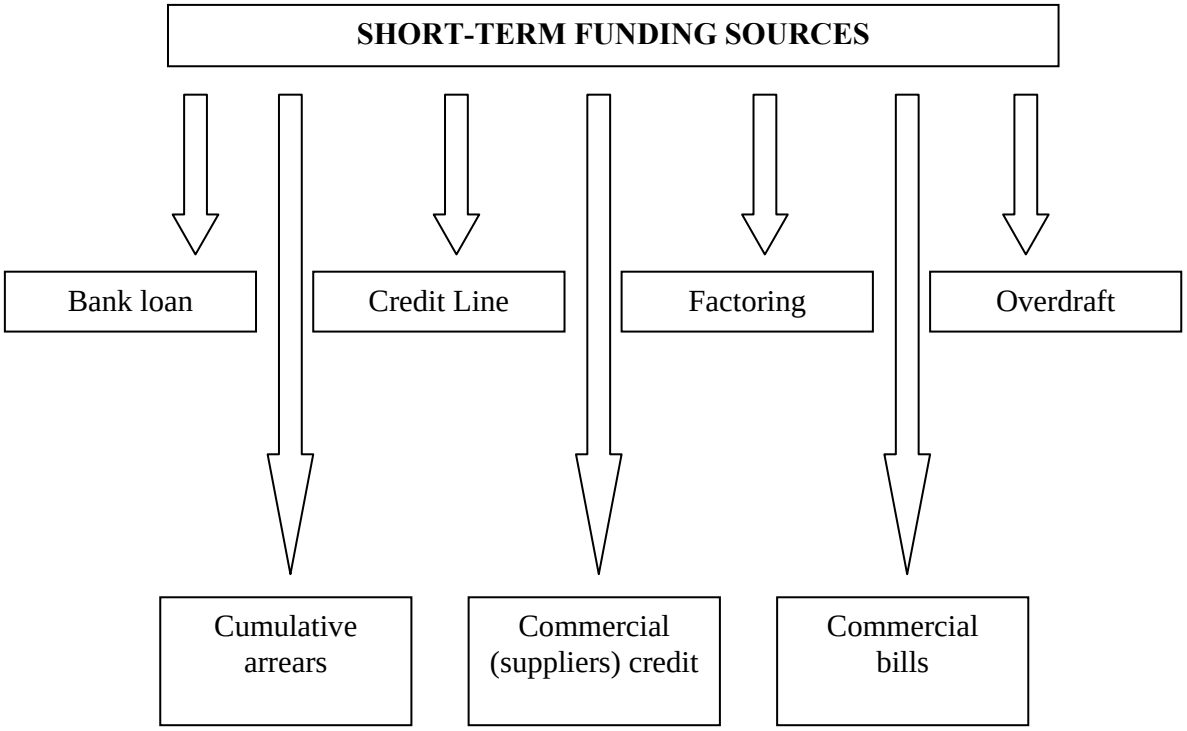


Fig. 4. Short-term sources of funding [2]

Short-term funding or working capital is mostly provided by banks extending *a line of credit*, which business owners prefer over loans. The credit line is usually given in a separate - a credit line account, and the use of a credit line and the resulting need to carry out orders from or to a credit line account. The credit line may be used and repaid at any time, any amount of credit line before the deadline. Line of credit may be given 12-month period, with the option to extend for another 12 months. Granted a credit line usually does not exceed the amount of one or two months of sales in the amount of medium-sized enterprises. [34]

Lines of credit vary in how they are set up. For example, business lines of credit are typically asset-based, meaning hard assets are used as collateral. Such credit lines can also be based on receivables and in some cases inventory (although this is less common because the value of inventory can decline very quickly and is therefore seen as a greater risk to the lender). The interest rate can also differ because commercial rates may be equal to or exceed the prime lending rate (also based on the level of risk as perceived by the lender). Therefore it is advisable to shop around. While seeking such a line of credit, business owner will also want to know that the interest being paid is only on the money being borrowed, as opposed to being calculated on your borrowing limit or in any other manner. Also, inquire whether deposits are made directly to the outstanding balance, which reduces the amount of interest company will have to pay. A good business credit rating and a sound financial history showing that business has been profitable (usually for 18 months to two years minimum) will often be enough to get started. [12]

Here are some of *the advantages of opening a business credit line*:

- The company can efficiently dispose of circulating assets, and according to the urgent need to pay for the required product or service;
- The interest calculated from the actually used amount of the credit line;
- It is possible to use the credit line without pledging assets;
- Use credit and repay at any time the contract on time, you do not comply with the repayment schedule;
- May be provided for loan repayment grace period. [34]

Disadvantage of:

- A borrowerôs creditworthiness is strictly considered. Lenders typically reserve business credit lines for businesses that have a proven track record.

Factoring. In order to increase or improve cash flow, companies may sell their accounts receivable to a factor or agent at a discount. This is known as *factoring*. In the present economic downturn, factors are very busy. They assume the debt of the strapped company and manage the accounts. When entering into a factoring agreement, the indebted company uses their invoices as collateral for cash, usually provided by a factor in a short-term loan. [45]

A line of credit from a banking institution does not provide as much cash flow as a factoring agreement does because with this agreement the company is borrowing on its sales which helps to finance more growth. [37]

With factoring, the business (known as the Client) sells accounts receivable to the Factor in exchange for funding. The Factor typically advances 75% to 80% of the face amount of the accounts to Client. The Factor then collects the accounts from the Client's customers (the Account Debtors) and, upon collection, remits to Client the remaining 20% to 25% of the accounts, less a fee. In addition, the Factor provides various accounts receivable management, collection and credit services to the Client. The following diagram illustrates the factoring process:

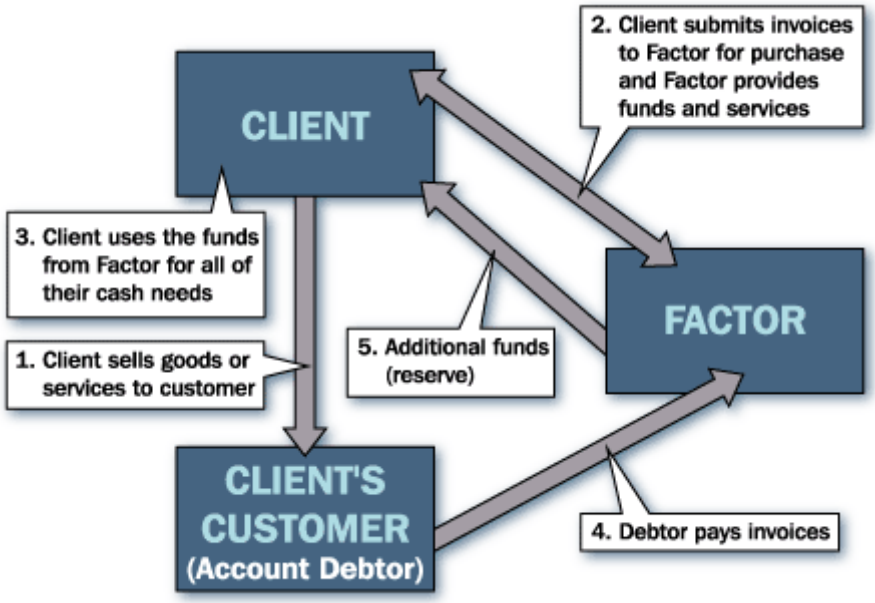


Fig. 5. Factoring process [39]

Factoring is not a loan; it does not create a liability on the balance sheet or encumber assets. It is the sale of an asset - in this case, the invoice. And while factoring is considered one of the most expensive forms of financing, thatôs not always true: if compared the discount rate factors charge against the interest rate banks charge, factoring costs more. But if the enterprise canôt qualify for a loan, it doesnôt matter what the interest rate is. Factors also provide services banks do not: they typically take over a significant portion of the accounting work for their clients, help with credit checks, and generate financial reports for letting know where a company stands. [45]

Taking a loan from a bank, the company itself is responsible for the repayment of the loan, and selecting the right factoring services to pay for the goods sold to the factoring company. [29]Lithuanian companies can use internal or international, open or closed (also known as confidential), with recourse and without recourse factoring services. [3]

Advantages of factoring over other types of finance:

- SPEED**:** Factoring and Invoice Discounting allow you to capitalise on invoices with a minimum of delay. Factoring allows enterprise to accept the order with much less risk to business cash flow.
- COST: Factoring invoices is cheaper than using credit, overdrafts and many other forms of finance. Factoring also gives company set fees, whereas overdrafts costs can build up if you keep using them and not paying them off in full.
- TIME SAVING**:** Rather than having to chase debts, factoring usually means the invoice finance company will collect the money themselves.
- SECURITY**:** Factoring does not require risking business assets as security on the finance, as the money is secured on the sales enterprise have already made. Bear in mind though that some factoring companies will not want to factor risky invoices.
- FUNDING MATCHES BUSINESS**:** As manufacturing business grows and increases sales, the amount of funding available through factoring would increase as well. Having funding that expands as you grow is extremely useful; particularly as many businesses fail because expanding sales use up their cash flow.
- SUITABLE FOR BUSINESSES OF ALL SIZES: One big advantage of factoring is that it is potentially suitable for businesses of all sizes; especially now there are invoice finance firms that are targeted at small businesses and their needs. [39]

Selecting factoring can be disadvantageos to:

- REPUTATION: Some less reputable invoice finance companies can damage customer relations by being too aggressive in collecting factored invoices.
- CONTROL**:** Factoring reduces the control company has over debts, as the invoice finance company collects them for client. Since the factor will be responsible for collecting accounts receivable and may be responsible for amounts which cannot be collected, they may try to influence sales practices. [45]

This type of service credit increases the liquidity of the assets, which consists of pre-prepare your business to grow rapidly and increase the opportunities for financial firms. Accelerates the turnaround, accumulated free money, time, and paid the suppliers account other compulsory payments made and the company has the opportunity to pay the debts of customers at the same time, as well as its competitors. Such an undertaking, and can expect the payment of discounts by reducing suppliers and creditors of the risks associated with the clientôs solvency.

Forfeiting. A form of factoring that involves selling large, medium to long-term receivables to buyers (forfeiters) who are willing and able to bear the costs/risks of credit and collections. [27]

In international trade, forfeiting is the selling of an exporterôs receivables for a particular transaction. It is similar to factoring except in scope. While a company sells all of its accounts receivable in factoring, an exporter only sells one receivable for one, perhaps high risk, transaction. In forfeiting, the buyer is known as a forfeiter, and assumes all the risks associated with collecting the receivables (see Figure 6 for definition). Generally, the exporter forfeits the receivable at a discount. This improves cash flow but reduces income. [21]

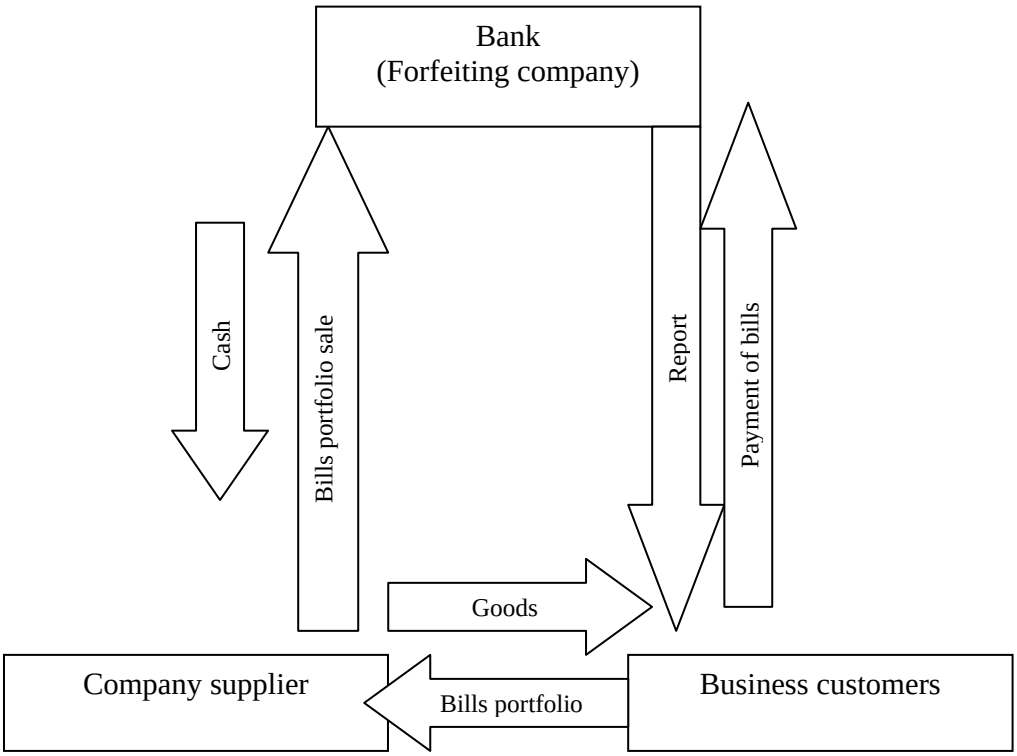


Fig. 6. Basic scheme of forfeiting [2]

Forfeiting outstanding debt is the purchase and sale. Buyer issues a set of bills the amount equal to the value and the percentage of the money for the credit, which agrees to provide such a form the seller to the buyer. In this case, the seller instead of payment for goods delivered currently receives no money, and the obligation to pay a certain amount of time specified in the bill-or a suite. Have sold, have received the package of bills, it is sold to the bank or to the special forfeiting company without the right to purchase and receive the first cash at the beginning of the transaction. Meanwhile, the bank, acquiring the pledge debt, assumes the obligation to pay the bill. Decide the size of the discount to non-payment under the bill to the risk of liability and the amount of his coverage period, the bank loan interest rate. As a buyer of credit is not the supplier, but the bank, which forfeitings the transaction, and assumes the risk of non-payment of money. [2]

The cost of forfeiting is determined by the rate of discount based on the aggregate of the LIBOR rates for the tenor of the receivables and a margin reflecting the risk being sold. The degree of risk varies based on the importing country, the length of the loan, the currency of transaction, and

the repayment structure - the higher the risk, the higher the margin and, therefore, the discount rate. However, forfeiting can be more cost-effective than traditional trade finance tools because of many attractive benefits it offers to the exporter:

- Quick receipt of funds.
- Above the level of capital turnover.
- Protection of non-payment risk and currency risk.
- Simplifies the companyôs balance sheet.
- Keeps the interest rate fluctuation risk.

Any commitment can be forfeited. Exporter disadvantages come together to possible increased costs of the transfer of risks to the forfeiter. However, the exporter does not have short- and medium-term debt obligations, which the buyer must pay within a short period of time. The reason is that the exporter receives the money immediately. The bank buys the foreign exchange rate risks. [14]

Credit surplus. Company to finance the needs of a popular short-term source of funds is given to the credit of banks over the service. The excess credit is granted, subject to a period of time (last year) the average balance their customerôs account in the same bank, which sought to provide a credit surplus. A surplus is a very flexible financing instrument, which establishes conditions for negotiation. It gives the company the opportunity to freely use the funds under the agreed conditions. [2]

Due to the excess credit is agreed relatively quickly. Technically, the excess credit paid only upon request (from time to time the bank may request a refund of the credit for the surplus before the deadline, which in turn may cause the clientôs insolvency), but usually the excess of credit agreements, according to the clientôs solvency and credibility, may be renewed at the end of the period, so that the excess credit may be used to finance a "long term" short-term demand. Credit the excess amount may be increased, or if the seasonal factors not caused by the need for additional funds in view of the customerôs movements of funds in your account, or reduced if the additional funding needs for a certain period decreases. These and other terms of credit are provided in the excess contract between the bank and the company [24].

Agreement on the excess of credit between the bank and the company can create a strong relationship between the parties in mutual trust. On one hand, the company provides information about your financial situation, the periodic extension of the contract, on the other hand, in order to remain in business the bank is inclined to maintain a strong relationship with customers. [3]

The growing competition in banking, the company and the relationship between the banks acquires even greater significance. The main deficiency of credit excess, not to mention the risk of the bank to cover it not time, is that the interest rate of bank base rate and a risk premium, the range

of validity of the contract at the time. Consequently, the company has to bear the interest rate and exchange risks. [14]

Although the excess of credit is a convenient and flexible financing instrument, the bank may also offer short-term financing for fixed or floating interest rate. This funding is usually associated with certain acquisitions. [24]

Commercial bill financing is often an ideal mode of short-term financing to business concerns. Bill of exchange is an instrument in writing containing an unconditional order, signed by the marker directing a certain person to pay a certain sum of money only to, or to the order of, a certain person, or to the bearer of that instrument.

Banks provide credit to their customers by discounting commercial bills. This credit is repayable on maturity of the bill. In case of need for funds, and can rediscount the bills in the money market and get ready money. Commercial bills ensure improved quality of lending, liquidity and efficiency in money management. It is fully secured for investment since it is transferable by endorsement and delivery and it has high degree of liquidity. [37]

Borrowing via a Commercial Bill facility offers the flexibility to:

- Adjust the principal amount borrowed each rollover (or interest payment period) in line with business cash flow requirements, within a specified limit.
- Manage the associated interest rate risk by applying a Structured Business Finance solution to the Commercial Bill borrowings.

Commercial paper is an unsecured financial device that allows businesses to raise funds directly in the short-term financial markets as an alternative to scarce or more expensive bank loans. Because the paper is backed only by the financial standing of the issuer, the ability to issue commercial paper tends to be restricted to large corporations with high credit ratings. [40]

In practice, most commercial paper issuers maintain backup liquidity through bank lines of credit. These are often being structured as multi-year revolver agreements in which a bank commits to loan funds to a firm on demand at a floating base rate that is tied to the prime rate, LIBOR rate, or certificate of deposit rate. As compensation, the bank receives various fees from the firm. In particular, banks often receive a commitment fee that is a percentage of the unused credit line. [17]

Liquidity ratios indicate how capable a business is of meeting its short-term obligations as they fall due:

Current ratio: Current Assets / Current Liabilities - measures the ability of an entity to pay its near-term obligations. "Current" usually is defined as within one year. Though the ideal current ratio depends to some extent on the type of business, a general rule of thumb is that it should be at least 2:1. A lower current ratio means that the company may not be able to pay its bills on time,

while a higher ratio means that the company has money in cash or safe investments that could be put to better use in the business.

Quick ratio (or "acid test"): Quick Assets (cash, marketable securities, and receivables) / Current Liabilities - provides a stricter definition of the company's ability to make payments on current obligations. Ideally, this ratio should be 1:1. If it is higher, the company may keep too much cash on hand or have a poor collection program for accounts receivable. If it is lower, it may indicate that the company relies too heavily on inventory to meet its obligations. [43]

By using short-term direct finance firms of the highest credit quality expose themselves to rollover risk in the public debt markets. Firms insure themselves against this risk by securing backup lines of credit from banks that they may use should market liquidity dry up. Low quality firms issue short-term direct debt, medium quality firms issue long-term direct debt, and high quality firms use short-term direct debt in normal times and bank debt in adverse times. [40]

But poor analysis turns short-term loans into long-term debt, putting the business in a precarious financial position. Incorrect use of short-term financing was a major problem for a number of the cases studied. Besides, short-term investments help protect the long-term financial goals.

2.2.3. Long – term financing theoretical analysis

A company commonly uses long-term debt to finance major capital purchases and investments. **S**ources of long term finance can include contributions from shareholders**,** debentures**,** bank loans and leasing contracts**.** From the issuerôs viewpoint, there are several advantages and disadvantages to long-term debt. [42] *The major advantages are as follows:*

- The cost of debt is independent of earnings, so debt holders do not participate if profits soar. There is, however, a flip side to this argument ï if profits fall, the company must still pay the interest on its debt.
- Because of the tax deductibility of interest payments, the risk-adjusted component cost of debt is lower than of common stock.
- The owners of the corporation do not have to share control when debt financing is used.

Despite these advantages, long-term debt is not always in the companyôs best interest. *It may entail the following:*

- Since debt service (interest plus scheduled principal repayments) is a fixed charge, a decline in operating income may result in insufficient cash flow to meet debt service requirements. This can lead to bankruptcy.

- Financial leverage increases the firmôs riskiness, hence raises its cost of both debt and equity.
- Debt normally has a fixed maturity date at which time the firm must repay the principal.
- In a long-term contractual relationship, it is necessary for the indenture provisions to be much more stringent than in a short-term credit agreement. Thus, the firm will be subject to more restrictions than if it had borrowed on a short-term basis or had issued common stock.
- There is a limit to the amount of funds which can be raised at a ñreasonableò rate. Widely accepted lending standards dictate that the debt ratio should not exceed certain limits (which vary from industry to industry), and when debt goes beyond these limits, its cost becomes prohibitive. [15]

Long-term sources of funding, unlike the short-term, ensure greater liquidity, but a lower yield. [3] The amount of long term debt a company holds can affect its reputation and its ability to borrow money.

Long-term bank loan by far is the cheapest and most common way to finance business development. Among the banks to an operator, for a long-term loan, the two most important are the following: an entity must have from 20 to 40 percent. investment cost of the project financing of own funds, the entity has pledged the bank assets, a value 1.5 times higher than that to get the loan amount, or provide any other bank of the loan guarantee (warranty, guarantee or other). [19]

The main advantage of long-term loan - a company increases the financial resources and has the opportunity to successfully achieve its objectives.

Long-term loans defects:

- The price of longer-term borrowing is higher, because the long term installment loan linked to an increased risk of both the bank and the firm, which borrows.
- A complex undertaking obtaining the loan, i.e. the bankôs consent to provide a loan. This is related to the bankôs requirements and the conditions in the company wished to obtain a loan.
- With no collateral and the loan from the insolvent companyôs financial resources to obtain the suppliers can not.
- Long-term loans usually funded by large, long-term projects. Such loans are expensive and are available only to large, financially viable enterprises. [11]

To release the companyôs securities issuance, the potential of various alternatives, including the additional issue of shares:

1. Company *ordinary shares* entitle the holder to receive dividends and the liquidation of company assets.
2. *Preference shares* give the holder the right to a fixed dividend amount paid out before ordinary share dividends.

3. *Debt securities* (corporate bonds) are the guarantees, or distressing, and a right to fixed income, is paid earlier than the ordinary shares and preference dividends. [9]

These securities have a multitude of variants, which the company is a constant source of capital, corporate bonds are usually limited. However, this is not a liquidity problem, because the company may be new to the old bond, i.e. issuance of new securities issue. The new securities may be circulated to the increased cost, if the interest rate has increased. [33]

A *credit rating* is a formal opinion given by a rating agency, of the credit risk for investors in a particular issue of debt securities. Ratings are given to public issues of debt securities by any type of entity. They are also given to short-term debt such as commercial paper as well as bonds and medium-term notes.

Investors in securities accept the risk that the issuer will default on coupon payments or fail to repay the principal in full on the maturity date. Generally, credit risk is greater for securities with a long maturity, as there is a longer period for the issuer potentially to default. Credit ratings vary between agencies. [16] For example, Standard and Poor (S and P) scales rank companies on a scale ranging anywhere from AAA (the best) to D (being the worst). There are also rankings that occur between levels. For some companies, Standard and poor rating system may also offer its help through giving on its opinion as to whether or not a company is likely to be downgraded (a minus sign) upgraded (a plus sign) or uncertain (neutral). This is known as a credit watch.

Long-Term Credit Ratings:

AAA	the best quality companies, reliable and stable;
AA	quality companies, a bit higher risk than AAA;
A	economic situation can affect finance;
BBB	medium class companies, which are satisfactory at the moment;
BB	more prone to changes in the economy;
B	financial situation varies noticeably;
CCC	currently vulnerable and dependent on favorable economic conditions to meet its commitments;
CC	highly vulnerable, very speculative bonds.
C	highly vulnerable, perhaps in bankruptcy or in arrears but still continuing to pay out on obligations;
CI	past due on interest;
R	under regulatory supervision due to its financial situation;
SD	has selectively defaulted on some obligations;
D	has defaulted on obligations and S&P believes that it will generally default on most or all obligations;
NR	not rated. [27]

There are several advantages of issuing bonds or other debt instead of stock when acquiring assets. One advantage is that the interest on bonds and other debt is deductible on the corporationôs income tax return. Dividends on stock are not deductible on the income tax return.

A second advantage of financing asset with bonds instead of stock is that the ownership interest in the corporation will not be diluted by adding more owners. Bondholders and other lenders are not owners of the assets or of the corporation. Therefore, all of the gain in the value of the assets belongs to the stockholders. The bondholders will receive only the agreed upon interest. This is related to the concept of leverage or trading on equity. By issuing debt, the corporation gets to control a large asset by using other peopleôs money instead of its own. If the asset ends up being very profitable, all of its earnings minus the interest will enhance the ownersô financial position. [16]

Bonds payable are less costly than common stock because the bonds issued by a corporation contain a formal contract to pay the investor a fixed amount of interest every six months and to pay the face or principal amount when the bonds mature. The contract to pay these cash amounts to the investors makes bonds a less risky investment than common stock. Less risk for the investor means the investor will earn a smaller return - and the corporation will have a smaller cost. Some bonds might also provide collateral and some bonds might require that a sinking fund be established to set aside money to pay the bondholders when the bonds come due. These features will further reduce the investorôs risk and should further reduce the corporationôs cost. [9]

Lease finance is appropriate for business which can not raise money through other means of finance like debt or term loan because of the lack of funds. Leasing is a contract where the lessee company, wants to use the desired property, the agreement with the lesser to finance the company that purchased the assets and allow the use of the tenant, paying rent for the right to use the property. [13]

There are several extolled advantages of acquiring capital assets on lease:

- SAVING OF CAPITAL: Leasing covers the full cost of the equipment used in the business by providing 100% finance. The lessee is not to provide or pay any margin Manufacturer money as there is no down payment. In this way the saving in capital or financial resources can be used for other productive purposes e.g. purchase of inventories.
- FLEXIBILITY AND CONVENIENCE: The lease agreement can be tailor - made in respect of lease period and lease rentals according to the convenience and requirements of all lessees.
- PLANNING CASH FLOWS: Leasing enables the lessee to plan its cash flows properly. The rentals can be paid out of the cash coming into the business from the use of the same assets.

- IMPROVEMENT IN LIQUADITY: Leasing enables the lessee to improve their liquidity position by adopting the sale and lease back technique.

Leasing agreement with the depreciation benefits available technology faster regeneration, which means all parts of the national economic efficiency increase. [36]

The potential negatives of lease financing include the following:

- MORE EXPENSIVE. A finance lease is usually more expensive than an outright cash purchase as the payments include finance charges. However, leasing may cost less than other forms of financing. Also consider the tax advantages when making this calculation.
- ADDITIONAL GUARANTEES. Depending on the credit rating of your company, the lesser might require additional guarantees. These may be provided by you, your partners or your bank and could affect your personal credit rating or your standing with your bank.
- FIXED TERM. It may be impossible, or at least costly, to terminate a leasing contract early.
- FIXED INTEREST RATES. Interest rates are usually fixed throughout the lease which may prove a disadvantage in times of falling interest rates.

Leasing can also help enhance companyós status to the lending community by improving businessôs debt-to-equity and earnings-to-fixed assets ratios. There are a variety of ways in which a lease can be structured. This provides greater flexibility so that the lease is structured to best accommodate the individual cash flow requirements of a specific business. [43]

Venture capital funds are investing in rapidly growing, viable enterprises equity. This form of financing is usually more expensive than a loan or lease, so it is usually chosen in the case, if the firm can not borrow money from the bank so far as it needs, or in the conditions in which it is required. Venture capital funds usually invest in corporate equity; buy a new issue of shares. Typically, these funds purchase from 30 to 50 percent the companyôs shares (that is, they do not completely take over the companyôs management). These funds seek to obtain dividends from the companyôs profit or the profit on sale of shares in the future, usually after 4-5 years. Funds may sell shares in a strategic investor, although often have the contract for the investment provides for the right of redemption of preference shares will have the existing shareholders of the company. [29]

Under well-established standards for the company debt level is considered normal when all of its liabilities shall not exceed 70% of the companyôs assets, i.e. liabilities exceed the shareholder equity of more than 2.3 times. When the bank finances, and those companies whose debt level is higher, however, to ensure compliance will be required to provide additional guarantees or collateral of liquid assets, which the company usually can not offer. [42]

In such cases, a venture capital company (VCC) can offer the different funding model, which, according to the nature of the activities do not take the risk and the project, if only to see the

opportunity to take some time to put the company on its feet. The venture capital relationship can often bring that exact mix of support in addition to financial funding. [37]

Venture capital has a number of advantages over other forms of finance, such as:

- It injects long term equity finance which provides a solid capital base for future growth.
- The venture capitalist is a business partner, sharing both the risks and rewards. Venture capitalists are rewarded by business success and the capital gain.
- The venture capitalist is able to provide practical advice and assistance to the company based on past experience with other companies which were in similar situations.
- The venture capitalist also has a network of contacts in many areas that can add value to the company, such as in recruiting key personnel, providing contacts in international markets, introductions to strategic partners, and if needed co-investments with other venture capital firms when additional rounds of financing are required.
- The venture capitalist may be capable of providing additional rounds of funding should it be required to finance growth.

If cross-border investment in seed capital and the early stages of firms were unimpeded, venture capital funds could use their knowledge of the different sectors of industry and invest in a wider geographical area. This would reduce their costs and further develop their specialised sectoral expertise. Larger, more efficient funds could increase their returns and raise more money, and more easily diversify their portfolios, making it easier for innovative enterprises to obtain funding and grow. [7]

Mezzanine financing presents a way for publicly and privately held companies to obtain financing without ownership of the company being given up. It is a mixture of traditional debt financing and equity financing that offers the benefits of both. Mezzanine financing, like equity financing, is an unsecured debt that requires no collateral, unlike a traditional bank loan. Like debt financing, mezzanine financing is very flexible and does not necessarily involve giving up an interest in the company. [41] Likely sources of mezzanine financing are private investors, insurance companies, mutual funds, pension funds, and banks.

To attract mezzanine financing, a company usually must demonstrate:

- A track record in the industry, with an established reputation and product.
- A history of profitability, or at least of breaking even.
- A viable expansion plan for the business through acquisition, broader penetration of the market, etc.
- Solid management and operations planning.
- An established business plan.

Due to the lack of valid collateral, as well as the high speed of lending, mezzanine financing is typically more difficult to obtain than a traditional bank loan or equity financing. However, the benefits are that mezzanine financiers do not normally interfere in company management and, except in the case of a default; they do not want an interest in the company. Whereas traditional equity investors may attempt to gain some level of company control, mezzanine financiers will do what they can to ensure that the debt is paid off without resorting to default. [37]

The analysis concludes that long-term finance tends to be associated with higher productivity. An active stock market and an ability to enter into long-term contracts also allow firms to grow at faster rates than they could attain by relying on internal sources of funds and short-term credit alone. [15]

Theoretically, the long-term assets should be sought to finance the relatively cheapest source. However, in practice, where the company operates a profit, the first source of financing is retained earnings. The secondary role in addition assurance of scarcity of capital is played by bank loans and bonds with long-term rental property. And only when the borrowed capital is not enough (usually on the outside suppliers of capital constraints), the company has preferred the new shares issuing.

Conclusions. Most of company strategic management actions, respectively financial planning, are dedicated to long-term financial decisions. Firms need to know how and what to invest in working capital, plant, and equipment for organizational success and expansion. The necessity of predefining a companyôs future economic viability and course of action for several years are requiring a stabile capital structure. Effective long-term financial planning and good budget management is a mostly more or less heavy-handed and not easily reversed process. On the other hand, companies have to struggle with sudden negative economic impulses in context with a companyôs progress that will need immediate response. For that reason short-term financial planning and instruments are available to overcome such a period.

There are no universal models for the short-term asset management, is ideally suited to each particular company, because their choice of the owners and the companyôs goal, the economic environment and management experience, the professionalism of their activities. Decisions of great importance rely on the market price of credit resources. In addition, safety margin should be understood as a contractual backlog of payments from the cash flow of revenue.

2.3. Theoretical models on financial choice

A deep and venerable literature models the choice between financial instruments. While it is widely accepted that bank and bond market development affect small firms differently, it is not clear how altering the relative costs between different financial instruments affects the allocation of capital and output across firms in general equilibrium. As Beck, Demirgüç-Kunt, Laeven, and Levine write, ñtheory stresses the link between financial market imperfections and small firms, not necessarily the link between finance and [the] entire distribution of firm sizes in an economy.ò

Thus Russ and Valderrama draw on stylized facts from the finance literature to built a model where altering the relative costs of bank and bond financing changes the entire distribution of firm size, with implications for the aggregate capital stock, output, and welfare.

The interaction between firm financial choice and production using a closed-economy is presented in the version of a Melitz/Ghironi and Melitz model with firm heterogeneity, innovating within this framework by introducing capital investment and two distinct financial markets. By assumption, firms must borrow from financial intermediaries to purchase capital for production. There are two types of contracts available to the firms, intermediated bank loans and public bonds. Bond issuance involves a higher fixed cost than bank loans, which limits access to firms with large sales revenues. The bond yield and interest rate on bank loans are each the result of a costly state verification problem as in Carlstrom and Fuerst. As public debt issues are commonly referred to as ñunmonitoredò lending, the monitoring cost is assumed to be lower for bond investors than for bank lenders. Firms find it harder to access the public bond market due to the higher fixed cost; however, in Russ and Valderrama model, these fixed costs reduce the cost of monitoring firms in the event of default, so the marginal cost of financing capital with bond issues is cheaper than with bank loans - the bond yield is lower than the bank interest rate.

As discussed in theoretical literature, each type of financial contract entail a fixed cost and a marginal cost: the interest rate r_j and the fixed cost f_j .The fixed costs for issuing public bonds f_b is greater than the fixed cost to obtain a bank loan, f_l. The marginal cost of bond credit, r_b is lower than the marginal cost of a bank loan, r_l. All workers in the economy receive the same wage rate, w. Firms take as given the wage rage, w, the interest rate paid on borrowed capital, r_j, and the fixed costs of financial contracts, f_j. Also, firms must pay a large fixed cost to issue bonds, f_b, paying an interest rate r_b. To avoid these fees, firms can take out a loan from a bank, paying only a small fixed cost, $f_l < f_b$, but a higher interest rate, $r_l > r_b$.

There are two reasons that banks could charge a higher interest rate. The first is that the banking sector is not perfectly competitive, so that r_l includes a markup over the deposit rate, which is the cost of funds for banks. This can occur in the absence of any uncertainty or information

asymmetries on the part of lenders. The second involves information uncertainties and would arise as a result of an optimal contract. In this case, there is some uncertainty involving firm-specific productivity shocks. The high fixed cost involved in issuing bonds would make the actualization of this shock transparent to lenders, so there is no risk of strategic default on the part of the firm. A bank instead monitors the borrowing firm itself, adding the cost of this monitoring to the rate of interest it charges the borrower. Either way, we have a wedge between the bank lending rate and the deposit rate or bond yield.

To assess the firmôs decision between the two sources of financing, Russ and Valderrama find two critical firm efficiency levels, one where a firm is indifferent between not producing and producing using loan financing, φ_l, and a second where a firm is indifferent between producing using loan financing and bond financing, φ_b.

Figure 7 illustrates how the wedge between the interest rates causes the less productive firms to be bank borrowers and the most productive to be bond issuers. Since the rate of return paid to bondholders and bank depositors is equal, the proportion of savings devoted to bond purchases versus bank deposits is determined entirely by the amount of bonds issued and bank loans demanded by firms.

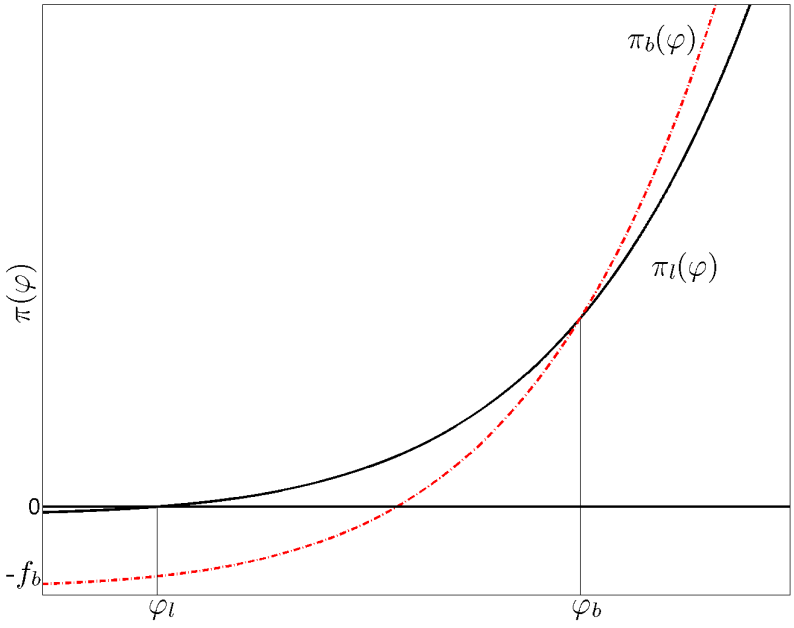
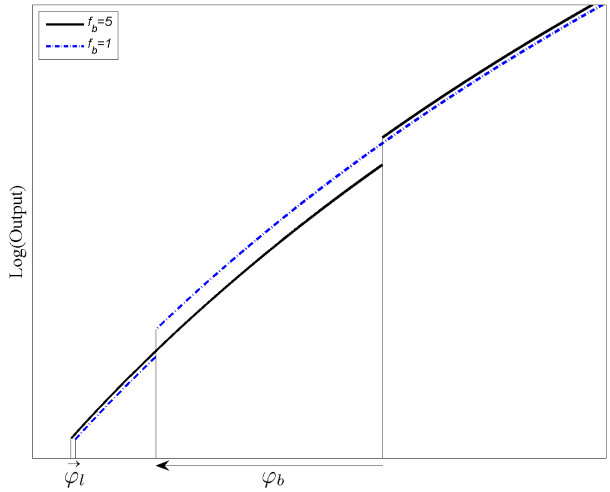


Fig. 7. Profit functions and productivity thresholds differ for bank borrowers and bond issuers:

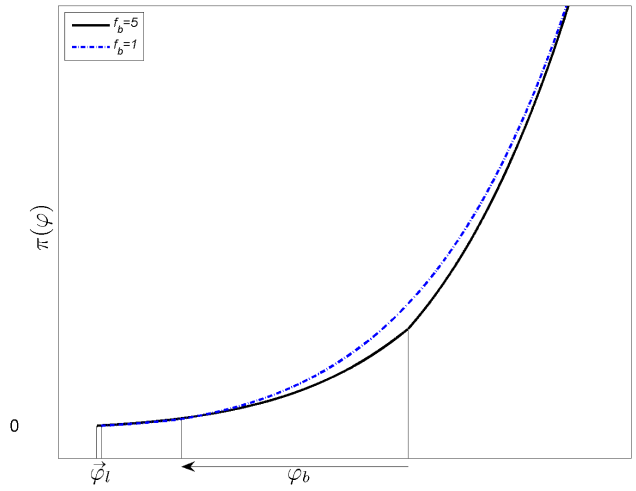
f_b - fixed cost of issuing bonds; π_b - profits for firms issuing bonds; π_l - profits for firms that finance using loans; φ_b - the threshold efficiency level for bond issuers; φ_l - the threshold efficiency level for active production using loan financing. [36]

Thus, the bond issuers will always be larger and more efficient than bank borrowers when the issuance fee is large relative to the costs of bank intermediation, as shown in Figure 7.

Figures 8a and 8b show the level of output produced and profit earned by firms with different levels of efficiency, φ. Figure 8a reveals the industry reallocation of production induced by falling bond issuance costs. Mid-size firms, the ones switching from bank loans to bond issues, expand and the largest and smallest firms - the non-switchers - contract a bit. The manufacturing industry reallocation also involves a reduction on the extensive margin. Regardless of the size of monitoring costs, as the bond issuance cost, f_b, falls, the threshold efficiency level for active production, φ_l, rises. This means that the number of active firms fall as access to bond markets gets easier. The smallest firms are pushed out, unable to turn a profit amidst higher labor costs and market shares squeezed by the expanding switchers. At the same time, the threshold efficiency level for bond issuers, φb, falls. Thus, the number of bank borrowers falls due to exit on the low end of the productivity spectrum and due to switching into bond issuance.



(a) Output



(b) Profit

Fig. 8. Reallocation of output across firm efficiency levels when f_b falls [36]

To further understand the reasons behind the industry reallocation following a drop in the bond issuance costs, it is useful to consider the profit functions of the bond issuers and the bank borrowers seen in Figure 8b. A drop in bond issuance costs, by itself, immediately raises the profits for all bond borrowers as their fixed costs are lower. This entices firms on the margin that were not issuing bonds to start issuing (φ_b falls). As mentioned before, those firms experience a large reduction in their marginal cost of capital, allowing them to drop prices for their products, and to increase their output. The increase in the real wage drives up marginal costs for all firms, particularly for those firms that do not switch their source of financing, lowering their profits. Thus, the smallest and the largest firms that did not switch pass the increased labor costs on to consumers in the form of higher prices, ultimately reducing their output and dampening profits despite the increase in aggregate consumption. It was observed that profits reallocated away from the non-switchers at either end of the efficiency spectrum toward the switchers in the middle.

Sectoral reallocation from a drop in bond issuance costs is most pronounced when the banking sector is less efficient (μ is ñhighò). As Figure 9 shows, when monitoring costs are high there is much greater growth of the bond market relative to bank loans, measured either as the ratio of bond issuers to bank borrowers or as the total amount of bond issues relative to bank credit.

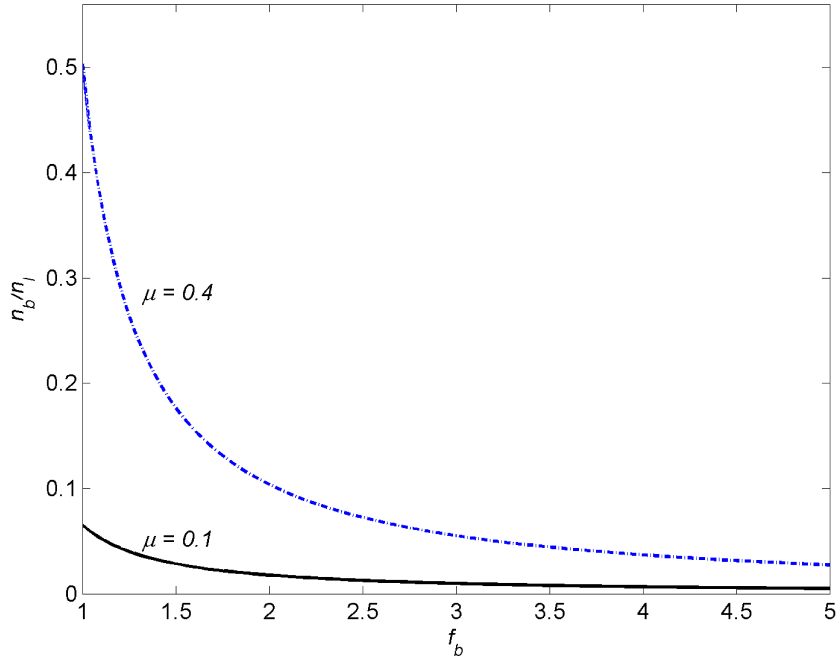


Fig. 9. The number of bond issuers relative to bank borrowers increases faster as issuance costs fall when bank monitoring costs are high:

μ - the level of the bank monitoring cost parameter; f_b - the level of the bond issuance cost parameter; n_b/n_l - mass ratio of firms using bond issues and bank loans to finance capital investment. [36]

A reduction in bank monitoring costs has qualitatively different impacts on sectoral reallocation than a reduction in bond issuance costs. Reducing bank monitoring costs reduces the marginal costs of all bank borrowers, affecting both the intensive and extensive margins. Along the extensive margin, a reduction in borrowing costs for bank borrowers raises their profitability. Thus, low-productivity firms that previously lay dormant begin to produce (φ_l falls). Moreover, some bond issuers now find it optimal to switch to bank borrowing (φ_b rises). Those firms that switch from issuing bonds to borrowing from banks enjoy lower fixed costs, but experience an increase in marginal costs, which compels them to increase their prices and face lower demand for their output. All firms that already were borrowing from banks experience a drop in marginal costs directly as a result of the drop in bank monitoring costs and they increase their output.

Aggregate output, labor demand and real wages increase when μ falls. As in the case of lowering bond issuance costs, the second-order effect on the real wage increases the marginal costs of bond issuers that do not switch into bank borrowing. The incumbent bond issuers also find their market share redirected toward incumbent bank borrowers who pass lower financing costs on to consumers as lower goods prices. Thus, a reduction in bank monitoring costs causes entry into production. It reallocates production away from mid-sized firms (and to a lesser extent, away from the largest firms) toward the smallest firms, including new entrants. At the same time, it reallocates profits away from the largest firms toward both mid-size and small firms. The mid-size firms that benefit here - in contrast to the case of reduced costs of bond issuance - are not just firms that switch their source of financing in order to take advantage of the falling bank interest rates. They include the smallest switchers, for whom the reduced fixed costs from switching into bank loans outweigh the increased marginal costs of bank financing and higher real wages, as well as the largest incumbent bank borrowers, for whom reduced financing costs outweigh higher real wages. The impact on the real wage, aggregate output, and welfare is bigger when the fixed cost of bond issuance is high because there are more and larger incumbent bank borrowers benefiting from the lower bank financing costs and responding by lowering their prices.

There is a suggestion in the literature on financial development that since mainly large firms issue public debt and because debt issuance involves large fixed transactions costs, bond market development probably favors large firms over smaller firms.

The reallocation of production across firms is quite different when the efficiency of the banking sector is increasing as opposed to reducing issuance costs to increase access to the bond market.

Increasing bank efficiency by reducing monitoring costs reallocates production toward the smallest firms and even allows very small new firms to start producing. It also induces some mid-size firms to switch from bond issues to bank borrowing, increasing their marginal costs and thus

their prices, contracting demand for their individual goods relative to those of non-switchers. Production by the largest firms that continue issuing bonds drops a bit due to increased real wages and lower prices among incumbent bank borrowers.

In contrast, reducing bond issuance costs boosts the size and profitability of mid-size firms that switch from bank borrowing to bond issuance, while forcing out the smallest firms at the low end of the efficiency spectrum. The largest firms and the smallest surviving firms experience a small drop in output. The end result is an increase in the real wage, consumption, and welfare. Mid-size firms are the biggest ñwinnersò from decreasing bond issuance costs, as large incumbent issuers find the surplus from reduced issuance fees eroded by increased labor costs. This general equilibrium effect is new to both macroeconomics and finance.

Whether one policy produces a greater welfare increase than another depends on the relative size of transactions costs in the two credit markets. Welfare gains from increasing banking sector efficiency are greatest when the fixed costs of bond issuance are high, so that more firms - and larger firms, on average - are dependent on bank credit even before the change and enjoy a reduction in marginal costs when the interest rate on their loans falls. Welfare gains from reducing the cost of bond issuance are largest when monitoring costs in the banking sector are very high for two reasons. First, the switch to bond issues generates an even greater savings in the marginal cost of capital, so the switching has a bigger impact on prices than in the case where monitoring costs are low. As a second-order effect, the bigger punch to prices provides an extra boost to the real wage, causing more exits. The extra exit occurs at the bottom of the efficiency spectrum, increasing aggregate productivity at the same time the switchers are enjoying big savings on their marginal cost of capital financing.

3. ASSESMENT OF INVESTMENT PROJECT FINANCING DECISIONS IN LITHUANIAN MANUFACTURING

3.1. Empirical research structure

Section 3 presents some theoretical considerations, discusses the data and the estimation techniques, and explains the empirical results for improvement of industrial investments projectsô financing submitting a model of manufacturing financing solution.

Prior empirical studies link the choice of debt instrument and document the relationships between the use of corporate bond financing and to the specific firmsô attributes, such as size, leverage, financial stress, liquidity, growth opportunities and profitability.

Building on this literature, I investigate how the financial characteristics of firms influence the choice between raising funds directly via the corporate bond markets, which is more attractive to the enterprise, and under what circumstances. In order to control the above questions, empirical research was carried out maintaining the characteristics that are reported below.

The progression of ideas in this empirical research begins with the introduction to current manufacturing funding realities, which should be expected in a financially constrained environment, considering how the financial institutions might react to enterprise facing choices about the amount of financing it needs and looking at the relationship of tightened funding requirements and assessment of enterprises financial situation to obtain a pre-understanding of the problem field and to form an idea of the research consequence. The research methodology is illustrated in Figure 10.

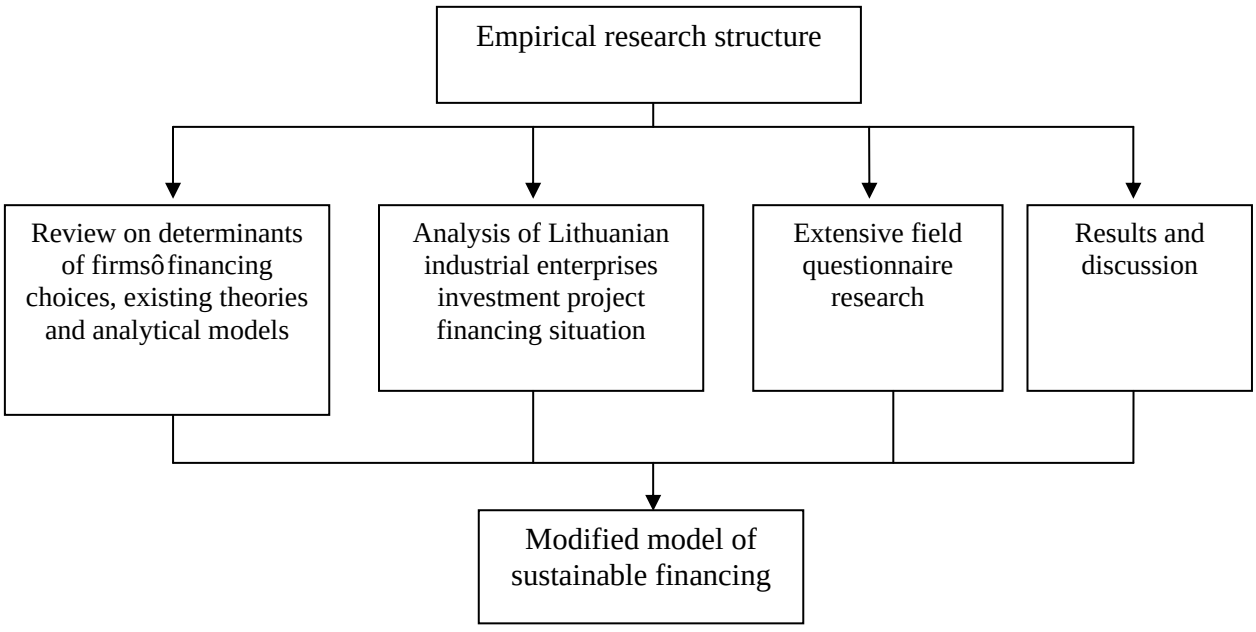


Fig. 10. Empirical research structure

A business statistic published by Department of Statistics of Lithuania was used as the frame for the survey, with approximately 7073 industrial business units being selected for inclusion in the mailing of questionnaires.

Table 1. Number of enterprises as statistical indicator in the industry kind of economic activity

Number of enterprises by kind of economic activity, units	**2010**
B Mining and quarrying	73
B06 Extraction of crude petroleum and natural gas	4
B08 Other mining and quarrying	69
C Manufacturing	7 000
C10 Manufacture of food products	761
C11 Manufacture of beverages	90
C12 Manufacture of tobacco products	1
C13 Manufacture of textiles	181
C14 Manufacture of wearing apparel	712
C15 Manufacture of leather and related products	53
C16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	1274
C17 Manufacture of pulp, paper and paper products	92
C18 Publishing, printing and reproduction of recorded media	271
C19 Manufacture of coke and refined petroleum products	8
C20 Manufacture of chemicals and chemical products	91
C21 Manufacture of basic pharmaceutical products and pharmaceutical preparations	17
C22 Manufacture of rubber and plastic products	367
C23 Manufacture of other non-metallic mineral products	448
C24 Manufacture of basic metals	40
C25 Manufacture of fabricated metal products, except machinery and equipment	667
C26 Manufacture of computer, electronic and optical products	120
C27 Manufacture of electrical equipment	88
C28 Manufacture of machinery and equipment n.e.c	148
C29 Manufacture of motor vehicles, trailers and semi-trailers	30
C30 Manufacture of other transport equipment	37
C31 Manufacture of furniture	794
C32 Other manufacturing	312
C33 Repair and installation of machinery and equipment	398
Total industry enterprises:	**7073**

2010-5-4 Statistics Lithuania, db1.stat.gov.lt/M4032207

In order to define the number of industry enterprises needed to be interviewed to obtain statistically significant differences, a set of generalôs study was calculated according to the sample volume formula:

$$n = \frac{z^2 v(1-v)}{(1-\frac{1}{N})\Delta^2 + \frac{z^2 v(1-v)}{N}} \qquad (1)$$

With probability p = 0.95 (z = 1.96) and the marginal error ф= 0.05, з = 0.1 (10 per cent.), even taking N ï the total number of industry enterprises.

As a result of using the sample volume formula filled with the required meanings, I defined the exact number of responding enterprises to ensure the reliability of research data:

$$n = \frac{1{,}96^2 \cdot 0{,}1 \cdot 0{,}9}{(1 - \frac{1}{7073}) \cdot 0{,}05^2 + \frac{1{,}96^2 \cdot 0{,}1 \cdot 0{,}9}{7073}} = 135$$

Though the initial selection included 135 enterprises, barely 52 finally supplemented the questionnaire (38.5%). However, the number of the sample enterprises was not big enough, as it represents only 7.35% of the manufacturing enterprises which invested over the last year. But, statistical, they are satisfactory to give well-documented and useful results.

The ones questioned were basically Shareholders/owners at 13%, General Directors (CEOôs) at 59%, Accountants (CFOôs) at 16% and Directors of Production (CPOôs) at 12%.

Analyzing the results of survey was used such a classification of companies under recommendation of the European Commissionôs to the EU countries, regardless of industry:

- Small organizations (10-50 employees and annual turnover up to ú10 million);
- Medium-sized organizations (50-250 employees and annual turnover of up to ú50 million and/or balance sheet up to ú43 million);
- Large organizations (more than 250 employees and annual turnover of more than ú50 million and/or an annual balance sheet total of more than ú43 million).

In this part, the goal was to compare the planned and the real results. My investigation focuses on the key factors of the viability of investment project financing environment, in which the certain investment financing strategies of the enterprises aimed.

The research was directed towards the following 3 key factors: access to finance, motivation beyond choice of financing source and after quality/functionality improvement.

As a result, I will modify the analytical model to allow for the fact that while firms face a shortage of internal funds to finance investment projects, there is also a shortage of funds from banks. In my model firms will find they are unable to obtain sufficient finance from retained profits or bank loans to proceed with investment projects and the scale of the finance required will create incentives to the firm to obtain bond market finance.

3.2. Results of the research and evaluation

3.2.1. Analysis of Lithuanian industry enterprises financing situation

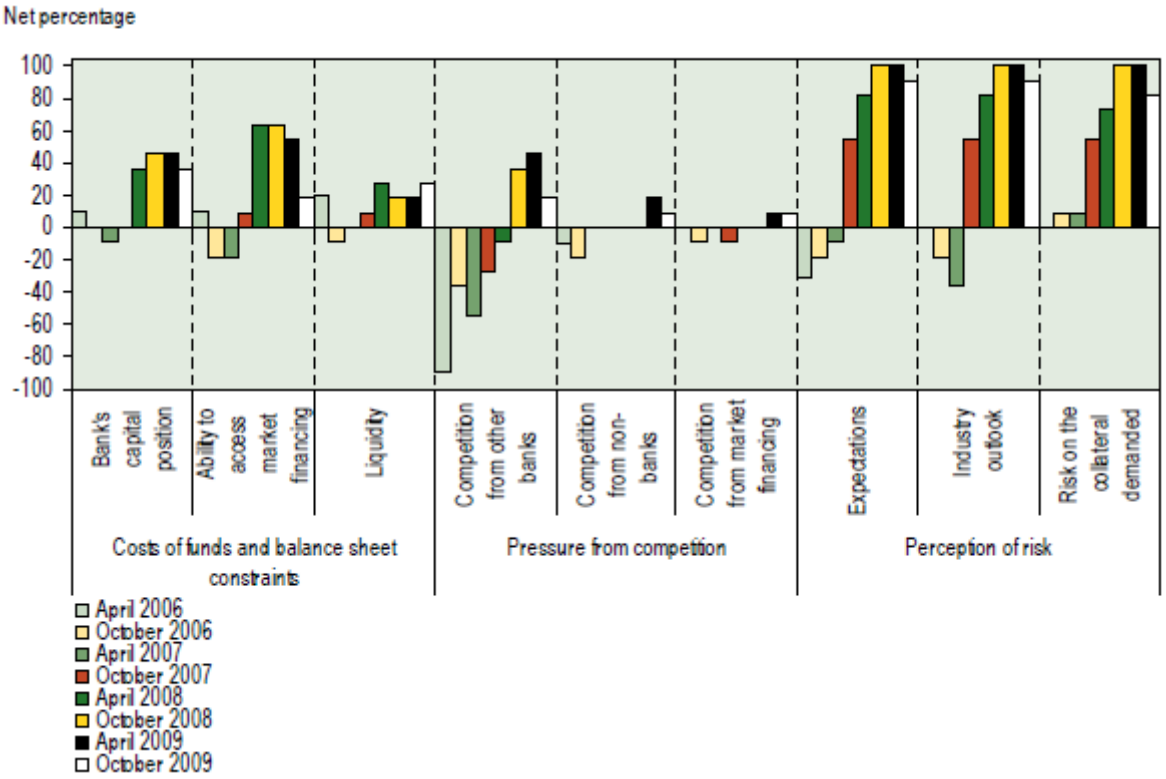
Activities that are particularly sensitive to changes of the economic cycle were the first to encounter difficulties during the current economic recession. A good financial standing of these economic activities during the economic upturn in preceding periods allowed an increase of the financial leverage, but flagging consumption led to poor operational results and rapidly decreasing bank lending. In view of the said, industry enterprises with the biggest debts to banks and relatively most sensitive to changes in a business cycle posed the highest risk for the domestic financial system. The financial leverage, which indicates the ratio of gross debt of a company to its equity, reached its peak (94%) in the middle of the 2008. An increase in costs for and limited availability of financial recourses may have led to a decline in external financing in manufacturing. The lower loan to collateral ratio of new loans reflected deteriorated borrowing possibilities and a stricter risk management. This is exactly what a manufacturing company wants to avoid.

With reference to Bank lending survey conducted by the Bank of Lithuania in October 2009, it is possible to state that the tendency of tightening general credit terms applied to loans and credit lines to enterprises reached its peak in April 2009. The survey results show that the number of banks which tightened their crediting standards within the current half-year almost halved if compared with the previous six month period. According to the survey results, the number of banks likely to tighten their credit standards will continue to decrease also in the coming six months (see Figure 11).

Source: Bank Lending Survey, 2009 October.

Fig. 11. Change in credit standards applied to approval of loans or credit lines to enterprises

In line with the results of several previous surveys, this half-year the surveyed banks indicated that changes in the risk perception was the major factor that contributed to the tightening of credit standards to enterprises: the largest impact was made by changed bank expectations related to the general economic activity of Lithuania (net percentage amounting to 91%), deteriorating prospects of separate sectors of industry or particular enterprises (net percentage ï 91%), and higher risk on the collateral demanded (net percentage being 82%). Still complicated conditions to attract financing resources in domestic and foreign markets and the willingness of banks to have larger capital and liquidity reserves also contributed to the tightening of credit standards (see Figure 12).



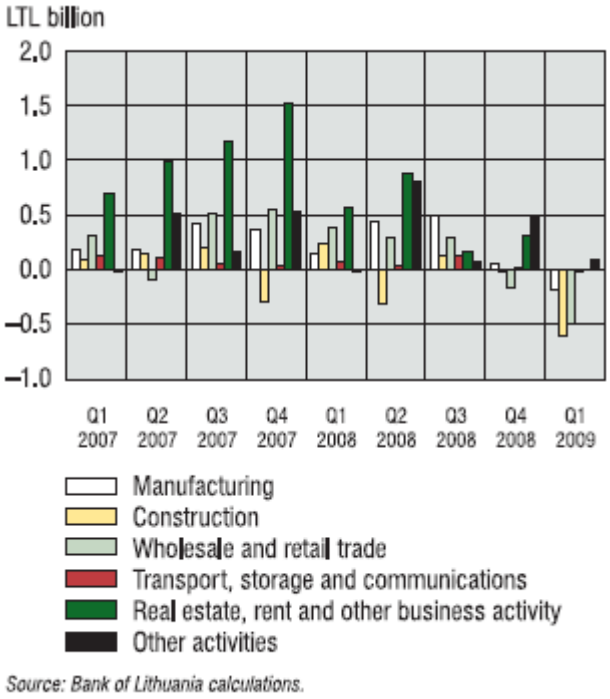
Source: Bank Lending Survey, 2009 October.

Fig. 12. Factors affecting credit standards applied to the approval of loans or credit lines to enterprises

The current situation should be evaluated as a return to balanced credit flow, although certain assumptions may be made that in certain cases the risk is assessed too strictly, i.e. it is overestimated. Therefore, I face excessive restrictions of loans and demands to redeem loans before their maturity on the basis of the possibilities foreseen in the agreements. However, it is unlikely that such situation will be long-term. After some time, credit expansion will return to the level of balanced growth.

However, in view of the deteriorating economic situation in the country, declining income, and companies abandoning their investment plans, banks expect the credit demand to decrease. This

trend emerged in early 2009, when in the first quarter the domestic banking systemôs portfolio of loans to non-financial corporations declined by almost 3% or LTL 0.9 billion (see Figure 13).



Source: Bank of Lithuania calculations.

Fig. 13. Loans by economic activity (quarterly change)

At the same time, in Lithuania, bank loans are not easily substituted by other forms of financing enterprise activity, therefore, enterprise defaults and trade credits increase. A diminishing coverage of liabilities by cash contributed to increasing problems related to delayed payments between enterprises as take-up evidenced by the past 2-3 years growth tendency of amounts receivable within one year and debts. Table 2 gives descriptive statistics on insolvency percent rise, which ranged from 20% to roughly 30% in 2007-2008, reached the peak with 65% double up during the early months in 2009 and at least, this year local business decreased the record of late payments for third month in a row with relief for future production.

Table 2. Delays in payment over the past 2-3 months by direction of tendency and month

Delays in payment over the past 2-3 months by direction of tendency, %				
	2007M03	**2008M03**	**2009M03**	**2010M03**
Up	20	26	65	40
Unchanged	72	67	20	51
Down	8	7	15	9
Balance	12	19	50	31

2010-4-14 Statistics Lithuania, db1.stat.gov.lt/M4020321

Not to mention the circumstances that in late 2008 and early 2009, the situation regarding the solvency of non-financial corporations became complicated also due to government debts to non-financial corporations, while the lending of banking system to non-financial corporations in 2008 was the lowest during recent three years, according to the Bank of Lithuania report.

On the other hand, the decline in credit volume and the shock of overall demand encourage businesses to reorganize production and use resources more rationally. Enterprises are forced to reduce their financial leverage. The tightening of credit standards mostly affects the enterprises that have most uncertain prospects of operation. The tightening also has an impact on those enterprises that are in better financial situation, but are incapable of overcoming information asymmetry problems, especially in the case when they belong to economic activities that are assessed as having poor prospects.

Table 3 provides descriptive statistics on assessment of enterprises financial situation over the past 3-4 years. Actually, the middlemost columns of Table 3 show a considerable percentage changes (deterioration) from 16% in 2007 to continue rising with 77% in 2009. Shrinking profit and cash flows from the main activities led to an increase in demand for financial recourses. However it was limited by tight credit standards provided by banks, increased interest rates on new loans and soaring risk premium.

Table 3. Assessment of financial situation over the past 2-3 months by direction of tendency

Assessment of financial situation over the past 2-3 months by direction, %				
	2007M03	2008M03	2009M03	2010M03
Improved	13	9	3	1
Deteriorated	16	21	77	47
Unchanged	71	70	20	52
Balance	-3	-12	-74	-46

2010-4-14 Statistics Lithuania, db1.stat.gov.lt/M4020320

The growth of debt and its cost meant an increase in the loan and interest payment burden for manufacturing enterprises. Since the beginning of the year the interest coverage indicator continued to decline reflecting difficulties of industry corporations to meet their financial liabilities.

Hence, increasing imbalances of the Lithuanian economy evolving a hard landing scenario, a downward revision of investment expectations, an increase in the borrowing risk premiums, and tightening of credit standards, all led not only to a decline in the availability of loans, but the demand firstly. In 2008, the liquidity situation of non-financial corporations faltered and a decline was registered in deposit and cash holdings, as well.

In spite of the fact that manufacturing industry seemed to the sector where only negative numbers in the balance sheets with financial ratio have been found for the period 2007-2009, the industrial decline slowed down in the second half of 2009 and is starting to recover little by little, as a result of the internal consumption coming back to life and western economies getting straight. While fully back on its feet will take time, but a positive annual growth of industrial production is expectancy in the coming months leading to an optimistic bias because of the low cooperative base in 2009.

As the Financial Stability Review prepared by the Bank of Lithuania highlights, the problem related to the scarcity of financial recourses and an increase in their cost had a significant effect on investments by non-financial corporations. Tangible investments declined across almost all economic activities. Restrictions in the balance sheets of non-financial corporations and strict crediting policies by banks may have a significant effect on the reduction of tangible investments in the coming periods, as one fifth of them used bank financing in 2008. Moreover, foreign parent companies were cautious with regard to the prospects of Lithuania-operating companies: the decline of their funds for financing tangible investments of their subsidiaries in Lithuania was one of the fastest.

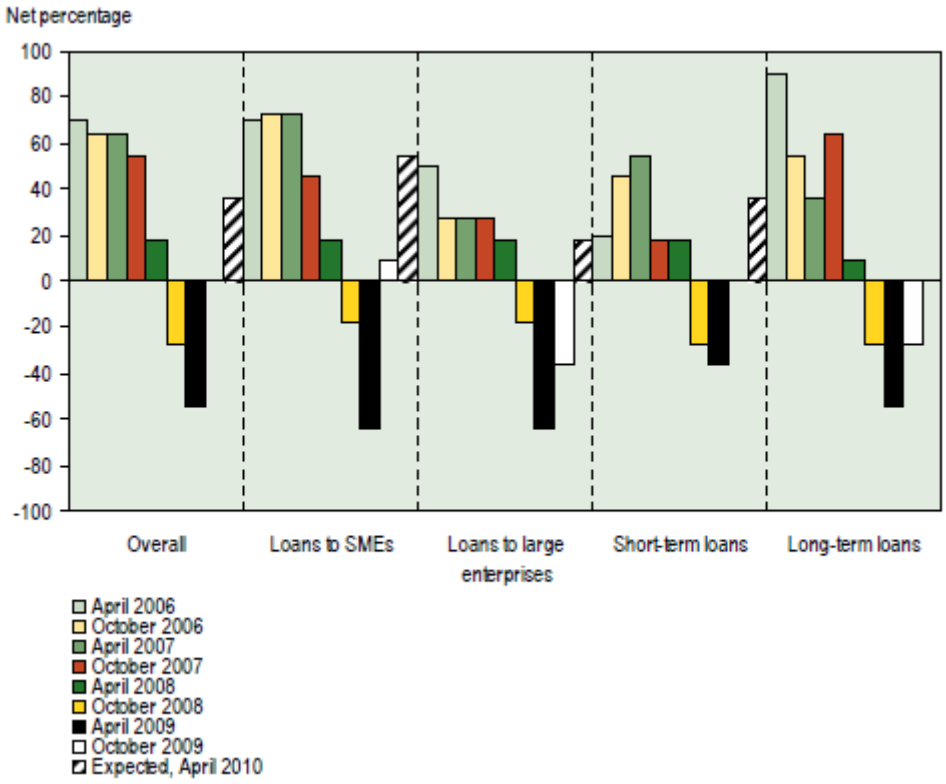
Hence, increasing imbalances of the Lithuanian economy evolving a hard landing scenario, a downward revision of investment expectations, an increase in the borrowing risk premiums, and tightening of credit standards, all led to a decline in the availability and the demand of loans firstly.

The summary of the results of all Bank Lending Surveys conducted so far, allows to state that the loan demand was increasing until October 2007 ï during the period of a robust economic growth. Later on, the growth of the demand for credit was slackening ï from October 2008 the demand for loans and credit lines to enterprises shrank in line with the national macroeconomic developments. After all, net demand for loans and credit lines to enterprises within the current half-year remained almost the same (net percentage ï 0%).

Credit demand became stable after a persistent decrease in the course of two half-year periods. According to banks, the demand for loans and credit lines to small and medium-sized enterprises almost did not change (net percentage ï 9%), whereas the demand for loans and credit lines to large enterprises shrank somewhat (net percentage reaching ï 36%). In the current half-year period, the demand for long-term loans also dropped slightly (net percentage ï 27%), whereas the demand for short-term loans remained unchanged.

What regards further expectations, when requested to indicate how credit standards would change within the next half-year, the majority of banks (82%) reported their intentions not to change them and 18% of the banks had plans to tighten them slightly. The bank plans not to change credit standards within the coming six months are observed for the second consecutive half-year. In

the coming half-year the banks are planning to tighten credit standards to large enterprises somewhat (net percentage is 18%) but they intend not to change credit standards for small and medium-sized enterprises. The majority of the banks have no intentions to change short-term loan conditions and 27 per cent of the surveyed banks are planning to tighten long-term loan conditions. In contrast to previous surveys, the banks participating in this survey expect a slight increase of the overall demand for loans to enterprises in the next half-year (net percentage being 36%). Also, the banks forecast that the demand for loans to small and medium-sized and large enterprises, as well as for short-term loans will increase (net percentage is 55%, 18%, and 36% respectively), as Figure 14 graphically illustrates.



Source: Bank Lending Survey, 2009 October.

Fig. 14. Demand for loans or credit lines to enterprises

With regard the main alternatives to bank lending, some larger manufacturing enterprises made attempts to borrow in the securities market to compensate for restricted possibilities to get bank loans. Although the cost of market-based financing was higher, non-financial corporations borrowed by 56% more in 2008 through the issuance of bonds for LTL 145 million. This type of borrowing is more attractive since it does not require securing of debt. However, companies that used market-based financing did not escape the economic downturn either: some of them failed to redeem the issued bonds in time due to solvency related problems.

Nevertheless, stock market is one of the most trustable leading economic indicators that show what can be expected from the economic perspective for 6-9 months. In September, the Lithuanian stock market continues to go up double-digit pace. As can be seen from the bottom of the Figure 15, despite the much greater economic recession than in other Central and Eastern European countries, Lithuaniaõs main stock index OMXV took third place with 12.97% annual rise, even under the impact of the start of this year.

Index/Equity	16.10.2009	16.04.2010	+/-%
OMX Vilnius	288.96	326.44	12.97

Fig. 15. OMX Vilnius index

This example perfectly illustrates how, even in difficult times, Lithuanian enterprises may earn, if only looking for opportunities. The second observation, the effect of assets after all is 73 percent. Lithuanian index increases the companyõs market capitalization as high as LTL 4 billion. And this is obviously a significant improvement in shareholder wealth for each side.

In fact, more than a half of the companies quoted by stock exchange NASDAQ OMX Vilnius have presented the results of the recovery: both through the last quarter of 2009 and during the whole year than in previous periods - they earned more profit, were reducing loss or changed loss into profit. However, the earnings of the companies declined.

To a certain extent, 71% of the listed companies through the 4th quarter of 2009 and 60% of them during the whole year 2009, compared with results of the corresponding periods in 2008, have earned a higher net profit, suffered smaller losses or incurred losses changed into earning profit. Among these companies are all dairy products manufacturers, which balanced only loss in 2008 (except ĂĢemaitijos pienasò, AB operating results of the 4th quarter 2008), but both through the 4th quarter of last year and the whole year 2009 completed at a profit.

Apart from the choice of public debt more accessible for large manufacturers, the significance of IVEGA, which has demonstrated its relevance for small and medium-sized business during the period of economic growth, considerably increased under conditions of economic

recession. When in the beginning of 2009 commercial banks cut lending to SME due to shortage of funds and tightened risk assessment INVEGA introduced more than one measure in implementing the Economic Promotion Plan approved by the Government aimed at improving operating environment for SME in Lithuania which also had a positive impact on the performance of the Company itself.

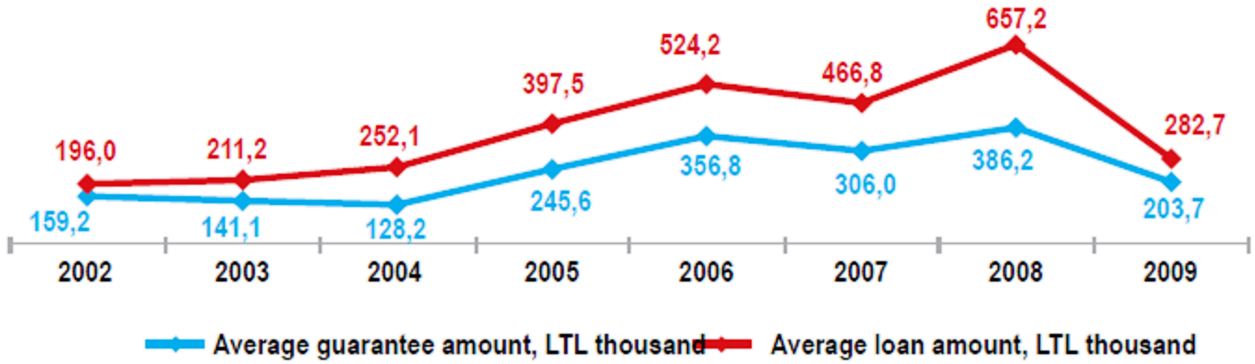


Fig. 16. Dynamics of average amounts of guarantees and loans issued by IVEGA [35]

Therefore, the year 2009 was the third year in a row when over 80% of the total guarantee portfolio was allocated for securing the repayment of investment loans taken by entrepreneurs. At the beginning of economic recession the great majority of entrepreneurs took loans from banks aimed at supplementing the working capital of enterprises. Consequently during the reporting period the structure of issued guarantees by loan purpose changed essentially: 73% comprised guarantees issued for working capital loans and only 27% ï for the implementation of investment projects. About 91% of portfolio of issued guarantees comprised guarantees securing the implementation of projects requiring loans under LTL 500 000 (see Figure 16 for definition).

More than 66.6 million LTL of the aforementioned guarantees were intended for the implementation of investment projects of companies which have been operating in the manufacturing industry. In fact, for a second consecutive year enterprises engaged in construction and repairs works predominated among industrial enterprises in terms of numbers of issued guarantees. A slightly smaller number of guarantees were issued to enterprises active in food and wood industry.

Pursuant to Resolution No 569 of the Government of the Republic of Lithuania of 10 June 2009 INVEGA may grant loan guarantees to credit institutions for loans to industrial SME and large enterprises encountering temporary financial problems. INVEGA guarantees for loans of these enterprises are issued temporarily, i.e. until 31 December 2010 INVEGA may guarantee to a credit institution up to 80% of the working capital loan. Maximum amount of guarantee issued to one SME, large enterprise or a group of enterprises may not exceed LTL 5 million.

3.2.2. Enterprise size and bank debt financing

This part of analysis seeks to examine how the determinants of bank debt concentration vary by firm size as was previously stated it is the one of the first attempts to consider the determinants of financing choices. To make things clear, I used detailed information provided by surveyed manufacturing enterprises on the financial performance of these companies culled out from their profit and loss accounts in the balance with characteristics similar to the information used in a significant volume of literature on this aspect.

As it was mentioned in an overview of the investment financing literature, Berger and Udell provide evidence that size reflects reputation in financing choices. Explicitly applying the theory to a firmôs use of bank debt suggests that the relationship between bank debt and the explanatory variables is likely to vary by firm size groups. It has been argued that a firmôs choice between trade credit and bank debt may serve as a screening device. If a buying firm takes trade credit, then bank financing is not available, which signals to the seller that the buyer has a high default risk. This implies that a firm with a low default risk will depend on bank loans, while a firm with a high default risk is likely to use trade credit.

Secondly, the monitoring view of bank lending suggests that, since banks are well positioned to gather information on businesses on a continuous basis, they can act as valuable monitoring devices and contain the problem of moral hazard. Banks can, therefore, utilize economies of scale in information production and access to inside information to bridge information asymmetries between borrowers and lenders. Moral hazard also explains why a firm finds value in the ability to renegotiate debt. Illustratively, a firm may choose bank debt, which usually involves a relatively stringent set of restrictions, because it limits moral hazard problem in which the firm would under invest when market conditions are unfavorable. However, when market conditions turn good, the firm may be limited by the terms of its bank debt and therefore, finds the ability to renegotiate valuable. This model implies that a firm with a moral hazard problem and a poor market is more likely to choose bank debt than a firm facing good market conditions.

The empirical literature on bank debt concentration of firms focuses either on large firms or small firms in isolation. One interpretation of this empirical specification is that firm size can be considered to be indicative of its reputation. In that case, the reputation view suggests that the determinants of a firmôs concentration of bank debt may vary by size. In order to examine this possibility, the research employs a sample of firms across varying sizes to directly test the impact of firm size on bank debt concentration.

Available studies find evidence consistent with the notion that information asymmetry plays a role in determining a firms bank debt concentration. The reduced form empirical specification to test this hypothesis can be presented as under:

$$DEPVAR_{it} = \alpha_0 + \alpha_1 TAN_{it} + \alpha_2 OPROF_{it} + \alpha_3 GRSALES_{it} + \alpha_4 RND_{it} + \alpha_5 DEBT_{it} + \alpha_6 LEV_{it} + \alpha_7 AGE_{it} + \alpha_8 ORIENT_t + \alpha_9 DUM\_Public + u_{it} \quad (2)$$

where *i* (cross-section) is a firm indicator and *t* (time series) is a year indicator and u_{it} is the error term. In order to avoid selection bias in firm selection, all listed manufacturing firms over the sample period were included. Since all the firms were in existence over the entire length of the sample period, it was ended up with a balanced panel of firms, although information on some variables is not reported for several firms for certain years. The construction of the variables and the economic rationale for their choice are explained below:

Table 4. Summary statistics for data sample

Variable	Definition	Mean, by firm size			
		Small	Medium	Large	All
Bank debt concentration (DEPVAR)	Total bank debt/total asset (%)	21.55	25.18	11.40	19.20
Tangible assets (TAN)	Plant, property and equipment/total asset (%)	57.18	55.82	68.15	59.34
Research and development (RND)	Research and development expenses/total sales (%)	0.28	0.35	0.37	0.34
Sales growth (GRSALES)	Annual growth in sales (%)	20.56	19.55	29.27	26.42
Profit (OPROF)	Operating profit/total asset (%)	ï 4.56	2.88	6.07	3.46
Total debt (DEBT)	Bank plus non-bank debt/total asset (%)	47.34	38.90	31.22	41.56
Age (AGE)	Number of years since the incorporation of the firm	5.50	9.00	21.65	27.65
Leverage (LEV)	Book value of long-term plus short-term debt/book value of equity	1.08	8.18	9.72	6.13
Financial system orientation (ORIENT)	Stock market capitalization/bank credit		1.55		
DUM_Public	Dummy variable = 1, if a firm belongs to the public sector; else zero		-		

The dependent variable (*DEPVAR*) is the concentration of bank debt chosen by the firm, defined as the ratio of bank debt to total assets. In practice, a firm faces two decisions: the choice of the proportion of the bank debt to total debt and second, the choice of bank debt financing. Earlier studies were concerned with only the first aspect. The present study, on the other hand, concentrates on the second issue i.e., the question of reliance on bank debt. The screening view of bank debt suggests that a small firm with a very high ex-ante default risk will be denied credit, a firm in the middle risk category will obtain trade credit only, and a firm with a relatively low risk will be most likely to obtain a bank loan. The proxies for screening are variables such as firm sales and higher profits. High sales (*GRSALES*) and/or higher profits (*OPROF*) tend to be associated with low default risk, so a positive association between these variables and bank debt concentration might be expected. On the other hand, according to the renegotiation view, a firmôs reliance on bank debt will depend on both the severity of the moral hazard problem and the ex-ante market condition or credit risk of the firm. Two proxies available for market condition are the firmôs growth in sales and net income. The theory implies that a firm with initially poor market conditions (i.e., low sales growth or low income) finds the option to renegotiate valuable and is likely to use bank debt.

Empirically, observability of a firmôs activities can be peroxide by the level of tangible assets. A firm with more tangible assets (*TAN*) will tend to have activities that are more easily observable to outsiders. Another measure of observability is spending on research and development (*RND*). Specifically, *RND* projects usually involve a high level of managerial discretion and eventually generate considerable intangible assets. The monitoring and reputation views predict that bank debt concentration for firms with high *RND* is likely be high. The capital structure of a company can provide information about the value of a close bank relationship. Large firms are better placed to assume greater debt vis-à-vis smaller firms.

Accordingly, including the debt-equity ratio (*DEBT*), defined as the ratio of total (book value of) debt (long-term plus short-term) divided by the book value of equity. Intuitively, small firms are likely to have less access to bank finance and consequently, lower debt equity ratio, whereas large firms, with easy access to bank financing are likely to have higher debt equity ratio. This would imply a positive relation of bank debt with this variable across firm size. Also, including a variable *AGE* defined as the number of years since the incorporation of the firm. Firms that are in existence for a longer period are likely to have greater reputation about their activities and therefore, likely to exercise greater use of bank debt. At the macro level, a switch from a bank based to a more market-based system, as reflected in the development of the stock market can influence firm use of debt. To control for this possibility the ratio of stock market capitalization to bank credit was introduced as the most commonly employed measure of financial system orientation. A negative coefficient on this variable would imply that as economies mature and the

financing pattern of firm becomes more market-oriented, reliance on bank debt declines, irrespective of firm size groups.

Finally, in order to examine the differential debt use bank debt for public versus private firms, a dummy variable was employed, which assumes value 1, if a firm belongs to the public sector, and zero otherwise.

Table 5. Correlation matrix of the firm-specific variables

	DEPVAR	TAN	RND	GRSALES	OPROF	DEBT	LEV	AGE
DEPVAR	1.00							
TAN	0.17	1.00						
RND	-0.004	-0.01	1.00					
GRSALES	0.007	-0.01	-0.0001	1.00				
OPROF	-0.45	-0.24	-0.01	0.01	1.00			
DEBT	0.71	0.29	0.005	0.001	-0.50	1.00		
LEV	0.24	0.04	-0.005	-0.005	-0.06	0.21	1.00	
AGE	-0.04	0.05	0.01	-0.15	-0.01	-0.11	0.15	1.00

Table 5 reports the correlation matrix of the main variables. The correlation is the highest between measures of the importance of financial factors: bank debt concentration and overall debt as well as leverage. In the first case, the correlation is 71%; in the second case, it is lower at 24%. Debt appears to be moderately correlated with leverage (correlation of 24%); the correlation between bank debt concentration and firm age appears to be weak. The empirical model is estimated using Tobit procedure because several of the observations are censored to zero. The Tobit model adjusts for a limited dependent variable, which may be viewed as being censored. The variables are scaled differently across size group, to aid in convergence of the limited dependent variable models.

The results demonstrate that the regressions as a whole are statistically significant. The coefficient on *TAN* is negative across all firm sizes. This supports the view that firms with low observability are more likely to use bank debt than other large firms. The results both confirm and contradict previous studies. The negative coefficient on *TAN* for large firms is consistent with Hoshi et al.

The results also support the renegotiation model of bank debt for large firms, as indicated by the negative coefficient on operating profits. For medium-sized firms, the coefficient on sales growth is insignificant. For small firms, however, the sales growth coefficient is negative, which is what the theory predicts. The coefficient on total debt and leverage are significantly positive for all categories of firms. For medium-firms, the sign on leverage is negative suggesting that medium-sized firms with high leverage take recourse to lower bank debt. Although the theories reviewed produce no direct implications for the relation between total debt and bank debt concentration, this

result confirms the positive relation found in Johnson. The negative sign on the *AGE* variable for large firms supports the reputation argument that recourse to bank debt for such firms is lower. At the macro-level, the negative coefficient on *ORIENT* is clearly indicative of the fact that a graduation to a market-based economy leads to a decline in the role of banking system, and with that the use of bank debt across all firm size declines. This decline is however, significant only for medium and large firms, attesting to the reputation view that these categories of firms are best positioned to access non-bank finance as the orientation of the economy changes.

The dummy for public firms is negative for the medium category at conventional levels of significance. This suggests that, vis-à-vis private firms, medium-sized public firms resort to lower use of bank debt. In other words, medium-sized public firms, being better known to outside investors and having an (implicit) guarantee are well positioned to access non-bank debt than their private counterparts.

The fourth column reports the Tobit estimation for the full sample, for comparison. The significance of the coefficients for the full sample broadly follows the patterns in the size-based regressions.

Table 6. Determinants of bank debt concentration by firm size

Variable	Small	Medium	Large	All
Constant	2.64 (0.00)*	4.91 (0.00)*	-1.72 (0.03)**	5.23 (0.00)*
TAN	-0.07 (0.08)***	0.01 (0.02)**	-0.04 (0.07)***	-0.05 (0.00)*
RND	-0.15 (0.85)	-0.003 (0.83)	0.20 (0.73)	-0.02 (0.33)
GRSALES	-0.0001 (0.02)**	-0.006 (0.18)	0.03 (0.20)	-0.008 (0.32)
OPROF	-0.02 (0.78)	-0.14 (0.00)*	0.12 (0.33)	-0.16 (0.00)*
LEV	0.09 (0.93)	-0.13 (0.00)*	0.08 (0.20)	0.08 (0.00)*
DEBT	0.68 (0.00)*	0.31 (0.00)*	0.29 (0.00)*	0.34 (0.00)*
AGE	-0.15 (0.10)***	0.02 (0.08)***	-0.05 (0.13)	-0.02 (0.00)*
ORIENT	1.48 (0.66)	-1.59 (0.07)***	-2.05 (0.10)***	-2.49 (0.00)*
DUM_Public	ï	-3.54 (0.01)*	0.97 (0.50)	-2.63 (0.00)*
Diagnostics				
Time period	2007-2009	2007-2009	2007-2009	2007-2009
No. of Observations	7	9	12	9,333
Log-likelihood	-306.92	-3212.12	-547.27	-3302.40
Pseudo R-square	0.263	0.274	0.226	0.254

*, ** and *** denote significance at 1%, 5% and 10%, respectively.

To ascertain the robustness of the results, the model can also be estimated using Probit regression. In this case, the dependent variable is redefined as bank debt use. In this case, the dependent variable equals 0 when the firm employs no bank debt and 1, otherwise. Table 6 reports the Probit estimates of the model by firm size. The results broadly confirm the Tobit analysis. The relationship of the monitoring variable to bank debt changes as firm size increase, as shown by the negative and then positive coefficient on *RND*. For small and medium-sized firms, the coefficient

on *RND* is significantly negative. This testifies that lack of reputation acts as a constraint for these firms in obtaining bank loans. The coefficient on *TAN* is positive for large firms (contrary to Table 7), suggesting possibly that tangible assets in this case act as a proxy for collateral, and not necessarily with observability as in the Tobit specification. It is also of interest that the financial system orientation variable is positive for medium-sized firms, suggesting that despite the increasing market-based orientation of the financial system, recourse to bank debt by this firm category is higher.

Table 7. Determinants of bank debt use by firm size

Variable	Small	Medium	Large	All
Constant	1.04 (0.03)**	0.61 (0.00)*	-1.89 (0.41)	0.62 (0.00)*
TAN	-0.04 (0.06)***	-0.001 (0.59)	0.01 (0.06)***	-0.002 (0.25)**
RND	-0.07 (0.09)***	-0.09 (0.05)**	0.95 (0.25)	0.111 (0.02)**
GRSALES	0.005 (0.78)	0.005 (0.85)	-0.01 (0.14)	-0.006 (0.82)
OPROF	0.04 (0.07)***	-0.01 (0.00)*	0.18 (0.01)*	-0.005 (0.12)
LEV	0.82 (0.98)	0.04 (0.00)*	0.06 (0.34)	0.05 (0.00)*
DEBT	0.13 (0.03)**	0.04 (0.00)*	0.07 (0.02)*	0.04 (0.00)*
AGE	-0.03 (0.16)	-0.003 (0.42)	-0.04 (0.08)***	-0.002 (0.51)
ORIENT	1.58 (0.15)	0.64 (0.00)*	-0.50 (0.32)	0.58 (0.00)*
DUM_Public	–	-0.51 (0.10)***	-0.58 (0.54)	-0.39 (0.08)***
Diagnostics				
Time period	2007-2009	2007-2009	2007-2009	2007-2009
No. of Observations	99	9,224	169	9,492
Log-likelihood	-29.59	-1136.24	-23.69	-1208.82
Pseudo R-square	0.412	0.373	0.344	0.376

*, ** and *** denote significance at 1%, 5% and 10%, respectively.

3.2.3. Motivation beyond financing behavior

The further extension of empirical evidence of funding source role in the manufacturing investment projects by incorporating information regarding another forms of financing based on questionnaire results that may also be associated with constraints provided by institutions that are engaged in financing, types of motivation beyond the financing behavior and ñlong-termò firm characteristics, like credit history, size, bank-firm relationships, etc. is to explain how fast the utility can decline, if none of those variables change. This analysis also highlights new insights for the field of finance.

Figure 17 provides empirical evidence suggesting that firms are indeed restricted by external resources and are compelled to resort to internal resources. The overwhelming - 61.6% majority of the cases of Lithuanian manufacturing enterprises, which planned and invested in, regardless of size, external funding system used to become the major source of investment projectsô financing.

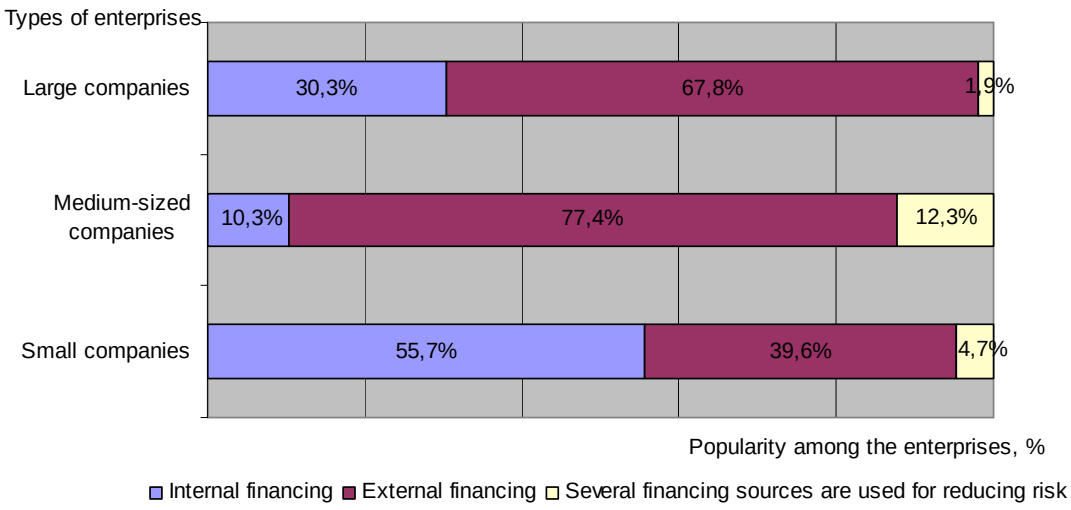


Fig. 17. Financing patterns as proportion of investment financed by each source for all investigated firms, depending on size

As expected, I find strong evidence that smaller firms finance a lower proportion of their investment externally (roughly 40%), in particular because they make use of bank finance to a lesser extent. The foregoing argument suggests that internal equity, through capital contributions and retained earnings, is probable to be a major source of small business units funding and it does not fail considered as the biggest contribution to internal financing options spectrum tapped by 55.4% of firms assigned to small enterprises. At the same time, younger firms, which are generally smaller firms, are less able to generate sufficient retained earnings for internal sources to adequately finance an expansion of operations.

Further, small firmsô financing constraints are not as strongly associated with external finance, suggesting that they are less able to expand external financing as they become more financially constrained than large firms.

Thus when a firm reaches a certain size requiring investment funds that are greater than internal and bank finance, it may make the important decision to issue bonds, incurring higher costs to obtain external finance at first, in the belief that initial costs of issuing the bonds will be outweighed by lower financing costs in the longer term. Subsequently, a firm may be expected to have a higher probability to issue a bond in order to reap the reputational benefits that accrue to seasoned issuers in the form of lower cost of external finance. This is driven by differences in the cost of finance forthcoming from each source (market or bank finance). Widespread access to external equity through public listing on the stock exchange is unavailable until the firm is relatively large and is able to meet the minimum size requirements for listing.

The ability of smaller firms to borrow from these segments of the credit markets may be limited owing to the size of their financing needs. They could also lack the credit quality, which will reflect in their financial status.

These results underline the importance of improving the institutional environment for increasing the access of small firms to external finance. A successful financial reform removes controls on market allocation and leads to greater access to credit, reducing the premium paid on external finance. It reduces information asymmetries between borrowers and lenders and facilitates the reallocation of funds between firms. In more concrete terms, the reforms allow banks to set interest rates, abolish directed credits from official banks to preferential sectors, eliminate credit ceilings and forced lending, reduce reserve requirements, improve creditorsô rights, and stimulate securities markets.

To my knowledge, only in the case of difficult, substantial and voluminous investment projects Lithuanian enterprises are tend to apply non-standard financing solutions for reducing risk, for example issuing syndicated loan to a single borrower jointly by a group of lenders, foreign bank financing, guarantees, or a complex business and financial management solution. Here, the flexibility and the faster and relatively simple issuance process of arranging a syndicated loan may also play an important role. It should be pointed, though, that such industrial investment strategies constitute an objective and a practice of only a very small percentage 1.9% in the category of large companies, reached the greatest result 12.3 % among mid-sized manufacturing enterprises and was observed by 4.7% of small entrepreneurs (see Figure 17). The possibility of facing financial stress limits the firmsô ability to finance their activities from both debt markets simultaneously. Hence, a higher amount of shorter-term debt forces large firms to choose one of the alternative debt markets.

Perhaps a choice of debt instrument with a single creditor (i.e. private finance or bilateral bank loans) will increase a firmôs possibility to renegotiate the terms of debt agreement effectively.

Unquestionably, specific size characteristics determining creditworthiness and incentives to raise external finance are influential. For the mid-sized firms that are able to get long-term financing, the borrowing capacity is less dependent on the current cash flow shocks, but rather on the ñlong-termò firm characteristics, like credit history, size, bank-firm relationships, etc. In this case the indirect effect of cash flow on investments is less significant or even disappears. In addition, the direct effect of cash flow is expected to be less significant, since medium-sized firms are able to make the long-term investment plans relying on long-term borrowings, weakening the reliance of investment and growth on internal financing, whereas the current contribution in this size category is only 10.3%.

Understanding these various motivations explains, why such a wide range of mid-sized firms (from low rated firms trying to avoid the debt overhang problem to high-rated firms trying to minimize distress costs) use external finance in very high percentage, 77.4% for a variety of investment projectsô funding.

At the same time, the lack of bank lending is driving many mid-sized business owners to rethink alternative financing myths - and also driving down the cost of such financing. As a result, one way or another will increase external financing options. Growth potential leads to a choice of financing through the issuance of bonds - a change away from the traditional way of financing investment opportunities. There is also some evidence in the extensive field research that high growth firms constrained by bank hold-up problems experience a net positive effect from public issues, which confirms that in certain niche areas firms may benefit from particular types of financial structure.

Before describing the third definite size categoryôs decisions, I need to highlight an important assumption underlying my analysis and arguments - bankers are not sitting on the sidelines when it comes to large businesses and it occurs for many reasons, why their financing choices may be persistent. If ignored, persistence in financing choices could lead to biased estimates of the sensitivities of financing to investments and income. While, large firms have to rely more extensively on retained profits and bank loans as the main means of financing their investment projects. The related results show that debt constitutes by far the major source of widespread external financing (on an average of 67.8%) for large enterprises. It is also probably easier for a larger firm to rise external financing on top of bilateral debt arrangements. However, debt can provide a hard mechanism in the sense of the need to meet interest payments and the bankruptcy procedures which can be invoked when there is a failure to meet such payments. On the other hand, larger manufacturers engage in bonds issuance with higher probability.

And finally, large companies with available long-term borrowings face lower investment sensitivity on internal financing, with the best usage percentages found ï 30.3%.

On the whole, the research on financing patterns produce the general result that the firms with the greatest net worth use direct (bond) finance, while firms with lesser net worth use banks and those with the lowest net worth can not secure external financing at all.

Hence, I enlarge the dataset by incorporating information about the industry of the economic activity in which surveyed companies belong to link the choice of external financing instrument to manufacturing industries. Better understanding of the financing patterns of manufacturing firms, regardless of size, and how they change with institutional development has important policy and resource implications. The investments that the enterprises of the sample made are distributed in 7 categories, according to international statistical standards defining external finance to be the sum of bank, equity, leasing, supplier credit, development bank and informal finance. Bank finance includes financing from domestic as well as foreign banks. Development bank includes funding from both development and public sector banks. Informal includes funding from money lenders and traditional or informal sources. The distribution is presented in Table 8.

Table 8. Choices among different external financing sources given as firmôs percentage averages in certain activity categories

Sector	**Bank**	**Equity**	**Leasing**	**Supplier credit**	**Development bank**	**Informal finance**
Electronic and optical products	36.9	12.4	2.4	6.2	3.9	2.4
Fabricated metal products	35.4	13.6	2.6	2.2	1.1	4.1
Food products & beverages	38.8	11.2	2.2	8.4	1.9	4.2
Furniture	35.2	12.8	9.4	2.4	1.0	4.2
Rubber and plastic products	31.2	12.6	2.4	6.9	1.4	4.6
Textile	38.8	10.4	3.4	3.7	1.3	4.5
Timber	31.4	9.2	8.2	3.2	1.2	4.8
Wearing apparel	35.5	8.6	3.8	3.6	1.0	4.8
Average	*35.4*	*11.35*	*4.3*	*4.6*	*1.6*	*4.2*

The facts are shown below:

a) The investment expenses were forecasted to contribute in a high concentration of bank debt in a total debt for all firms, regardless of activity category, and it comes as a general truth on an average of 35.4%. Depending on the sector, the motivation of firms tapping bank debt use is found to be broadly similar for the sectors of textile and food/drinks products, with the highest percentage of 38.8%. No doubt, interest rate movements will affect the financing strategies of these companies to 31.2% manufacturers in the industry of rubber and plastic products, where it is the lower percentage. Once again, based on the local and international experience, this means that

limited resources led to poorer external financing possibilities, higher risk premia and changes in the domestic macroeconomic environment increased the risk to the financial institutions in new economies and reduced the flow of loans as well as their availability.

b) Regarding external equity finance in the form of venture capital, which is generally unavailable to enterprises without strong growth prospects, 8.6% of manufacturers made that particular choice in the ready-made clothes industry, which is also the lowest percentage, while it is 13.6% for the industry of fabricated metal products, which is the highest percentage. Unfortunately, the issue of additional equity is seen to signal the owners are not confident in the firmôs future, so it should not exceed the average use of 11.35%.

c) The investments financed in smart leasing actions and tools in the manufacturing enterprises were very little and concretely on an average of 4.3% of the external funding resources. The highest percentage and 9.4% was in the industry of the furniture and the smallest a 2.2% in the industry of foods. After all, it is known that the majority of businessmen consider the expenses for the smart leasing tools as functional cost and not as a long-lasting high output investment action.

d) The results indicate inferior importance on an average of only 4.6% comparatively the choice of increase in taking out a loan or going into debt estimating the limited appetite for inventory credit exposure that aimed in the supplier credit. At this point, we should contemplate that the credit crisis has caused many suppliers to limit the amount of open terms they were providing in the past. They are also likely to call for some form of credit enhancement. On the contrary, manufacturers asking for deposits of 30%, 40%, even 50% is becoming increasingly common in the industries of foods-beverages, rubber-plastic, also electronic and optical products, where it is the highest percentages. Although the sector of fabricated metal products is less likely to tap the inventory financing through suppliersô credits the smallest with a 2.2%.

e) Significant renewed interest has also emerged in development banks seeking to provide loans that promote development by lending to constrained borrowers, which is quite inexistent as a percentage of hardly 1.6% in average. The highest percentage 3.9% represents the sector of electronic and optical products manufactures and the lowest 1.0% the sectors of furniture and wearing apparel.

f) With regard the borrowing in the informal financial markets, where receivables in firmsô balance sheets are valuable collateral, there are important differences in the industrial basis that fluctuate from 2.4% in electronic and optical products manufacturing to 4.8% in the industries of ready-made clothes and timber. The average is 4.2% and which is very high, based on the international experience. In the Lithuanian reality, it may suggest that many firms use informal finance to supplement their borrowing from banks. At the same time, however, the challenge of

how to raise efficiency through the co-existence of formal and informal financial institutions also needs to be addressed.

The above findings show that the manufacturing enterprises benefit disproportional from higher levels of property rights protection by using significantly more external finance, particularly from banks. These are sectors, which had to utilize special financial strategies funding investments mainly in smart financing tools that support strongly the production processing having whole repercussion on cost-effective business operation and not to activate an increased debts of scale.

The reason for gathering detailed information standing beyond investment behavior of manufacturing enterprises, analyzing it to make assessments of whether the various factors have more or less influence on the choice of investment financing source, as well as the motivations behind its use presumably has a direct impact on investment performance is to compare the main methods of financing with the alternatives, which is more attractive to the enterprise, and under what circumstances and the approaches, which could be used instead. While there is extensive literature concerned with bank lending and direct bond financing, most studies consider the financing instruments individually. The emerged question is, if and in which level the objectives that the businessmen placed by the time of providing the investment project strategy influence on the choice of financing source. The answer to the above question is given from the facts of Table 9.

Table 9. The importance of motivation attributes on the choice of investment financing source

Importance Factors	**1**	**2**	**3**	**4**	**5**	Weighted importance	Relative importance, %
Business strategy	1	0	23	2	26	208	16.0
Project size (the funds needed to be financed)	0	0	7	18	27	228	17.5
Return on sales	2	6	16	14	14	188	14.5
Return on assets	22	12	0	16	2	120	9.2
Experience of other enterprises	4	0	29	19	0	167	12.9
Access to finance	0	0	0	5	47	255	19.6
Previous long-term financial liabilities	19	9	7	4	14	134	10.3
Totally:						1300	100

Interviewed persons pointed out (see Table 9) that considering productive investments based on expedient choice on funding, firstly should be granted by availability of finance (19.6%), secondly 17.5% of manufacturing investments financing decision depend on the project size, to be more exact ï on the funds needed to be financed. This is what interprets the hypothesis on tighten credit requirements for non-financial corporations as it is a fact that enterprises are forced to reduce their financial leverage. The second category of factors refers to the internal business environment,

which corresponds to a percentage of 10.3% decisions based on previous long-term liabilities. The results suggest firms acquire debt before investing and/or that the acquired debt in the past serves as a sign of good credit history for the acquisition of new resources.

Moreover, I tried to examine whether and how much the general strategy of the enterprises was according to the investment choices in order to make the optimal result for them finally. As a result, 14.5% of manufacturing enterprises investment plans aimed on return on sales. This dominant perception in the local business society linking financial and production decisions for many time continue, to guide the general, manufacturing, and investment strategies and policies with whatever negative it means.

With regard the investments linked to return on assets, the industrial enterprises of Lithuania, unfortunately, are motivated to invest at even lower percentage 9.2%. Assets can be increased only through increased debt or increased equity investments. Increased equity in turn is a function of retained earnings (after tax profits that are not paid out in dividends) and ownersô (present and new) investments.

Conclusively, it can be said that investment choices of the enterprises have a real change to fall considerably short to the objectives placed as manufacturing firms focuses their investment strategies mainly in the financing projects by ñlearningò instead of estimating experience of other enterprises, excepting minority to a percentage of 12.9.

Through the answers of the interviewees for their expectations, it was realized that all the above mentioned motivation factors are also reflected in their strategic manufacturing investment choices.

After controlling for relative importance of factors influencing on, I test to determine if importance of financing source choice as evaluated reliance on general business strategy is correlated with firm-specific characteristics on size.

The linear correlation coefficient, measures the strength and the direction of a linear relationship between two variables, is counted using the formula:

$$r = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{\sum (x - \bar{x})^2 \sum (y - \bar{y})^2}} \qquad (3)$$

The correlation coefficient is a statistic that is calculated from sample data and is used to estimate the corresponding population correlation coefficient. Correlation coefficients generally take values between ī 1 and +1. A positive value implies a positive association between variables (i.e., high values of one variable are associated with high values of the other), while a negative value implies a negative association between variables (i.e., high values of one variable are associated with low values of the other). Thus, a coefficient of ī 1 means the variables are perfectly

negatively related; while +1 means a perfect positive relation. Coefficients of 0 means the variables are not related. Regression equation formula is (y) = a + bx. This combination allows to describe the relationship between two variables and to predict another variable if equation one variable is known. Each correlation for enterprises that present different financial and operating characteristics is described in Figure 18.

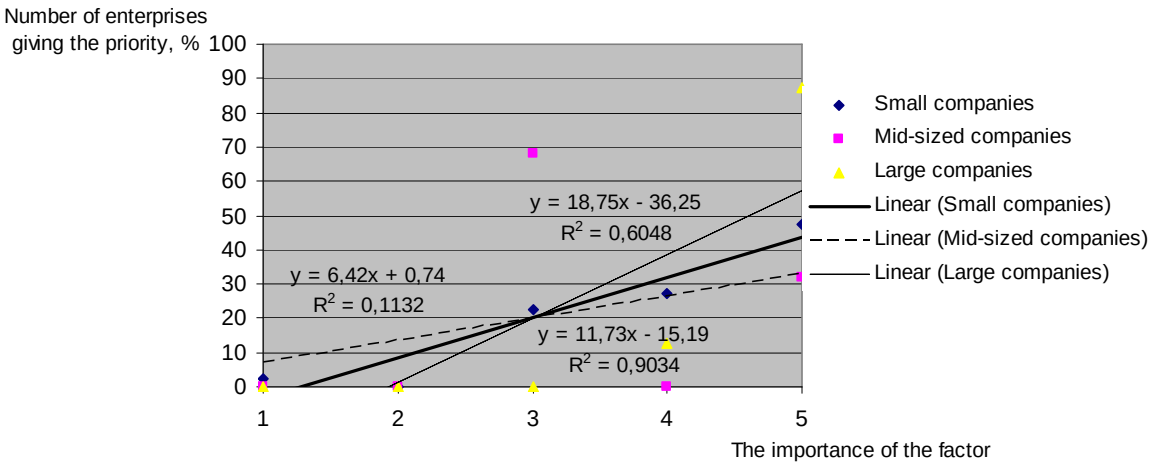


Fig. 18. Importance of financing source as estimated choice reliance on general business strategy

Thus, it is clear that company size has positive correlation volatility of large companies, with linear coefficient r = 0.95047 showing, the higher the enterprise size characteristics, the stronger the motivation of funding options following the business strategy. Matching of general business strategies with financing ones is the preferred instrument on the extreme end where firms are extra large. The reason is that an objective of projectsô financing ought to be the both factors of reputation and a positive signal of net worth. Typically, reputation is built by firms through repeated borrowing from banks. But not only does a track record make it more likely that a firm will get a bank loan, but where there are both bank loans and bond markets a non-default record over many bank loans also assists a firm in going public.

Also, this finding is not uncommon, when a firm reaches a certain size (in this case defined as mid-sized enterprise) requiring settled investment funds to ensure a stable growth, the effect of primary business strategy on the choice of financing choice is poor and the association fit between evaluation and size characteristics is weak (r = 0.33645). It is often alleged that the projects without support would not be implementable or would be implemented with the lower volume and slowly. As a consequence, for the value optimization purposes, it makes no sense for a medium-sized firmôs management to be willing to seek ways to finance desperately needed investmentsô projects in a strategically based ways, cause a limited upside potential yet bear significant downside exposure.

As shown in Figure 18, the association between evaluated importance of financing choice and the whole business strategy is significant for the sample of small firms, at the level r = 0.77769. Owing to one of the most important requirements for small enterprises seeking to the financial support - the correspondence to the provided economic vitality rates, based on the analysis for the affect and significance of basic aspects on. In other words, a choice of strategy is of great importance for the enable of guarantees for the exceptionally profitable investment projects.

Conclusively, the results show some consistency across the manufacturing enterprisesô size categories, and demonstrate that while incentives for financing source reliance on business strategy have a role to play.

Furthermore, by the research came out that the firmôs surveyed rarely used high-specialized advisors of strategic management. The greatest advantage of such financial consultations is favorable borrowing terms, in accordance with wider funding sources supply resulting in increased availability of the essential projectsô financing. Therefore, 42.8% - the minority of large local industrial units substantially determined to exploit the high incentives of the regional developmental in short-term without the support of experts in this subject by entrusting the responsibility for optimal investment projects financing to managing directors, accountant, rarely production managers, as Figure 19 given below graphically represents.

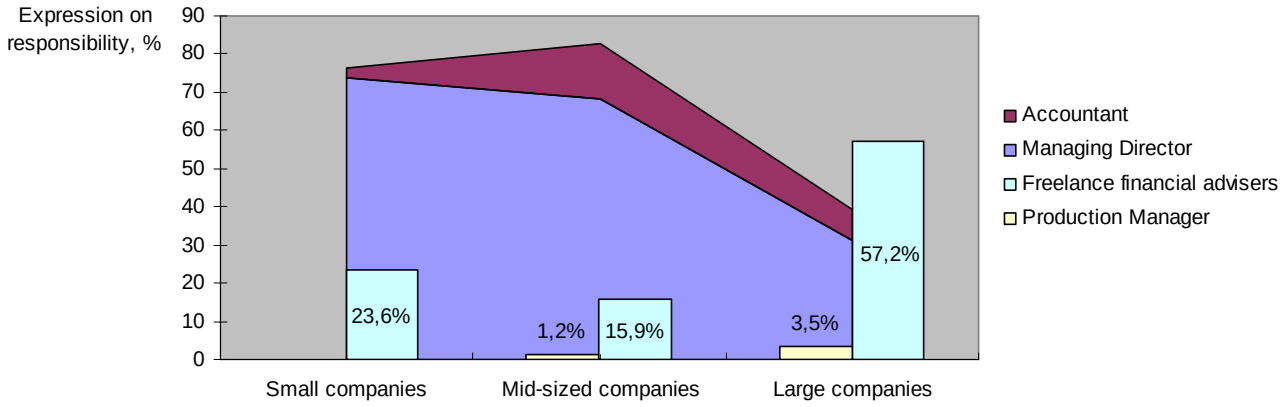


Fig. 19. Expression of responsibility for planning investment projectsô strategy in the manufacturing enterprises

In effect, medium-sized enterprises only seized the opportunity to plan their future activities and strategies, investment movements and targets in a percentage of 15.2%, what may respond in prevention from benefiting from investment project financing products of all Lithuanian financial institutions and waste of time, particularly implementing large-scale projects. While, 23.6% of the businessmen taken part in the research considered that advanced help is usually a good idea when faced with complex problems, and the use of a small business financing expert is a prudent step for commercial borrowers to take in view of continuing business lending difficulties. Realizing that

they have a commercial finance problem requiring outside advanced consulting help will often be an appropriate starting point for a borrower to seek a small business finance expert.

Instead of this, at least the large and mid-sized enterprises of Lithuania the past decades, with a 3.5% and a 1.5% respectively, continued insisting in the traditional logic of investment financing behavior by making industrial productive investments without any responsibility of the production management in the evaluation of criteria to conduct funding negotiations successfully.

Regarding the financing investments, firms are guided more by potential agency and contracting costs of debt than by the potential adverse selection concerns associated with equity issues. Taken as whole, the findings provide substantial evidence that financing and investment decisions are tightly linked.

While categories of possible assessments may be easy to discuss in principle, they are difficult to identify in actual practice. Figure 20 gives basic information about the structure of limitations and obstacles faced by the manufacturing enterprises in searching of financial support for investment projects implementation analyzed to choices by different sized business units.

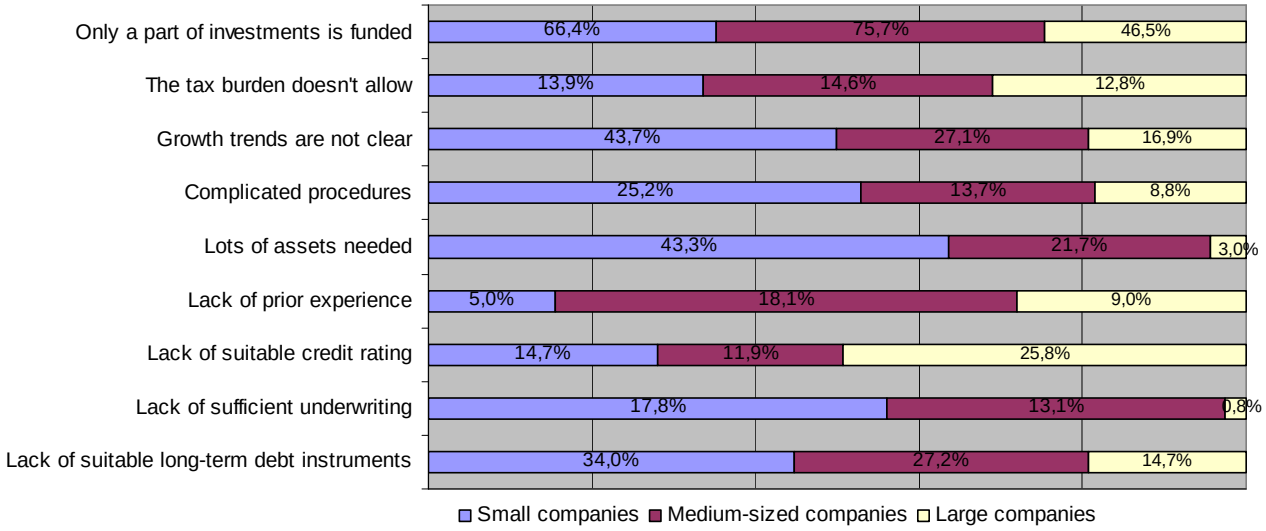


Fig. 20. Structure of limitations and obstacles faced by manufacturing enterprises in searching of financial support for investment projects implementation

The basic reasons, the businessmen reported, are the lack of suitable long-term debt instruments on an average of 25.3%, not surprisingly at the least effected large enterprises (14.7%), unpredictable corporate income growth trends roughly with a 29% mostly impacted small business units causing another obstacle in project financing that only a part of manufacturing investments is funded (the overwhelming ï 62.9% businessmen mentioned). In the Lithuanian reality on an average of 13.8% it is likely that investment projects in manufacturing frequently fail due to the tax burden.

The surveyed persons believed, in great majority of 43.3% for small manufacturing enterprises, that their problem relevant to limitations in financing is caused by lots of assets needed as small business firstly should have enough its own assets to pledge for the bank for borrowing. On the other hand, the survey clearly shows that most Lithuanian manufacturing firms are at the start of solving financing solutions in alternative forms, however meet many difficulties related to complicated procedures with the highest percentage 25.2% for small manufacturers, respectively 13.7% relevance to mid-sized enterprises and the lowest percentage 8.8 in the category of large.

Whereas the highest percentage 25.8 among large companies represents the lack of suitable credit rating or other credit-worthiness information, even observed with a 14.7% by small manufacturers and choices of medium-sized firms in a percentage of 11.9. Things being as they are, firms face credit restrictions that alter their investment decisions.

The related results show that for the businessmen the objective for the improvement of the qualitative alternative financing through sufficient underwriting or other institutions to create debt instruments, to securitize, or otherwise package long-term debt moved on an average of only 10.6% of manufacturing enterprises. At this point, we should contemplate that the large enterprises did not exhaust in any case the limits of this factor. Given the risk aversion assumption, small and mid-sized firms always think of project finance as a help to reduce risk if outside investors are available.

The above findings show that the manufacturing enterprises stuck in considerations on a spectrum of financing options because of the lack of prior experience with recourse mechanisms and other risk management strategies for long-term, revenue-backed debt. Apparently, the most common and already used financing ways need less effort to fulfill the applying requirements for funding since creative financing is usually done only during times of financial stress. Also, this finding is especially common for the medium-sized business units, because it is known that successful choice regarding financing investments leads to growth potential for such kind of enterprises. Thus, it would be useful to establish some ground rules or guidelines for disciplining the continuous process of information gathering, analysis, and monitoring, and most importantly for identifying sources of risks and vulnerabilities depending on investments financing sources.

Since creative financing is usually done during times of financial stress, enterprises must to prove ever-new smart alternative financing possibilities to ensure cash flow stabilization. In general, they may be able to access alternative financing markets through a variety of mechanisms - issuing bonds, borrowing from an intermediate financial institution, and securing equity investments in a variety of ways from private investors. Apart from the critical assumption that alternative financing choices reflect rational attempts to increase firm value, entrepreneurs apparently recognize challenges, which usually discourage from alternatives providing the combination of difficulties in seeking funding and are an important constraint on the alternative financing promotion process.

The distribution of barriers depending on the firmsô specific size characteristics is presented in Figure 21, to explain, why previous attempts to create a single, universal reason for using alternative project finance have failed.

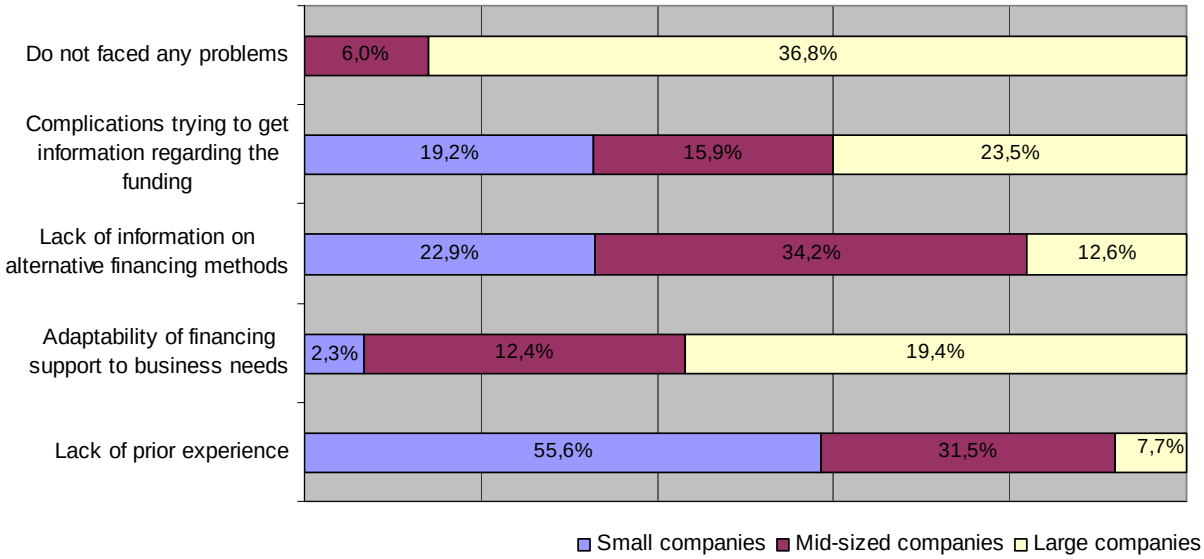


Fig. 21. Problems faced by the manufacturing enterprises seeking alternative funding

In particular, businessmen must be informed about existing options apart from banks, whose lending has been constricted by failing pre-recession loans and deteriorating balance sheets, to be under consideration of using such financing technique. The lack of information on alternative funding methods outright eliminates the possibility to grab one variation from 12.6% in large enterprises category, at an average of only 22.9% by evaluating the results of small business, to 34.2% in mid-sized companiesô attitude.

The second aspect is related of the procedural complications for firmsô already interesting a great deal in improvement of projectsô financing in accordance with another businessôs best practices and trying to get necessary information regarding the funding, stringent requirements to obtain financial support, etc. Many of these structural features appear, but can be as high as 23.5% for the large enterprises, cause inconvenience in an even lesser amount at 19.2% among small business units and only 15.9% of medium-sized manufacturing companies correspond. This also shows them to be good at adopting useful experience and all opportunities of existing support for their needs.

What is more, one of the main reasons for the limited extent of the investment projects funded in the smart alternative borrowing actions was a complicated adaptability of financing support to business needs, especially relevant to large companies attitude expressed by 19.4%. Not surprisingly, the best percentages are found in the small enterprisesô category, with 2.3%, in the sense that such entrepreneurs are really familiar with aspects of financial support for their business and with 12.4% for the mid-sized manufacturers respectively.

Nevertheless, convictions and opinions that they had for the never flown structure/mix/type of alternative financing, resulted in problems from the lack of prior experience. The highest percentage 55.6 represents small business units, the mid-sized ground the average of the actual point with 31.5% and the lowest result 7.7% is recorded in the large enterprisesô scale, of course. In other words, experiments on funding require better understanding before a reliable prescriptive position on alternative project financing in small and medium-sized manufacturing enterprises can be reached. Therefore, it is more likely that smaller and medium-size firms meet their financing needs through private debt and bilateral bank loans.

Finally, the goal of cheaper funding based on higher alternative financing quality had a slightly improvement, roughly of 21% and this comes as a result of the combination of mid-sized and large companies results without any difficulties. This dimension also shows the real size of the problem of the small manufacturersô failures under alternative financing without support of the strong incentives of investment laws. As a rule, the successful track records of large and mid-sized enterprises significantly contribute to increase firm value. In recent years, developments in the corporate bond market have attracted their considerable attention, so it becomes clear that the discussion is whether particular segments of firms have higher incentives to issue bonds due to the degree to which they are limited in raising further finance internally or from other sources such as banks.

Most of investigated results are directly applicable to the comparison of bank funding via the corporate bond market, providing an excellent review of the reasons why a company may wish to make that choice based on moral hazard and/or adverse selection arguments, desire for greater diversification of finance and the relaxation of constraints among other reasons. The results are as following Table 10.

Table 10. Evaluation of the factors, which deter manufacturing enterprises from issuing bonds as alternative projects financing source

Importance **Factors**	**1**	**2**	**3**	**4**	**5**	Weighted importance	Relative importance, %
Lack of demand for new shares	1	0	6	3	41	236	19.9
Return on equity is relatively low	3	0	7	13	29	248	20.9
Variation in a narrow range in stock market	4	2	33	11	2	161	13.6
Lithuanian stock market is little-known to foreigners	9	14	17	4	8	140	11.8
Difficulties in evaluation of company share capital	5	1	8	24	15	202	17.0
Lack of prior experience	0	0	15	30	7	200	16.8
Totally:						1187	100

A recovery in the worldôs stock markets, which is observed from March 2009, is encouraging little by little Lithuanian industry enterprises turn to the equity markets again. Nevertheless, Lithuanian companiesô shares are still undervalued in the way of thinking of 17 percents of respondents. Likewise, the current good business results have already reflected in the share price, but investors still do not evaluate the companyôs potential and future prospects. In other words, future expectations are not yet included in the price of the shares - which means that they have a strong basis to continue to rise. In developing markets, including Lithuania, stock market returns for a long time may have been 15 percent annually.

Furthermore, bonds are largely considered a safe investment in times of economic turmoil. Investors also tend to jump to bonds when stocks are under pressure. At any rate, perhaps the most outstanding weakness of Lithuanian stock market estimated by11.8% of the businessmen taken part in the research - NASDAQ OMX Vilnius is still unknown to foreign investors. One of the main reason causing this speculation - complicated bureaucratic procedures, which have to be overcome by feasible investors in order to buy shares in Lithuanian stock market.

At the same time, 16.8 % of possible issuers even complain about a lack of information on the real participating in the Lithuanian stock market in the sense that they donôt know many things about them, and secondly there are many difficulties to incorporate them in the functional process of investment financing because of the inexperience. The decision to issue bonds is well understood to be a momentous one. Hence, the fresh ones should be lead by the fact that seasoned issuers have a track record in the bond markets with repeat issues and therefore have reputational benefits.

However, it should be underlined that the 19.9% of the enterprises abstain from decision finance the investments through issuing bonds owing to the lack of demand for new shares, in the best of cases. In spite of the previous findings that firms with a reputation of previous bond issues pay lower spreads on bank loans than firms without reputation in the bond market, cutting them by 95 basis points on average. The decision to access the public debt market for the first time represents a major change in a firmsô financing policy.

The progression of ideas in the bond issuing funding fail on NASDAQ OMX Vilnius variation in a narrow range estimated by 13.6% of surveyed enterprises. Nevertheless this negative viewpoint has to be set against the potential gained from flexibility that allows for diversification of finance and the ability to avoid hold-up problems from banks according to the bank information monopoly. So, the probability of issuing a bond may well be affected by the extent to which the firm has used finance from other sources.

The last aspect on the improvement of project financing through issuing bonds was a strategic objective for returning on equity measured nearly by double more interviewees (20.9%) as relatively low. While this situation leads to local accounting rules, in addition, enterprises are trying

to hide income in order to reduce the corporate tax. Consequently, in such case, the potential investors are misled about the actual conditions in the company and remain ignorant of the real future prospects. Investing in such companies is risky, of course. But it can be firmly faced to be the problem of individual companies, not the whole Lithuanian stock market.

Anyway, after going public a firm will typically experience a decline in investment, profitability and leverage but it gains greater flexibility of finance by borrowing from a larger number of banks on better terms and will have higher turnover.

With reference to discussed circumstances, I test whether the decision to access bond market aimed on return on equity is influenced by the indicators of size for the firm. Actually, I believe bond issuance with expectance on return on equity to increase for firms with stronger balance sheets i.e. larger or more creditworthy firms, those with higher levels of profitability but also lower levels of debt.

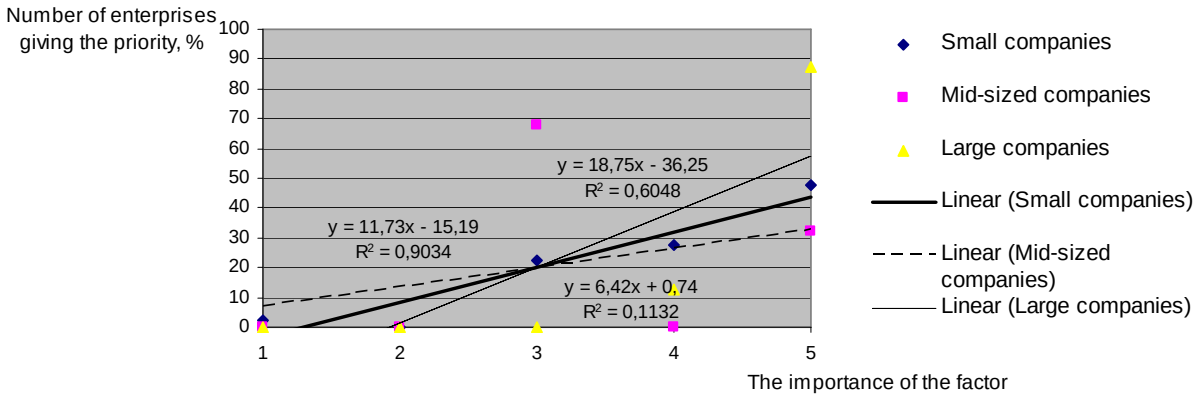


Fig. 22. Correlation of expectations for return on equity and specific size characteristics of the surveyed firms in the issuance of bonds

The fact of the matter is that complement of analysis (see Figure 22) documents a significant positive relationship (r = 0.95047) for the number of enterprises recognizing the influence of returning on equity to be relatively low measured prior to the financing decision and the evaluation on importance of the factor of variables increasing the likelihood of bond issuance for large manufacturers, while the coefficients for small and medium-sized potential issuers are insignificant and qualitatively unimportant (r = 0.77769 and r = 0.33645 accordingly). These findings differ from previous empirical results for the issuance of corporate bonds, which showed that scale factor played a role due to growth potential leading to a choice of financing through the issuance of bonds. Therefore, relatively small public debt issues would not be cost efficient and firms would only tap public bond market when issuing large amounts of debt to benefit from economies of scale.

Although as a rule, quality firms issue shorter maturity debt according to evidence that long maturity debt issues signal a lack of growth opportunities.

For capturing the behaviour of these large firms when they are facing specific financial conditions. Since they can easily access both markets, they may opt to borrow only from a particular market at certain times depending on their financial state. Firms with high financial leverage are more likely to borrow simultaneously from both debt markets, rather than tapping only the bond markets. On the other hand, the results show that size is positively related to the probability of issuing debt seem to be the instrument of choice at the extreme where return on equity is set as priority.

Taking into account that the objectives estimated prior to the financing decisions with a link to the specific characteristics of firms have such a great influence on the choice of financing source, there has been relatively little said, if and in which level the right selection from that expanding menu is important for investment projectsô return.

Thus, the businessmen were contacted to evaluate the success of investment projects implementation, due to their previous experience, based on the choice of financing source as well. These are relative measures and are based on comparisons with the distribution of each variable for a given evaluation of importance and size of the firm.

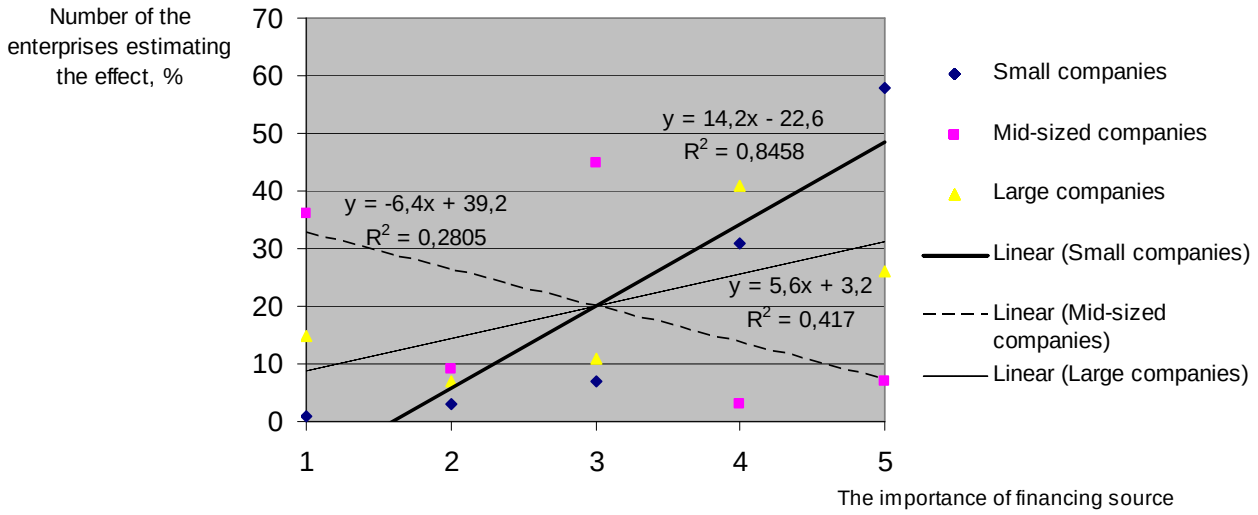


Fig. 23. Sensitivity of investment projectsô return to adoption of financing source

Looking at Figure 23, the coefficient on essential financing sourcesô role for small companies is positive and significant (r = 0.91967) at the conducting quality of investment projects, taking under consideration borrowing conditions, which reflect in their financial status. While the coefficient for mid-sized borrowers is negative, but not significant (r = -0.52962) by means that they do not provide such a great interests in substantiated financing selection for the reason it is not

a key indicator of implementation success. What is to say, the investment projectsô financing solutions of manufacturers with medium-sized characteristics are associated with a higher availability of the finance, first of all. For the large manufacturing enterprises, I find weaker effect, but again indication of the positive influence (r = 0.64575) of appropriate funding source on investment projectsô return. Together these results show that being a seasoned issuer enhances the importance of a positive coverage ratio with probability of bond market access in this case.

The related results show that in the majority of cases, we can reject equality for firms with or without reputation; similarly, for firms without incentives we can also reject equality. Since the difference between the firms in this test is expressed by their reputational status, it indicates that reputation has a strong influence over the probability of bond issuance, resulting in less costly funding to the secured project pay-back guarantee.

The role played by excess cash in financing decisions reflects the importance firms attach to financial flexibility. In fact, the firms increase excess cash holdings when investing in net fixed assets. Additionally, while all firms appear to use their profits to reduce their reliance on external capital markets, especially long-term debt, and also in increasing shareholder payouts, small firms and high growth firms use a larger proportion of their profits to build financial flexibility, while large and high profitability firms have higher marginal payout ratios.

These results in part confirm that a successful financial decision goes beyond increased availability of financing source, but also has an impact on investment projectsô implementation.

By evaluating the results of the empirical research I can be led to certain conclusions:

1) Firms are indeed restricted by external resources and are compelled to resort to internal resources.

2) Manufacturing enterprises benefit disproportional from higher levels of property rights protection by using significantly more external finance, particularly from banks. These are sectors, which had to utilize special financial strategies funding investments mainly in smart financing tools that support strongly the production processing having whole repercussion on cost-effective business operation and not to activate an increased debts of scale.

3) There is also some evidence in the extensive field research that high growth firms constrained by bank hold-up problems experience a net positive effect from public issues, which confirms that in certain niche areas firms may benefit from particular types of financial structure.

4) I find that firms preferring bond financing carry higher levels of short-term debt, which probably provides more extensive market monitoring but has more growth opportunities. Previous authors provide evidence that firms borrowing through public debt markets are larger, more profitable, more highly levered and have fewer growth opportunities than firms that rely primarily

on bank financing. These findings suggest that in the pecking order, firms firstly borrow from banks until they establish the reputation to obtain financing from public bond markets.

5) It was also realized that firms are guided more by potential agency and contracting costs of debt than by the potential adverse selection concerns associated with equity issues, whereas the issue of additional equity is seen to signal the owners are not confident in the firmôs future.

6) The empirical results show some consistency across the manufacturing enterprisesô size categories (0.95047 Ó r Ó 0.77769), and demonstrate incentives for financing source reliance on business strategy have a role to play.

7) Indication of the positive influence of appropriate funding source on investment projectsô return provides an excellent incentive for establishing ground rules or guidelines for disciplining the continuous process of information gathering, analysis, and monitoring, and most importantly for identifying sources of risks and vulnerabilities depending on investmentsô financing sources.

4. INVESTMENT PROJECT FINANCING CREDITWORTHINESS BASED SELECTION METHOD

4.1. Reconsidered creditworthiness

It has become commonplace to estimate the demand for capital to finance manufacturing investments and to note that the traditional variety of funding mechanisms - issuing bonds, borrowing from an intermediate financial institution, and securing equity investments in a variety of ways from private investors - are not adequate to meet the demand. As far as my investigation was directed towards the following 3 key factors of manufacturing investment project financing environment: access to finance, motivation beyond choice of financing source and after quality/functionality improvement, I am concerned it is manufacturerôs own responsibility to create value relevant conditions to attracting conducive funding.

Though the applications and requirements differ from option to option, they share one threshold requirement: creditworthiness. Although creditworthiness is widely accepted to be a creditorôs measure of the project companyôs ability to meet its debt obligations, it is also assumed as enterpriseôs own criterion to select borrowing source and purposefully fostered property for financing improvement. It may be construed based on these results that firms use their preferences for borrowing term as a sign of expectation of the firm for its future.

Thus, creditworthiness based selection method is not only related to the probability of using particular funding options attached to the preference of firmôs net worth, but even means strategic strengthening and promotion of creditworthiness to make financing decisions value relevant and highlighting various factors have influence on successful track record.

4.2. MODEL SOLUTION

A creditworthiness based theoretical model considers the case where the firms can either access external finance or not. This can be bank or market finance, but empirically I am interested in those firms that have chosen to access bond markets either because they have met the model-based criterion or because they require greater investments funds than their banks can supply.

Following the theoretical study and information obtained during survey analysis, creditworthiness is ascertained to be more significant factor leading to investment financial self-determination than firmsô specific size or profitability characteristics. Thus, term structure of debts and term structure of assets would be matched. This finding differs from the announcements regarding investment project financing in manufacturing: the choice of funding source in many cases is not driven by real demand, but determined at the level of enterprise creditworthiness. Under these circumstances, an investment project financing creditworthiness based selection method is

presented to ensure essential factor in the enterprise growth process - the availability of financing (see Figure 24). This model is not only important for the value relevant financing decision, but even contributes developing both reputation and a positive signal of net worth (in the form of a better creditworthiness rating). Because not only does a track record make it more likely that a firm will get a bank loan, but where there are both bank loans and bond markets a non-default record over the firm public issues also assists in pursuance institutional funding.

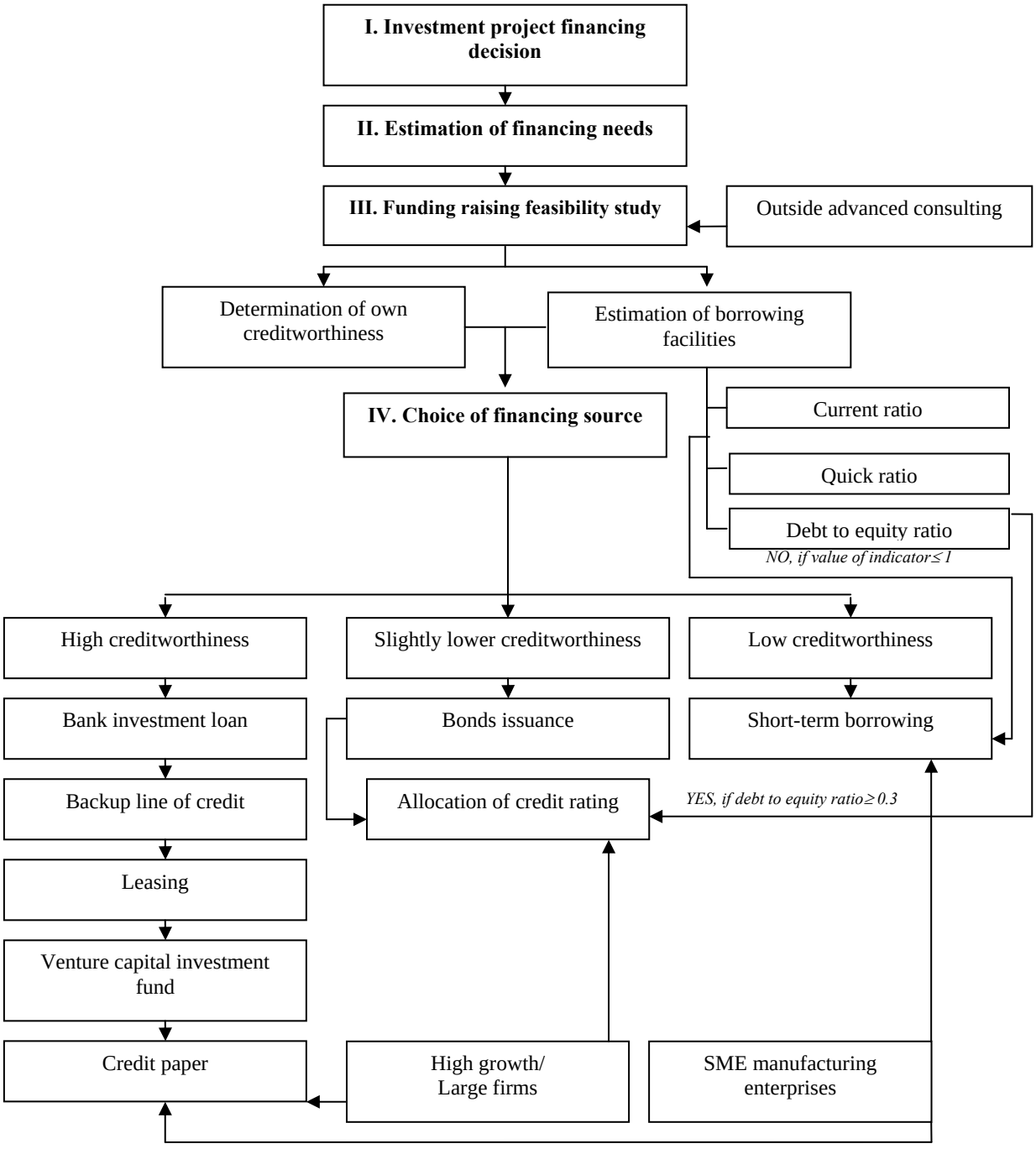


Fig. 24. Investment project financing creditworthiness based selection method

Extending the model to allow for differences in firmsô publicly observable risk characteristics (i.e. credit rating) it is possible to derive firmsô debt maturity choice as a function of their ratings.

I focus on two sets of predictions arising from the model. First, the model predicts that firms with lower creditworthiness are more likely to issue public debt in the sense that bank debt is exceeded. These firms will seek to undertake larger investment projects and will find it optimal to opt for market finance. Second, my model predicts that reputation (in the form of a better creditworthiness rating) will (a) allow firms to lever their net worth more and (b) lower the threshold required for market finance.

It is also assumed that financing decisions are associated with market value of a firm. Most of the studies carried out on this matter assume that those in the firm and market participants would share all information which may be obtained regarding distribution of the profits derived from real investment decisions. In such a case, those inside and outside agree on the value of financial changes and equilibrium price of the security makes the firm against alternative financing plans.

As the value of the initial capital stock is not sufficient to finance the input bill, producing firms need to raise external finance.

I cast the different role of corporate bonds and bank loans into a dynamic general equilibrium model with credit market frictions, where the assumption of one-period maturity of the debt is maintained.

Since my main goal is to illustrate the role of creditworthiness on market finance, I now describe the essential elements of the model (we leave all details along with a description of the solution in the further sections).

Each firm is characterized by the amount of net worth. The theoretical model relates access to bank debt positively to a firmôs net worth. Empirically this is implemented by measuring the assets at the firm, measured by the leverage of debt-to-invested capital, and indicators likely to influence access to financial resources. These indicators are closely related to creditworthiness of the firm such as debt to equity ratio, current and the quick ratio. The implication is that high leverage can be interpreted as the evidence of low net worth rather than a sign of good borrowing capacity. The probability of issuing a bond may well be affected by the extent to which the firm has used finance from other sources.

This can be motivated by the fact that banks seek to maintain a diversified loan portfolio. Hence, it is likely that they will not be willing to finance (large) investment projects from any one borrower that imply an excessively risky loan portfolio. We now come to the role of reputation.

Investors of course prefer high reliability borrowers since they are more likely to manage their projects competently if offered identical compensation to the low reliability ones.

In contrast to banks investors only observe the firmsô track record (success or failure) but not the private benefit. They form (and update) a belief (rating) about firm reliability based on this information. This threshold is a function of the firmsô rating, (among the other parameters of the

model). This relationship is a key for understanding the role of creditworthiness in the sense that the minimum amount of net worth for market finance decreases with an improved rating. Therefore an improvement in reputation based on the rating increases the probability for greater diversification of finance and the relaxation of constraints.

4.2.1. Estimation of financing needs

This is the first step in attracting additional funding. Operational financial planning enables the company to set clear target (in financial terms), tasks, and providing methods with measure for their achievement, monitor their implementation as well as pre-planned relationships with financial institutions and at the same time increasing the financial institutionsô confidence in the enterprise resulting in allow for better funding conditions.

The manufacturing company is able to forecast and control cash flows accurately, plan investments and financing simultaneously, in addition working capital requirements for ensuring required solvency and creditworthiness.

In the recovery phase, operational assessment of an improved economic climateôs impact on operational conditions is worth for taking actions against sacrificing long-term value.

Qualitatively carried out financial analysis in accordance with timely prepared practicable financial information enables the companyôs management monitors through the business performance regularly, profitability and financial position resulting in reasonable and prior forecasted management solutions.

In order to prevent problems from the lack of investment funds, necessary to:

1) Prepare a list of planned investment accordingly prices and amounts. Long-term assets and the VAT payable should be indicated separately.

2) Divide planned investments into groups (buildings, vehicles, equipment and other long-term assets, VAT payable, working capital, etc.) and estimate financing needs for each group individually.

3) Determine the exact long-term and short-term financing needs. As a rule, buildingsô acquisition and adaptation, vehicles, equipment and other tangible assets should be financed in a form of long-term financing, while short-term funding is applied to capital working and VAT.

4.2.2. Funding raising feasibility study

After the real financing needs are estimated, the emerged question is funding attracting opportunities taking into account the firmôs financial statement. Firstly, the balance sheet of the enterprise is evaluated, calculating the following types of financial ratios:

1) *Current ratio:* Current Assets / Current Liabilities;

2) *Quick ratio (or "acid test"):* Quick Assets (cash, marketable securities, and receivables) / Current Liabilities - provides a stricter definition of the company's ability to make payments on current obligations;

3) *Debt to equity ratio:* Debt / Ownersô Equity.

As mentioned before, the value of first two indicators should not be less than 1, while the third indicatorós value - not less than 0.3.

The argument here is that highly leveraged firms are successful and have higher borrowing capacity which is realized in the form of higher debt to assets ratios. In this case one would expect a positive relationship between leverage and the probability to increase bank finance. Which of these cases prevails is an empirical matter, but in either situation, I expect financial leverage to significantly affect the firmôs probability to access the bond market. Firms with greater financing needs will have a higher probability to issue bonds compared to firms with smaller needs.

All things considered, a hypothetical companyôs balance sheet is prepared ï as it would if the enterprise had already sampled the loan and invested. After such form of balance sheet is completed, debt to equity ratio should be calculated ï this value must be not less than 0.3. And if debt to equity ratio fails, it is required to raise capital by additional contributions or to give up part of the investment. Yet, there is no possibility of increasing equity; investment project should be break down into stages, providing only necessary investments in the first stage.

If manufacturing firm seeks to undertake larger investment projects, which can not be funded in the form of bank borrowing due to improper debt to equity ratio, but it is believed that investment will payback very quickly and within a few year will contribute multiplier increasing turnover of the company, worth trying to attract financing from venture capital funds. Under these circumstances, *net profit margin (net profit/sales), return on assets (net income/total assets)* and *return on equity (net income/shareholder's equity) ratio* play particularly important role in determining grant funding.

Advanced help is usually a good idea when faced with complex problems, and the use of a business financing expert is a prudent step for commercial borrowers to take in view of continuing business lending difficulties For most this realization will occur after being turned down for a commercial loan by their current bank and not knowing what to do next. Some business owners might have already had this experience and then unsuccessfully tried to find new financing. The greatest advantage of such financial consultations is favorable borrowing terms, in accordance with wider funding sources supply resulting in increased availability of the essential projectsô financing. It is essential that commercial borrowers receive thorough and candid advice before finalizing any working capital and commercial loan agreements.

4.2.3. Choice of financing source

If the financing needs and opportunities to attract funding are matched, the most appropriate financing source could be chosen.

Bank investment loan may be suitable for manufacturing investment project funding. In fact, usually the cheapest financing form. Another advantage in such financing way is that part of the loan could be allocated for working capital replenishment, while in choice of leasing this opportunity will not be available. In addition, banks often provide investment loans for one-year repayment deferral. In order to obtain long-term loan, enterprise ought to prepare a comprehensive investment project according to strict requirements for. At the same time, necessary to guarantee the repayment by collateral, surety, credit insurance and etc.

Leasing finance is appreciated if the company has sufficient own funds for working capital and an initial 15 to 30 percent. of asset value leasing contribute paid. Often leasing is easer to obtain than a bank investment loan due to a very brief business description (business plan) required, not to mention collateral waive in the sense that leased assets by itôs final maturity remains the property of the leasing company. It is popularly believed that leasing is somewhat expensive than bank investment loan. To make matters better, if a firm has ownership right over any kind of fixed assets, it could refer to the leasing company for leaseback.

In practice, venture capital funds are often expensive by means of project financing. Despite these funds are appropriate when the enterpriseôs borrowing reserve is inadequate (the company can not borrow the proper amount because of the lack of equity and assets ratio), but a manufacturer is viable, rapidly growing and operating profitably. In order to attract fundôs investment into capital, it is necessary to develop a detailed investment project.

Besides, long-term funding, for example, leasing can often be combined with one or another form of short-term financing.

If manufacturing needs to supplement working capital, this can be done in several ways. The cheapest one usually is a short-term loan for working capital. Without taking out a loan or going into debt, reasonable to supplement the operating capital through factoring service, if suppliers provide the payment provisions. While, if the manufacturing is seasonal and working capital requirements fluctuate the overdraft or line of credit could be used instead. For manufacturing companies, being able to purchase supplies is paramount to their business.

Firms of the highest credit quality ratings able and willing to issue commercial paper choose together with a backup line of credit. Firms with slightly lower creditworthiness ratings prefer (or are restricted) to issue long-term bonds. From the discussion above it should also be clear that there are some firms with lowest credit rating for which short-term borrowing is the only available financing option.

One might wonder why bad firms with a high credit rating do not use short-term finance only (without a backup line of credit). They would thereby be able to obtain the same effective financing arrangement, i.e. short-term finance in the first period and short-term finance in the second period if the economy is in a good state and no finance in the second period if the economy is in a bad state. However, they would not have to pay the commitment fee for the provision of the backup line of credit and would therefore be better off.

This is so because firms have to have a (publicly observable) credit rating to be able to tap public debt markets. If a firm with a high rating wants to issue a short-term bond without securing a backup line of credit it signals that it is a bad firm. But then it does not receive any financing at all. It hence prefers to secure a backup line and to pool with good firms of the same high rating category.

Thus when a firm reaches a certain size requiring investment funds that are greater than internal and bank finance it may make the important decision to issue bonds, incurring higher costs to obtain external finance at first, in the belief that initial costs of issuing the bonds will be outweighed by lower financing costs in the longer term. Subsequently a firm may be expected to have a higher probability to issue a bond in order to reap the reputational benefits that accrue to seasoned issuers in the form of lower cost of external finance.

4.2.4. Factors effective on term creditworthiness

It is believed that creditworthiness depends on several major factors: the borrowerôs efficiency, his reputation, manufacturerôs capacity for profit making, the value of own assets, the state of the economic situation, business profitability, etc. In order to conduct a thorough study of the above mentioned, it is necessary to use a number of indicators for the credit analysis. These findings may suggest that banks do not look at balance sheet or other parameters that can be manipulated by the company owing to loose accounting principles, but consider objective evaluations such as credit rating by independent institutions or past borrowing in making loan decisions.

Following the relevant results of empirical research results, I formulate a probit model of the following type:

$$Pr(CRWORTH_{it} = 1) = F(\alpha_0 + \alpha_1 SIZEi_{(t-1)} + \alpha_2 OPERt + \alpha_3 FINANCIAL_{i(t-1)} \cdot REPUTATION\_M_{it} + \\ + \alpha_4 FINANCIAL_{i(t-1)} \cdot (REPUTATION\_C_{it}) + u_j + u_t) \quad (4)$$

where *CRWORTH* is a dummy variable that equals 1 if firm *i* is evaluated of highest creditworthiness rating in year *t* and 0, otherwise. My specification includes regresses evaluated at time *t-1* with assumption one-period *t* maturity of the debt; u_t represents a full set of time dummies

accounting for common trends and business cycle effects; and u_j, a full set of industry dummies to control for fixed effects across industries.

The dummy variables are defined within an industry and are measured respectively by cash and liquid assets to total assets, the coverage ratio, dividend payouts, growth in sales and the bank dependency ratio (measured as ratio of bank loans to total debt). When these are in the bottom quartile of the corresponding distribution of all the firms in that particular industry and year (with the exception of bank dependency, which is in the top quartile of the corresponding distribution of all the firms in that particular industry and year) then the dummy takes a value of one. These firms may have a greater incentive to issue bonds because internal and other external sources of funds are likely to be binding.

The theoretical model relates access to public debt negatively to a firmôs net worth. Empirically this is implemented by measuring the assets at the firm, measured by the logarithm of real total assets (*SIZE*), and indicators likely to influence access to financial resources. These indicators are closely related to creditworthiness of the firm such as leverage, profitability and the coverage ratio.

Profitability ratio (*OPER*), is defined as operating earnings relative to net sales, to measure a firmôs ability to generate revenue. I use this measure to proxy for both earnings and cash flow. Manufacturerôs profitability on depositing the credit application is of importance only as a facilitating starting point for getting the accurate assessment. We have often seen companies with slender or no profit at all, using the loan they have received, activate and put together their resources and their production capacity and thus turn into highly efficient economic entities. At the same time, profitable companies, which receive loans under conditions that they cannot meet, can worsen their financial situation to a degree, endangering the repayment of the loan. The profitable companies are usually also liquid, but this cannot be taken for granted, especially in a situation with a high rate of investment.

Here the vector $FINANCIAL_{i(t\text{-}1)}$ denotes my set of financial variables from the previous section, which are measures of creditworthiness and financing needs i.e. leverage, operating margin, capital expenditures and coverage ratio. This specification is aimed at evaluating whether the effects of the financial variables on investment financing decisions are stronger for firms seeking impeccable credit history, which are more likely to have established a successful track record.

By interacting the financial variables with the indicator of manufacturerôs reputation - $REPUTATION\_M_{it}$, we can determine the influence of allocated credit rating of in the bond market on the firm. The process of establishing reputation is a long one. Typically, reputation is built by firms through repeated borrowing from banks, therefore during the assessment process one can use

information referring to repayment of previous loans. It is necessary to estimate the position that the borrower has in industry sector in terms of competition, technology, production demand etc.

What is more, I define $REPUTATION\_C_{it}$ as a dummy variable directly influenced by the state of the economic situation that takes the value of operating countryós reputation rating in the sample period. The respective borrower can be perfectly assessed in terms of his reputation, profitability and assets and yet credit extension might turn out to be inexpedient because of the unfavorable economic situation (in the form of a lower rating).

Hence upon observing success the financial market attaches a greater weight that it faces a high-reliability firm, the manufacturer desire for greater diversification of finance with all debt options spectrum or the ability to avoid hold-up problems from banks, should focus on strengthening these factors that influence creditworthiness. Firms can increase the scale of their investment projects with an improvement in ratings, and demand more market finance.

I find firms with reputation and/or a signal of creditworthiness and incentives to raise external finance access bond markets with higher probability than those without these characteristics. These influences are found to have important interactions, but positive reputational effects dominate. In order to receive appreciable benefits from credit rating allocation before going public, enterprise must be recognized as *a good reputation* issuer, first of all. This means that the number of active firms without gaining reputation before fall as access to bond markets gets easier. In addition, I argue that there is a direct reputation benefit that accrues from having issued previously with possible avail in further public debt or more qualitative and quantitative bank finance.

4.2.5. Variables in the model

I broaden the analysis including the situation when enterprise with both high creditworthiness rating and a signal of reputation seeks to undertake larger investment project, while motivation of firm tapping these two alternative markets is found to be similar, to maintain incentives to raise external finance access bond market.

If firmôs financial statement ratios do not eliminate the possibility of considering both debt options, to the extent that the maximum investment scale that banks are willing to finance is then there would be a mass of firms that are forced to seek market finance (in the sense that they would prefer bank finance if it was available) if the firm intends to proceed with the investment project. This is most likely to happen for large investment projects. Obviously, the borrowing size is determining factor then and this is driven by differences in the cost of finance forthcoming from each source (market or bank finance).

In the Figure 25, I derive the borrowing cost functions that define the optimal investment scale under market finance. To assess the firmôs decision between the two sources of financing, I find a critical firm efficiency level φ_f, where a firm is indifferent between producing using loan financing and bond financing.

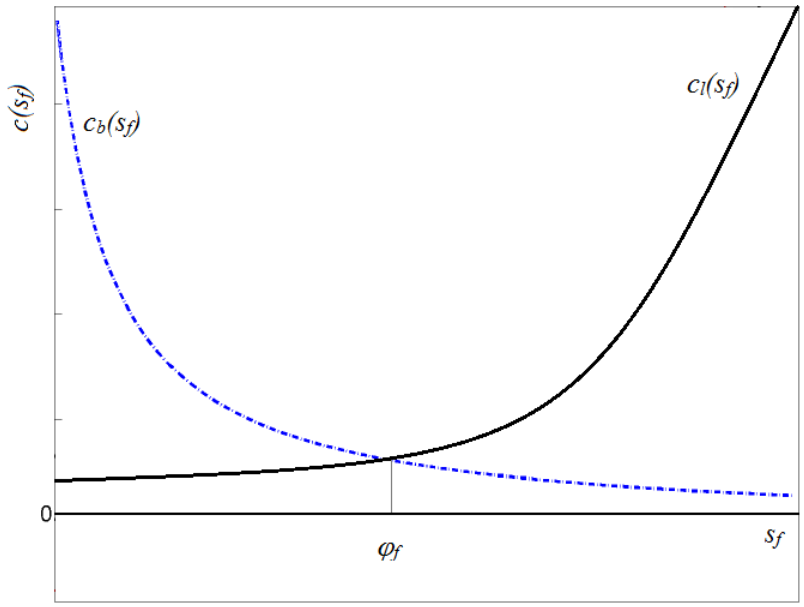


Fig. 25. Borrowing cost functions differ for bank borrowers and bond issuers:

s_f ï borrowing size (funds needed to be financed); $c_b(s_f)$ - borrowing cost for firms issuing bonds; $c_l(s_f)$ - borrowing cost for firms that finance using loans; φ_f - the threshold efficiency level for active production between issuing bonds and using loan financing.

To simplify the intermediaryôs problem, I assume that fixed costs are added into the loan principal or the total amount of the bond issue and paid with interest after sales take place. The fixed cost for bond issuers represents the cost of auditing and underwriting by investment banks, as well as extra reporting necessary to comply with regulatory oversight. For bank borrowers, fees involved with administrating the loan application. However, the initial bond issuance cost includes brokerage fee of rating agency for credit rating allocation, consequently cost of low value bond issuance finance is relatively high. Sectoral reallocation from a drop in bond issuance costs is most pronounced when the banking sector is less efficient. Thus, the threshold efficiency level for active production development is reached and borrowing cost for firms issuing bonds, $c_b(s_f)$ is clearly lower than bank finance using loans, $c_l(s_f)$ particularly in a way of repeated bank funding actions.

The decision to issue public debt is a financially significant step for the firm. On the positive side it provides new opportunities for financial flexibility and lowers the cost of bank finance. But it also weakens monitoring capability since public debt is arms-length finance and this can send a negative signal to markets reducing the share value. The decision to make this step is made by balancing the positive and negative effects, and for certain types of firms, e.g. older and larger firms or those with growth opportunities there are smaller negative effects than for others. Not to mention

the fact that access to bond market with a critical role for building reputation through successful issues is addressed to creditworthiness gaining, eliminates credit ceilings and forced borrowing and leads to greater access to investment financing, reducing the premium paid on external finance.

In order to accept rational value relevant financing decisions, enterprise must know its own real borrowing possibilities, in the first instance. That is exactly the reason investment project financing creditworthiness based selection method is presented. I entirely approve of creditworthiness estimation by businessmen taken part in the research to be primary determining characteristic to support the strong incentives of useful financing diversification and the relaxation of borrowing constraints. However, there were many difficulties to incorporate them in the functional process because of the inexperienced.

A very efficient network of funding raising capturing has more to offer than just facilitating manufacturing companyõs resolve. One of the main findings of my model is that there is a noticeable positive effect of being a seasoned issuer on bond market with a critical role for building reputation that occurs with possible avail in further public debt or more qualitative and quantitative bank finance. Since firms use their preferences for borrowing term as a sign of expectation of the firm for its future.

I begin with developing a simple stylized framework that is similar to models that study the role of net worth in the choice between alternative modes to explain the relationship between firm-specific creditworthiness characteristics and the probability to issue bonds. Then report results from empirical research estimating in equation (4) that allows identifying the effect of important factors establishing creditworthiness. Finally, I report borrowing cost functions to explore the interaction between borrowing size, cost and incentives. The results are robust to different estimation technologies, sample selection methods, measures of creditworthiness and reputation.

The advantages of investment project financing creditworthiness based selection method:

– Facilitating value relevant financing decisions resolve under creditworthiness defined own funding raising facilities;

– Manufacturing developers seeking to undertake larger investment projects will find it optimal to opt for market finance resulting in funding diversification and the relaxation of borrowing constraints;

– Contributes developing both reputation and a positive signal of net worth (in the form of a better creditworthiness rating);

– Manufacturer desire for to avoid hold-up problems from banks could focus on strengthening highlighted factors that influence creditworthiness;

– Firms will increase the scale of their investment projects with an improvement in ratings, and demand more market finance.

CONCLUSIONS AND PROPOSALS

1) Considering implications of the analysis on scientific-economic aspects of investment financing, determining project financing principles I conclude that:

- Low quality firms issue short-term direct debt, medium quality firms issue long-term direct debt, and high quality firms use short-term direct debt in normal times and bank debt in adverse times.
- Long-term finance tends to be associated with higher productivity. An active stock market and an ability to enter into long-term contracts allow firms to grow at faster rates than they could attain by relying on internal sources of funds and short-term credit alone.
- Wrong source of finance increase the cost of funds which in turn would have direct impact on the feasibility of project under concern. Improper match of type of capital with requirements may go against smooth functioning of the business.
- Turning down or canceling profitable projects are a lesser known cost of the current financial crisis. Since creative financing is usually done during times of financial stress, the lack of bank lending is driving many manufacturing business owners to rethink going public financing myths.

2) With reference to analysis of investment project financing trends in Lithuanian manufacturing as per firms' specific size characteristics, it appears that:

- The ability of smaller firms to borrow from the segments of the credit markets is limited owing to the size of their financing needs. They also lack the credit quality, which reflects in their financial status. In accordance to unpredictable corporate income growth trends, only a part of small business unitsô investments is funded relevant to limitations caused by lots of assets needed. Small firmsô financing constraints are not as strongly associated with external finance, suggesting that they are less able to expand external financing as they become more financially constrained than large firms.
- Mid-sized manufacturing enterprises stuck in considerations on a spectrum of financing options because of the lack of prior experience with recourse mechanisms and other risk management strategies for long-term, revenue-backed debt. At the same time, they are good at adopting useful experience of competitors in the similar industries and all opportunities of existing support for their needs. Hence, experiments on funding require better understanding before a reliable prescriptive position on alternative project financing in small and medium-sized manufacturing enterprises can be reached.
- Financing choices of large companies are persistent due to the lack of suitable credit rating or other credit-worthiness information, but with available long-term borrowings they face lower

investment sensitivity on internal financing. If ignored, persistence could lead to biased estimates of the sensitivities of financing to investments and income. However, larger manufacturers engage in bonds issuance with higher probability.

3) Taking into account information standing beyond investment behavior of manufacturing enterprises, it leads to such assessments of factors influencing on the choice funding source:

- Productive investments based on expedient choice on funding, firstly should be granted by availability of finance, then manufacturing financing decision depends on the project size (funds needed to be financed). As borrowing availability is perfectly expressed by the threshold requirement creditworthiness, I define it to be the factor that makes financing decisions value relevant.
- The empirical results show some consistency across the manufacturing enterprisesô size categories (0.95047 Ó r Ó 0.77769), and demonstrate incentives for financing source reliance on business strategy have a role to play. Actually, matching of general business strategies with financing ones is the preferred instrument on the extreme end where firms are extra large. The reason is that an objective of projectsô financing ought to be the both factors of reputation and a positive signal of net worth.
- Reputation has a strong influence over the probability of bond issuance, resulting in less costly funding to the secured project pay-back guarantee.
- Growth potential leads to a choice of financing through the issuance of bonds. Thus when a firm reaches a certain size requiring investment funds that are greater than internal and bank finance, it may make the important decision to go public, incurring higher costs to obtain external finance at first, in the belief that initial costs of issuing the bonds will be outweighed by lower financing costs in the longer term. Widespread access to external equity through public listing on the stock exchange is unavailable until the firm is relatively large and is able to meet the minimum size requirements for listing.

4) After investment financing feasibility expansion analysis is carried out, it should be noted that:

- Enterpriseôs financial statement ratios are ascertained to be significant factor determining both funding raising facilities and own creditworthiness. The implication is that high leverage can be interpreted as the evidence of low net worth rather than a sign of good borrowing capacity.
- Upon observing success the financial market attaches a greater weight that it faces a high creditworthiness firm, the manufacturer desire for greater diversification of finance with all debt options spectrum or the ability to avoid hold-up problems from banks, should focus on strengthening affecting factors expressed in formulated creditworthiness formula. Thus, firms will

increase the scale of their investment projects with an improvement in ratings, and demand more market finance.

- Lithuanian bond market does not function in the concrete. Whereas, high growth firms constrained by bank hold-up problems experience a net positive effect from strategically prepared public issues.

5) Based on empirical evidence for funding improvement ground incentives to issue bonds are presented:

- The investment financing creditworthiness based model relates the access to bond market (in a form of exceeded debt) positively due to the degree to which manufacturing enterprises are limited in raising further finance internally or from other sources such as banks. The decision to access the public debt market for the first time represents a major change in a firmsô financing policy to lever their net worth more and lower the threshold required for institutional finance.
- Firms seeking to undertake larger investment projects find it optimal to opt for market finance and this is driven by differences in the cost of finance forthcoming from each source (market or bank finance). I defined a critical firm efficiency level φ_f for active production development the most pronouncing sectoral reallocation from lower bond issuance costs.
- A simple stylized creditworthiness framework addresses the noticeable positive effect of being a seasoned issuer on bond market to critical role for building reputation that occurs with possible avail in further public debt or more qualitative and quantitative bank finance. Seeing that firms use their preferences for borrowing term as a sign of expectation of the firm for its future.

I find extremely efficient for manufacturing developers to:

- Prepare responsible decision on funding consistently in order to prevent initiation by ñlearningò and avoid investments from the real changes to fall considerably short to the objectives placed.
- Establish ground rules or guidelines for disciplining the continuous process of information gathering, analysis, and monitoring, and most importantly for identifying sources of risks and vulnerabilities depending on investmentsô financing sources.
- Deal with increasingly complex the ratio of debt to equity in a sense that the costs of potential financial distress do not begin to outweigh the benefits of leverage.
- Seek outside advanced consulting when faced with complex investment finance problems to take in view of continuing business lending difficulties, formulate effective business financing options, problem-finding and problem-solving are both essential components.
- Focus on strengthening highlighted factors influencing creditworthiness to increase the scale of investment projects with an improvement in ratings and/or possibilities for quality/functionality financing development.

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ANNEXES

Annex 1 Financing patterns around the world

Figures given are firm averages for each country, and they are the proportion of investment financed by each source. External finance is the sum of bank, equity, leasing, supplier credit, development bank and informal finance. Bank finance includes financing from domestic as well as foreign banks. Development bank includes funding from both development and public sector banks. Informal includes funding from money lenders and traditional or informal sources.

Country	External finance	Bank	Equity	Leasing	Supplier credit	Development bank	Informal
Argentina	43.45	29.99	2.81	0.75	7.48	1.60	0.82
Armenia	11.42	4.53	0.00	1.08	0.88	3.58	0.68
Belarus	20.36	5.73	1.09	0.90	3.13	9.40	0.12
Belize	38.93	20.36	13.57	0.00	3.21	1.79	0.00
Bolivia	38.97	27.02	0.00	0.00	8.26	0.29	0.74
Brazil	51.80	23.06	6.88	4.65	11.37	4.20	0.40
Bulgaria	26.78	6.03	1.38	3.45	6.47	3.82	2.87
Canada	48.55	23.45	8.39	2.39	3.39	5.93	5.00
Chile	57.34	41.34	0.26	2.57	7.71	0.48	1.00
China	29.93	10.17	2.41	1.63	2.41	4.63	5.93
Colombia	55.22	29.18	0.37	1.97	12.45	4.78	0.00
Costa Rica	37.92	21.13	0.19	0.15	7.54	2.08	1.35
Croatia	41.31	19.79	3.02	0.31	8.19	6.23	2.47
Czech Republic	32.50	13.90	0.66	3.90	3.75	6.84	3.46
Dominican Republic	42.58	25.32	0.56	0.08	10.40	0.95	1.77
El Salvador	55.00	32.03	4.59	0.54	9.19	3.92	0.14
Estonia	60.14	20.81	14.71	9.46	6.96	3.07	3.35
France	30.91	6.76	5.76	4.30	7.36	1.42	1.67
Germany	54.29	16.84	23.13	0.74	0.94	8.52	4.13
Guatemala	57.34	28.38	1.09	2.78	18.72	2.63	0.63
Haiti	24.17	10.83	0.24	0.24	2.38	10.24	0.24
Honduras	44.33	29.17	1.00	0.00	9.00	2.67	2.50
Hungary	35.86	13.99	6.96	2.41	5.06	6.05	1.39
Indonesia	21.83	17.17	0.00	1.67	0.67	1.67	0.00
Italy	77.71	49.67	6.88	1.67	5.83	1.17	4.17
Lithuania	39.60	12.42	11.74	4.08	5.24	1.32	4.79
Malaysia	40.62	13.81	4.76	3.48	13.81	4.05	0.71
Mexico	34.33	6.83	7.00	0.33	11.17	5.33	3.50
Moldova	20.07	10.11	0.49	2.01	4.40	2.22	0.83
Nicaragua	56.70	19.32	1.36	0.91	15.23	7.61	3.18
Pakistan	43.13	29.96	5.63	1.50	2.92	1.04	2.08
Panama	64.02	47.15	2.07	1.22	5.00	1.17	0.24
Peru	35.53	20.90	0.50	0.50	9.08	1.68	0.88
Philippines	36.55	17.49	1.96	1.41	10.84	4.49	0.36
Poland	58.60	15.44	27.58	4.50	4.60	4.33	1.72
Romania	25.91	11.53	3.01	2.44	4.09	2.67	2.16
Singapore	45.17	28.06	7.67	1.16	6.14	0.58	0.00
Slovak Republic	30.84	9.26	1.17	10.23	4.00	3.45	2.60
Slovenia	38.55	16.99	3.51	2.88	8.27	4.61	1.04
Spain	39.78	23.00	0.67	8.04	4.22	2.62	1.22
Sweden	43.42	19.70	8.33	1.22	6.16	3.43	1.12
Trinidad and Tobago	71.35	40.00	12.73	0.85	15.18	1.85	0.00
Turkey	43.98	20.41	9.68	4.85	1.42	6.21	1.17
Ukraine	25.80	7.21	2.53	1.01	7.84	4.45	2.71
United Kingdom	36.12	13.14	11.56	2.91	7.47	0.58	0.47
United States	47.12	21.47	3.24	6.09	6.62	6.76	2.94
Uruguay	54.04	39.79	1.38	0.74	8.30	2.77	0.00
Venezuela	28.73	14.80	3.05	0.50	5.88	1.75	0.25

Annex 2 Financing of investment projects in Lithuanian manufacturing evaluation questionnaire

Your position in the company:

The main activities and production of enterprise:

Number of employees undertaking:

Annual turnover:

1. How does your enterprise finance the investments?

☐ Internal financing sources	☐Yes ☐ No
☐ External financing sources:	
– bank (finance includes financing from domestic as well as foreign banks);	☐Yes ☐ No
– equity;	☐Yes ☐ No
– leasing;	☐Yes ☐ No
– supplier credit;	☐Yes ☐ No
– development bank (includes funding from both development and public sector banks);	☐Yes ☐ No
– informal finance (includes funding from money lenders and traditional or informal sources)	☐Yes ☐ No
☐ Several financing sources are used for reducing risk	☐Yes ☐ No

2. Limitations and obstacles your enterprise faced in searching of financial support for investment projects implementation:

Lack of suitable long-term debt instruments	☐Yes ☐ No
Lack of sufficient underwriting or other institutions to create debt instruments, to securitize, or otherwise package long-term debt	☐Yes ☐ No
Lack of suitable credit rating or other credit-worthiness information	☐Yes ☐ No
Lack of prior experience with recourse mechanisms and other risk management strategies for long-term, revenue-backed debt	☐Yes ☐ No
Lots of assets needed	☐Yes ☐ No
Complicated procedures	☐Yes ☐ No
Follow-up of corporate income growth trends are not clear	☐Yes ☐ No
The tax burden doesn't allow	☐Yes ☐ No
Only a part investments required for a project is funded	☐Yes ☐ No
Other (please specify): é é é é é é é .	

3. Evaluate, how these factors impacted your interests in alternative financing?
Scale 1-5: 1=not at all, 5=very much

Lack of suitable long-term debt instruments	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Lack of sufficient underwriting or other institutions to create debt instruments, to securitize, or otherwise package long-term debt	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Lack of suitable credit rating or other credit-worthiness information	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Lack of prior experience with recourse mechanisms and other risk management strategies for long-term, revenue-backed debt	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Lots of assets needed	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Complicated procedures	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Follow-up of corporate income growth trends are not clear	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
The tax burden doesn't allow	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Only a part investments required for a project is funded	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

4. Evaluate the influence of the factors on the choice of financing source:
Scale 1-5: 1=not at all, 5=very much

Business strategy	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Project size (the funds needed to be financed)	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Return on sales	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Return on assets	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Experience of other enterprises	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Access to finance	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Previous long-term financial liabilities	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

5. Problems faced by the enterprise seeking alternative funding:

Lack of prior experience	☐ Yes ☐ No
Adaptability of financing support to business needs	☐ Yes ☐ No
Lack of information on alternative financing methods	☐ Yes ☐ No
Complications trying to get information regarding the funding	☐ Yes ☐ No
Do not faced any problems	☐ Yes ☐ No

6. Evaluate the factors, which deter from issuing the shares of the company as alternative financing source?
Scale 1-5: 1=not at all, 5=very much

Lack of demand for new shares	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Return on equity is relatively low	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Variation in a narrow range in stock market	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Lithuanian stock market is little-known to foreign investors	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Difficulties in evaluation of company share capital	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Lack of prior experience	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

7. Whose responsibility is to plan investment project strategy for your enterprise?

Managing Director	☐ Yes ☐ No
Production Manager	☐ Yes ☐ No
Accountant	☐ Yes ☐ No
Freelance financial advisers	☐ Yes ☐ No

8. How you agree with the statements?
Scale 1-5: 1=not at all, 5=completely

The importance of financing source of investment project for its return	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Project finance is a help to reduce risk if outside investors are available	☐1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Annex 3 Authorôs analytical paper on the final mater workôs theme

FINANCING OF INVESTMENT PROJECTS AND POSSIBILITIES FOR ITS IMPROVEMENT IN LITHUANIAN MANUFACTURING

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Abstract. Since creative financing is usually done during times of financial stress, the article analyses the importance of funding source role in the manufacturing investment projects by incorporating information standing beyond investment behavior, analyzing it to make assessments of whether the various factors have more or less influence on the choice of investment financing source, as well as the motivations behind its use presumably has a direct impact on investment performance to compare the main methods of financing with the alternatives, which is more attractive to the enterprise, and under what circumstances and the approaches which could be used instead. Most of investigated results are directly applicable to the comparison of bank funding via the corporate bond market, providing an excellent review of the reasons why a company may wish to make that choice based on moral hazard and/or adverse selection arguments, desire for greater diversification of finance and the relaxation of constraints among other reasons.

Keywords: investment choices, financing sources, distribution of firm size.

Introduction

Activities that are particularly sensitive to changes of the economic cycle were the first to encounter difficulties during the current economic recession. A good financial standing of these economic activities during the economic upturn in preceding periods allowed an increase of the financial leverage, but flagging consumption led to poor operational results and rapidly decreasing bank lending. In view of the said, today, manufacturing developers and operators find themselves not only aggressively competing for a constantly changing pool of funds (both equity and debt), but also having to deal with increasingly complex terms and conditions for the efficient use of those funds. Consequently, the investment choices of the enterprises must not be considered successful by definition. Their degree of success depends on a plethora of factors that are directly related to the internal and external environment in which they are implemented.

My investigation focuses on the key factors of the viability of investment project financing environment, in which the certain investment financing strategies of the enterprises aimed: access to finance, motivation beyond the choice of financing source and after quality/functionality improvement.

So, the main purpose of this study is to evaluate the investment strategies/choices in the sector of manufacturing with accordance to constraints provided by firms that are engaged in financing and ñlong-termò firm characteristics, like credit history, size, bank-firm relationships, etc., for improvement of industrial investments projectsô funding submitting a model of manufacturing financing solution.

This analysis also highlights new insights for the field of finance: the successful financial decision goes beyond increased availability of financing source, but also has an impact on investment projectsô implementation.

Key assumptions and empirical evidence

A deep and venerable literature models the choice between financial instruments. While it is widely accepted that bank and bond market development affect small firms differently, it is not clear how altering the relative costs between different financial instruments affects the allocation of capital and output across firms in general equilibrium. As Beck, Demirgüç-Kunt, Laeven, and Levine write, ñtheory stresses the link between financial market imperfections and small firms, not necessarily the link between finance and [the] entire distribution of firm sizes in an economy.ò

The empirical literature on bank debt concentration of firms focuses either on large firms or small firms in isolation. One interpretation of this empirical specification is that firm size can be considered to be indicative of its reputation. In that case, the reputation view suggests that the determinants of a firmós concentration of bank debt may vary by size.

There are two reasons that banks could charge a higher interest rate. The first is that the banking sector is not perfectly competitive, so that r_l includes a markup over the deposit rate, which is the cost of funds for banks. This can occur in the absence of any uncertainty or

information asymmetries on the part of lenders. The second involves information uncertainties and would arise as a result of an optimal contract. In this case, there is some uncertainty involving firm-specific productivity shocks. The high fixed cost involved in issuing bonds would make the actualization of this shock transparent to lenders, so there is no risk of strategic default on the part of the firm. A bank instead monitors the borrowing firm itself, adding the cost of this monitoring to the rate of interest it charges the borrower. Either way, we have a wedge between the bank lending rate and the deposit rate or bond yield.

Figure 1 illustrates how the wedge between the interest rates causes the less productive firms to be bank borrowers and the most productive to be bond issuers. Since the rate of return paid to bondholders and bank depositors is equal, the proportion of savings devoted to bond purchases versus bank deposits is determined entirely by the amount of bonds issued and bank loans demanded by firms.

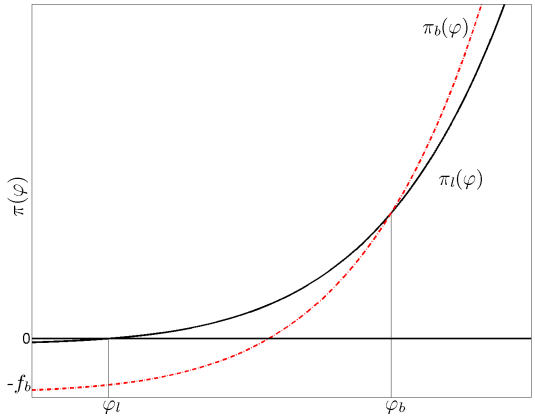
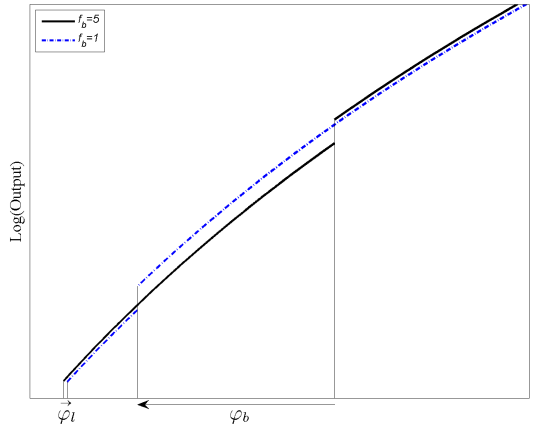


Fig. 1. Profit functions and productivity thresholds differ for bank borrowers and bond issuers:
f_b - fixed cost of issuing bonds; π_b - profits for firms issuing bonds; π_l - profits for firms that finance using loans; φ_b - the threshold efficiency level for bond issuers; φ_l - the threshold efficiency level for active production;

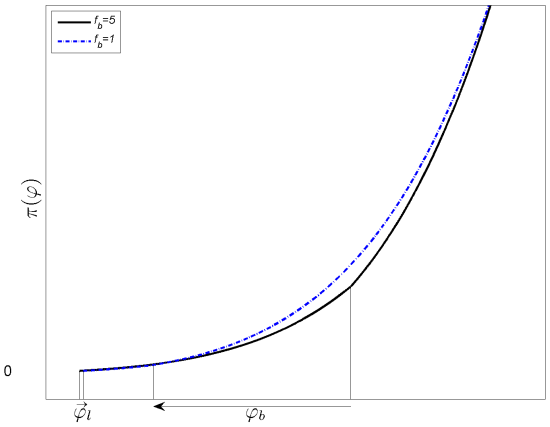
Thus, the bond issuers will always be larger and more efficient than bank borrowers when the issuance fee is large relative to the costs of bank intermediation, as shown in Figure 1.

When a firm reaches a certain size requiring investment funds that are greater than internal and bank finance, it may make the important decision to issue bonds, incurring higher costs to obtain external finance at first, in the belief that initial costs of issuing the bonds will be outweighed by lower financing costs in the longer term. Subsequently, a firm may be expected to have a higher probability to issue a bond in order to reap the reputational benefits that accrue to seasoned issuers in the form of lower cost of external finance. This is driven by differences in the cost of finance forthcoming from each source (market or bank finance). Widespread access to external equity through public listing on the stock exchange is unavailable until the firm is relatively large and is able to meet the minimum size requirements for listing.

Figures 2a and 2b show the level of output produced and profit earned by firms with different levels of efficiency, φ.



(a) Output



(b) Profit

Fig. 2. Reallocation of output across firm efficiency levels when fixed cost of issuing bonds, f_b falls

Figure 2a reveals the industry reallocation of production induced by falling bond issuance costs. Mid-size firms, the ones switching from bank loans to bond issues, expand and the largest and smallest firms - the non-switchers - contract a bit. The manufacturing industry reallocation also involves a reduction on the extensive margin. Regardless of the size of monitoring

costs, as the bond issuance cost f_b, falls, the threshold efficiency level for active production, φ_l, rises. This means that the number of active firms fall as access to bond markets gets easier. At the same time, the threshold efficiency level for bond issuers, φ_b, falls. Thus, the number of bank borrowers falls due to exit on the low end of the productivity spectrum and due to switching into bond issuance.

To further understand the reasons behind the industry reallocation following a drop in the bond issuance costs, it is useful to consider the profit functions of the bond issuers and the bank borrowers seen in Figure 2b. A drop in bond issuance costs, by itself, immediately raises the profits for all bond borrowers as their fixed costs are lower. This entices firms on the margin that were not issuing bonds to start issuing (φ_b falls).

The financial leverage, which indicates the ratio of gross debt of a company to its equity, reached its peak (94%) in the middle of the 2008. An increase in costs for and limited availability of financial recourses may have led to a decline in external financing in manufacturing. This is exactly what a manufacturing company wants to avoid.

Figure 3 provides empirical evidence suggesting that firms are indeed restricted by external resources and are compelled to resort to internal resources.

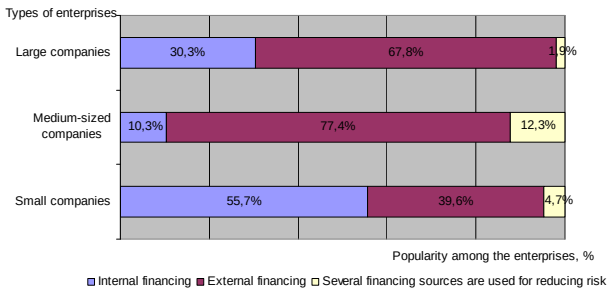


Fig. 3. Financing patterns as proportion of investment financed by each source for all investigated firms, depending on size

As expected, I find strong evidence that smaller firms finance a lower proportion of their investment externally (roughly 40%), in particular because they make use of bank finance to a lesser extent. The foregoing argument suggests that internal equity, through capital contributions and retained earnings, is probable to be a major source of small business units funding and it does not fail considered as the biggest contribution to internal financing options spectrum tapped by 55.4% of firms assigned to small enterprises. At the same time, younger firms, which are generally smaller firms, are less able to generate sufficient retained earnings for internal sources to adequately finance an expansion of operations.

Further, small firmsô financing constraints are not as strongly associated with external finance, suggesting that they are less able to expand external financing as they become more financially constrained than large firms. The ability of smaller firms to borrow from the segments of the credit markets may be limited owing to the size of their financing needs. They could also lack the credit quality, which will reflect in their financial status.

To my knowledge, only in the case of difficult, substantial and voluminous investment projects Lithuanian enterprises are tend to apply non-standard financing solutions for reducing risk, for example issuing syndicated loan to a single borrower jointly by a group of lenders, foreign bank financing/guarantees, or a complex business and financial management solution. Here, the flexibility and the faster and relatively simple issuance process of arranging a syndicated loan may also play an important role. It should be pointed, though, that such industrial investment strategies constitute an objective and a practice of only a very small percentage 1.9% in the category of large companies, reached the greatest result 12.3 % among mid-sized manufacturing enterprises and was observed by 4.7% of small entrepreneurs (see Figure 3). The possibility of facing financial stress limits the firmsô ability to finance their activities from both debt markets simultaneously. Hence, a higher amount of shorter-term debt forces large firms to choose one of the alternative debt markets. Perhaps a choice of debt instrument with a single creditor (i.e. private finance or bilateral bank loans) will increase a firmõs possibility to renegotiate the terms of debt agreement effectively.

Unquestionably, specific size characteristics determining creditworthiness and incentives to raise external finance are influential. For the mid-sized firms that are able to get long-term financing, the borrowing capacity is less dependent on the current cash flow shocks, but rather on the ñlong-termò firm characteristics. In this case the indirect effect of cash flow on investments is less significant or even disappears. In addition, the direct effect of cash flow is expected to be less significant, since medium-sized firms are able to make the long-term investment plans relying on long-term borrowings, weakening the reliance of investment and growth on internal financing, whereas the current contribution in this size category is only 10.3%.

Understanding these various motivations explains, why such a wide range of mid-sized firms (from low rated firms trying to avoid the debt overhang problem to

high-rated firms trying to minimize distress costs) use external finance in very high percentage, 77.4% for a variety of investment projectsô funding.

At the same time, the lack of bank lending is driving many mid-sized business owners to rethink alternative financing myths - and also driving down the cost of such financing. Growth potential leads to a choice of financing through the issuance of bonds - a change away from the traditional way of financing investment opportunities. There is also some evidence in the extensive field research that high growth firms constrained by bank hold-up problems experience a net positive effect from public issues, which confirms that in certain niche areas firms may benefit from particular types of financial structure.

Although the cost of market-based financing was higher, non-financial corporations borrowed by 56% more in 2008 through the issuance of bonds for LTL 145 million, with reference to the Financial Stability Review. This type of borrowing is more attractive since it does not require securing of debt. However, companies that used market-based financing did not escape the economic downturn either: some of them failed to redeem the issued bonds in time due to solvency related problems.

Nevertheless, stock market is one of the most trustable leading economic indicators that show what can be expected from the economic perspective for 6-9 months. In September, the Lithuanian stock market continues to go up double-digit pace.

As can be seen from the bottom of the Figure 4, despite the much greater economic recession than in other Central and Eastern European countries, Lithuania's main stock index OMXV took third place with 13.1% annual rise, even under the impact of the start of this year.

Fig. 4. Baltic market indexes

Lithuanian index increases the company's market capitalization as high as LTL 4 billion. This example perfectly illustrates how, even in difficult times, Lithuanian enterprises may earn, if only looking for opportunities.

On the whole, the research on financing patterns produce the general result that the firms with the greatest net worth use direct (bond) finance, while firms with lesser net worth use banks and those with the lowest net worth can not secure external financing at all.

The reason for gathering detailed information standing beyond investment behavior, analyzing it to make assessments of whether the various factors have more or less influence on the choice of investment financing source, as well as the motivations behind its use presumably has a direct impact on investment performance is to compare the main methods of financing with the alternatives, which is more attractive to the enterprise, and under what circumstances and the approaches which could be used instead.

The emerged question is, if and in which level the objectives that the businessmen placed by the time of providing the investment project strategy influence on the choice of financing source. The answer to the above question is given from the facts of Table 1.

Table 1. The importance of motivation attributes on the choice of investment financing source

Importance Factors	1	2	3	4	5	Weighted importance	Relative importance, %
Business strategy	1	0	23	2	26	208	16.0
Project size (the funds needed to be financed)	0	0	7	18	27	228	17.5
Return on sales	2	6	16	14	14	188	14.5
Return on assets	22	12	0	16	2	120	9.2
Experience of other enterprises	4	0	29	19	0	167	12.9
Access to finance	0	0	0	5	47	255	19.6
Previous long-term financial liabilities	19	9	7	4	14	134	10.3
Totally:						1300	100

This table deals with the investment strategies and choices of 52 firms classified to 8 manufacturing industries pointed out that considering productive investments based on expedient choice on funding, firstly should be granted by availability of finance (19.6%), secondly 17.5% of manufacturing investments financing decision depend on the project size, to be more exact ï on the funds needed to be financed. This is what interprets the hypothesis on tighten credit requirements to reduce enterprisesô financial leverage. The second category of factors refers to the internal business environment, which corresponds to a percentage of 10.3% decisions based on previous long-term liabilities. The results suggest firms acquire debt before investing and/or that the acquired debt in the past serves as a sign of good credit history for the acquisition of new resources.

Moreover, I tried to examine whether and how much the general strategy of the enterprises was according to the investment choices in order to finally make the optimal result for them. As a result, 14.5% of manufacturing enterprises investment plans aimed on return on sales. This dominant perception in the local business society linking financial and production decisions for many time continue, unfortunately, to guide the general, manufacturing, and investment strategies and policies with whatever negative it means.

Conclusively, it can be said that investment choices of the enterprises have a real change to fall considerably short to the objectives placed as manufacturing firms focuses their investment strategies mainly in the financing projects by ñlearningò instead of estimating experience of other enterprises, excepting minority to a percentage of 12.9%.

After controlling for relative importance of factors influencing on, I test to determine if importance of financing source choice as evaluated reliance on general business strategy is correlated with firm-specific characteristics on size. Each correlation for enterprises that present different financial and operating characteristics is described in Figure 5.

Thus, it is clear that company size has positive correlation volatility of large companies, with linear coefficient r = 0.95047 showing, the higher the enterprise size characteristics, the stronger the motivation of funding options following the business strategy. Matching of general business strategies with financing ones is the preferred instrument on the extreme end where firms are extra large. The reason is that an objective of projectsô financing ought to be the both factors of reputation and a positive signal of net worth. Typically, reputation is built by firms through repeated borrowing from banks. But not only does a track record make it more likely that a firm will get a bank loan, but where there are both bank loans and bond markets a non-default record over many bank loans also assists a firm in going public.

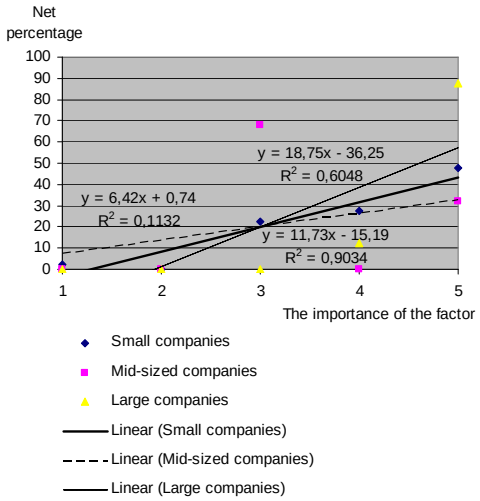


Fig. 5. Importance of financing source as estimated choice reliance on general business strategy

Also, this finding is not uncommon, when a firm reaches a certain size requiring settled investment funds to ensure a stable growth, the effect of primary business strategy on the choice of financing choice is poor and the association fit between evaluation and size characteristics is weak (r = 0.33645). It is often alleged that the projects without support would not be implementable or would be implemented with the lower volume and slowly. As a consequence, for the value optimization purposes, it makes no sense for a medium-sized firmôs management to be willing to seeking ways to finance desperately needed investmentsô projects in a strategically based ways, cause a limited upside potential yet bear significant downside exposure.

Regarding the financing investments, firms are guided more by potential agency and contracting costs of debt than by the potential adverse selection concerns associated with equity issues. Taken as whole, the findings provide substantial evidence that financing and investment decisions are tightly linked.

Taking into account that the objectives estimated prior to the financing decisions with a link to the specific characteristics of firms have such a great influence on the choice of financing source, there has been relatively little said, if and in which level the right selection from that expanding menu is important for investment projectsô return.

Thus, the businessmen were contacted to evaluate the success of investment projects implementation, due to their previous experience, based on the choice of

financing source as well. These are relative measures and are based on comparisons with the distribution of each variable for a given evaluation of importance and size of the firm.

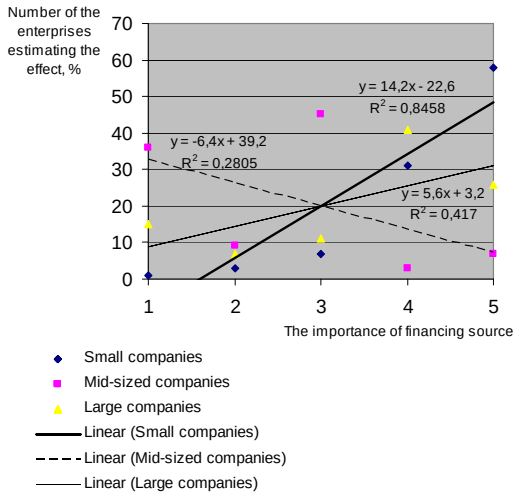


Fig. 6. Sensitivity of investment projectsô return to adoption of financing source

Looking at Figure 6, the coefficient on essential financing sourcesô role for small companies is positive and significant (r = 0.91967) at the conducting quality of investment projects, taking under consideration borrowing conditions, which reflect in their financial status. While the coefficient for mid-sized borrowers is negative, but not significant (r = -0.52962) by means that they do not provide such a great interests in substantiated financing selection for the reason it is not a key indicator of implementation success. What is to say, the investment projectsô financing solutions of manufacturers with medium-sized characteristics are associated with a higher availability of the finance, first of all. For the large manufacturing enterprises, I find weaker effect, but again indication of the positive influence (r = 0.64575) of appropriate funding source on investment projectsô return. Being a seasoned issuer enhances the importance of a positive coverage ratio over the probability of bond issuance, resulting in less costly funding to the secured project pay-back guarantee.

These results in part confirm that a successful financial decision goes beyond increased availability of financing source, but also has an impact on investment projectsô implementation.

Conclusions

1. The empirical results show some consistency across the manufacturing enterprisesô size categories (0.95047 Ó r Ó 0.77769), and demonstrate incentives for financing source reliance on business strategy have a role to play.

2. Indication of the positive influence of appropriate funding source on investment projectsô return provides an excellent incentive for establishing ground rules or guidelines for disciplining the continuous process of information gathering, analysis, and monitoring, and most importantly for identifying sources of risks and vulnerabilities depending on investmentsô financing sources.

3. I drawn on stylized facts from the empirical finance literature to build a model, where firms will find they are unable to obtain sufficient finance from retained profits or bank loans to proceed with investment projects and the scale of the finance required will create incentives to the firm to obtain bond market finance.

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INVESTICINIŲ PROJEKTŲ FINANSAVIMAS IR JO TOBULINIMO GALIMYBĖS LIETUVOS PRAMONĖJE

A. Čiplytė

Santrauka

Kuomet galimybã pritaikyti nestandartinius sprendimus finansÔ ištekliÔ pritraukimui svarstoma tik susidÎrus su prastãjanÌia finansine pozicija, straipsnyje plaÌiai nagrinãjama tokiÔ priemoniÔ svarba DZvendinant investicinius projektus pramonãs sektoriuje. Siekiant finansavimo ðaltiniÔ pasirinkimo kokybãs, analizuojami veiksniais, kuriais gali bÎti grindðiami investavimo sprendimai ir jÔ reikðmingumas optimaliÔ priemoniÔ parinkimui, elgsenos motyvacija, apsprendðianti investavimo kryptis ir skolinimosi kriterijus. Efektyvus finansavimo metodÔ ir galimÔ alternatyvÔ palyginimas leidðia nustatyti, kurie iš jÔ ir kokiomis aplinkybãmis palankesni gamybos DZonei ir sudaryti modelDZ tuosekliam finansavimo pagrDZmui.

Reikšminiai žodžiai: investavimo sprendimÔ pagrDZmas, finansavimo ðaltiniai, pasiskirstymas pagal DZoniÔ dydDZ