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PhD THESIS

The internal and external factors influencing the cost of equity capital

Vliv externích a interních faktorů na náklady vlastního kapitálu

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Abstract

The cost of equity capital is essential and significant element in the corporate decision making process, which is exposed to the influence of internal and external factors. The aim of the doctoral thesis is based on the comprehensive review of the theoretical literature on the internal and external factors influencing the cost of equity capital and a subsequent primary empirical research towards testing the identified theoretical approaches on a sample of Czech companies to transform the gained knowledge into a methodology supporting CFO's decision-making process on corporate financing with regard to the cost of equity capital reduction. The thesis contributes to the explanation of the corporate financing decision-making by combining different theories, surveyed gained data in Czech business environment and statistical methods. The combination of primary and secondary research enhances deeper understanding of relationship between CEC and its determinants revealing a gap between theory and practice in a particular area of expertise. As an outcome of the research, the designed methodology incorporates the worldwide knowledge of scientific community and practical experience of Czech companies and is intended for application among corporate managers and academics.

Keywords

Cost of equity capital, internal factors, disclosure, corporate governance, external factors, monetary policy, fiscal policy, financial stability, corporate financing, decision-making process, methodology.

Abstrakt

Náklady vlastního kapitálu, jež jsou ovlivňovány řadou interních a externích činitelů, významným faktorem ovlivňujícím rozhodovací procesy v podnikové sféře. Cílem této disertační práce je na základě primárních a sekundárních dat formulovat původní metodiku řízení nákladů vlastního kapitálu. Zdrojem sekundárních dat je rozsáhlá literární rešerše zahrnující zahraniční a tuzemské vědecké studie a databáze. Primární data, na základě nichž byl zkoumán vztah mezi teoretickými přístupy řízení nákladů vlastního kapitálu a podnikovou praxí, byla získána formou dotazníkového šetření od finančních manažerů působících v podnicích se sídlem na území ČR. Data byla zpracována s využitím statistických metod. Výsledky disertační práce přispívají k hlubšímu porozumění vztahu mezi náklady vlastního kapitálu a jejich determinantů a odhalují rozdíly mezi teorií a manažerskou praxí. Navrhovaná metodika řízení nákladů vlastního kapitálu je určená k použití v podnikové praxi a lze předpokládat její další rozvíjení v rámci navazujících výzkumných aktivit.

Klíčová slova

Náklady vlastního kapitálů, interní faktory, corporate governance, externí faktory, měnová politika, fiskální politika, finanční stabilita, financování podniku, rozhodovací proces, metodika.

Content

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Chapter 1: Introduction

1.1. Rationale and problem statement

The cost of equity capital (CEC here and after) is an essential and significant element of decision making process of a company. Specifically during the financial instability, it is very critical to manage capital and its cost effectively towards sustained development of a company. There are various internal and external factors influencing the cost of equity capital and other corporate financial performance. One the one hand a company can manipulate the cost of equity capital by adjusting the internal factors as the strength of corporate governance, financial disclosure, social responsibility and etc. On the other hand, a company cannot manage external factors as inflation, interest rate, rate of taxes or financial stability in order to adapt the capital cost to the company's needs.

The knowledge on the theme of cost of equity capital and its determinants is very spread in the recent academic theory. There are plenty of studies connected to influence of only one factor or related group of factors. However in reality all internal and external factors influence together. For companies it is difficult to collect all spread information regarding the influence of internal factors and effectively integrate into their decision making process. The availability of applicable tool designed for the final users of CEC that translate the worldwide knowledge into specific and straightforward recommendations will benefit in corporate management.

Although the influence of several internal factors on the cost of equity capital has been extensively studied in the past few decades, the knowledge is spread and is not translated into applicable tool for final users of cost of equity capital.

The primary research is based on the evidence from the Czech Republic. Previous researches provide evidence mostly from the USA, the UK, less in developed European countries and Asian ones. Unfortunately, the evidence showing the situation in the countries with transmission economy concerning the cost of capital and its adjustment is not given in full measure. The survey carried out among Czech companies provides essential information for practice and theory, which has not been mentioned before.

The essential background of this research is the comprehensive, in-depth and structural analysis of previous worldwide theoretical and empirical studies on the theme of the influence of internal and external factors on the cost of equity capital. The analysis attempt to establish the

The topic of research is critical due to several reasons:

- The cost of equity capital is a significant element of corporate finance and essential factor in the decision-making process of a company
- There are many factors that influence the cost of equity capital thus a company has opportunity to manage its internal environment or adjust its behaviour under certain external conditions

- The worldwide knowledge should be accumulated and transmitted to the final users of equity capital.

This research is directed to enlarge the current state of knowledge on the CEC in the Czech environment, compare the theoretical statements and corporate practice.

1.2. Aims and objectives of the Thesis

The name of the dissertation is "The influence of internal and external factors on the cost of equity capital". Hence the *main aim* of the doctoral thesis is

based on the comprehensive review of the theoretical literature on the internal and external factors influencing the cost of equity capital and a subsequent primary empirical research towards testing the identified theoretical approaches on a sample of Czech companies to transform the gained knowledge into a methodology supporting CFO's decision-making process on corporate financing with regard to the cost of equity capital reduction. The thesis contributes to the explanation of the corporate financing decision-making by combining different theories, surveyed gained data in Czech business environment and econometric methods. In order to achieve the main aim the following objectives are formulated:

1. To gather the current theoretical and empirical knowledge on the influence of external and internal factors on the cost of equity capital (theoretical background composition)

2. To investigate the level of agreement between theoretical approaches and corporate experience in respect of corporate financing assisted by evidence from a sample of Czech companies gathered by the means of a primary survey on internal and external determinants of CEC

3. To analyze the significance and influence of internal and external factors on the CEC from the perspective of CFO in Czech Republic

4. To propose a functional methodology supporting CFO's decision-making process in the context of corporate financing with regard to the cost of equity capital reduction

The doctoral thesis contributes to the explanation of the corporate financing decisions by combining different theories, surveyed gained data in Czech environment and econometric methods. The thesis is intended to accumulate the previous findings on subject of internal and external factors and their influence on the cost of equity capital and highlight the possible gap between theory and practice.

The main outcome of the research is the methodology designed to support decision making process of corporate managers in terms of corporate financing and capital management. The methodology incorporates the worldwide knowledge of scientific

community and practical experience of Czech companies on the theme of external and internal determinants of the cost of equity capital.

The Figure 1 represents the framework of the research, which dedicated to create practical outcome based on the combination of secondary and primary research and the analysis of theoretical and empirical performance.
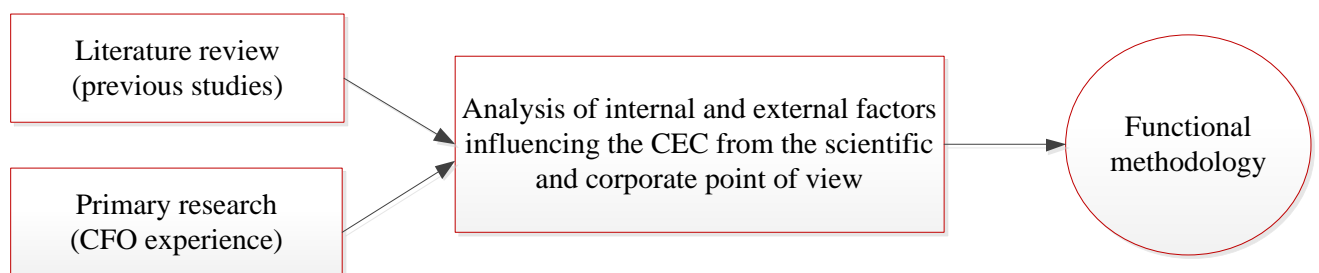

Figure 1: The framework of the research

1.3. The thesis work structure

The current Chapter 1 has provided a general overview of the dissertation. In Chapter 2, 3 and 4 theoretical issues which are significant to the study are discussed. More specifically Chapter 2 is dedicated to theoretical background of capital as economical category. Chapter 3 is assigned to internal factors and their influence on the cost of equity capital. Chapter 4 provides theoretical background in external factors and financial stability of a country. Chapter 5 is devoted to the methodology of dissertation and research design. In Chapter 6 the findings of primary research is discussed. Chapter 7 includes the proposals of methodology designed to decrease the cost of equity capital based on the results of secondary and primary research. And finally Chapter 8 provides concluding remarks and contribution of the dissertation work.

Chapter 2: Theoretical background: capital as economic category and the cost of equity capital estimation

In Chapter 2 I investigate capital as economical category and cost of equity capital approaches. Capital is a polysemantic term that is used to characterize certain resource: economic, political, financial and etc. Regarding to corporate finance the treatment of the term capital as economic category is realized within the frame of two concepts:

- ✓ the physical nature of capital (where capital is a set of corporate resources)
- ✓ the financial nature of capital (where capital is a fund of owners or investors of a company).

The historical evaluation of capital is introduced in this Chapter. In the context of a company in line with physical concept capital represents a set of corporate production capacity that directed to produce specific goods and profit by their realization. Turning to the financial concept capital is a financial resources that were invested directly or indirectly into corporate assets. Nowadays these two concepts, physical and financial, are tightly bound between each other as capital presents an asset, i.e. certain physical resource evaluated in monetary form. And in the process of operation and financial activities this asset transforms into other assets and physical concepts passes into financial (Kovalev and Kovalev, 2014).

In theoretical terms considering capital as economic category there are three fundamental approaches for capital evaluation: (1) economic, (2) accounting, and (3) accounting-analytical. For the purpose of this work the financial concept of capital is taken into consideration along with accounting-analytical approach of capital evaluation. In addition the equity capital is considered in general terms without narrower specifications.

The cost of capital and its estimation are very essential elements in the financial decision making process due to following reasons:

•   The main corporate aim is to maximize its value that is why the sub-objective is to minimize costs including the cost of equity capital.

•   In order to make an effective investment decision a manager has to find the optimal source of financing with less costs.

•   The financing policy including dividend policy takes into account the cost of capital in order to make rational decision connecting with financial strategy and company's further development.

There are a few surveys on the theme of capital, capital cost and different approaches for it measurement and adjustment (Gitman and Mercurio, 1982; Beirman, 1993; Bruner et all., 1998; Barad, 2011). The findings show that Capital Asset Pricing Model (CAPM) is heavily used in cost of capital estimation.

There are several traditional approaches to estimate CEC as CAPM, arbitrage pricing theory, three-factor Fama-French model and other CAPM modifications. All these models have their own advantages and disadvantages thus researchers attempt to modify the approaches, add new variables and combine methods. There are several most used models that can be divided into two groups: residual income valuation models (by Claus and Thomas, 2001; by Gebhardt, Lee and Swaminathan, 2001) and abnormal earnings growth valuation models (by Ohlson and Juettner-Nauroth, 2005; by Easton, 2004). In the studies regarding CEC and its determinants the average of four models are applied, in order to reduce the possible estimation error.

Chapter 3: Internal factors influencing the cost of equity capital: literature review

There are many research papers dedicated to different distinct internal factors that influencing the cost of equity capital. As a rule the internal factors and their impacts that are analyzed by international scientists can be divided into several groups as corporate disclosure, corporate governance, social performance (Figure 2)and other financial related performance. The information and its asymmetry are an important link between the cost of equity capital and other factors.

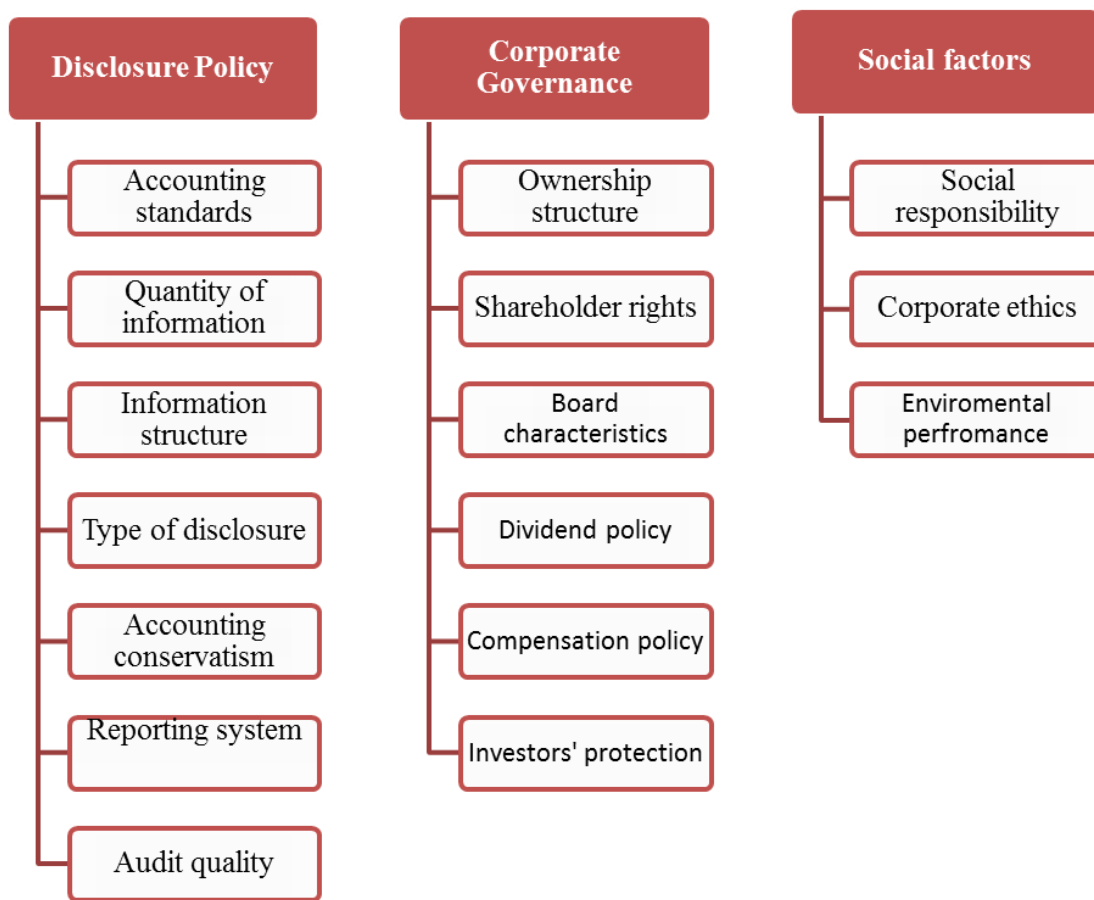| Disclosure Policy	Corporate Governance	Social factors
Accounting standards	Ownership structure	Social responsibility
Quantity of information	Shareholder rights	Corporate ethics
Information structure	Board characteristics	Enviromental perfromance
Type of disclosure	Dividend policy	
Accounting conservatism	Compensation policy	
Reporting system	Investors' protection	
Audit quality		

Figure 2 Literature review – Internal factors

The availability of information is an essential factor in the decision-making process regarding the efficiency of resource allocation on micro and macro levels. The inequality of available information between corporate insiders and stakeholders as investors is thought of as information asymmetry.

Back to Myers (1984) and Myers and Majluf (1984) who argue that information asymmetry drives financial decisions, the situation, when the private information exceed the publicly available information about future corporate performance, leads to higher cost of equity capital required by less informed investors. The previous studies show that negative

association between information asymmetry and cost of equity capital (Leuz and Verreccia, 2000; Armstrong et al., 2010; Barron et al., 2012; He at al., 2013 and etc.). The information asymmetry can be treated as idiosyncratic volatility. Therefore, in order to reduce idiosyncratic component of cost of equity capital, the level of disclosure can used as influential tool to decrease information asymmetry between managers and investors (Lopes and de Alencar, 2010).

Corporate disclosure is an important part of corporate governance (Ashbaugh et al., 2004; Byun et al., 2008; Pae and Choi, 2011). The quality of accounting information and its transparency decrease the information and agency risks. There is no doubt to say that disclosure reduce information asymmetry and as a result decrease the cost of capital.

Based on the literature review regarding the influence of accounting information, accounting standards and corporate disclosure policy on the cost of equity capital several recommendations to decrease the cost of equity capital are generated: optimal information structure: the mix of private and public information with higher share of public information; the quantity of information: the quantity of information provided to the market has to be enough to increase the investors' confidence and decrease the information asymmetry, the voluntary disclosure implementation, the disclosure of strategic events implementation, application of timely disclosure represented by annual (or quarterly) reports with announcement (news) reports by news services as Dow Jones News Retrieval Services or R.N.S. of L.S.E, application of disclosure of forecast information and key non-financial statistics; usage of conservative accounting policy rather than aggressive, usage of ex ante accounting conservatism, usage of the high duality reporting system, and the switch to the International Accounting Standards.

Summing up, the companies can adjust the cost of equity capital by the means of influence of the internal factors as the quality and quantity of accounting information, the accounting systems and standards, the type of disclosure. The information environment influences the companies' decision-making process and has a direct influence on the cost of equity capital and its management by the estimation risk and information asymmetry reduction. However, there are continuous debates between proponents and opponents of greater discloser, because it is difficult to quantify and establish the benefits of discloser.

Another important category is corporate governance. The strong corporate governance and its attributes reduce the cost of equity capital by decreasing the agency problems and information asymmetry. The conducted analysis of previous studies contributes towards the following recommendations for the cost of capital minimization, which companies may adopt in their financial strategies: board independence improvement; board size adjustment; fully independent audit committee; the size of audit committee has to be about 4 – 5 members on average; auditors' compensation adjustment; increase of investors' protection; shareholder rights improvement.

Strong corporate governance provides effective financial decisions connecting with the cost of capital and solves information asymmetry problems reducing moral hazard at the same time. Those problems can be arisen because of low quality of management and imperfection of information on the market about the real company's value. In addition, strong corporate governance includes positive abnormal returns, higher firms value, higher profits, higher sales growth, fewer corporate acquisitions and lower capital expenditures.

The social factors represent a new direction in evaluation of the cost of equity capital. At the present time the sociology and psychology have become more integrated into economics as a science. Scientists start to investigate the influence of social factors on the corporate performance as well as cost of equity capital. One of these factors is social disclosure or social responsibility, which closely interconnect with corporate disclosure in general. Richardson and Welker (2001) find that social disclosure positively and significantly influence the costs of equity capital. The social disclosure is measure by rating that includes 10 categories of information from corporate annual reports: human resources; products; services, and consumers; community; environment; energy resources; governments; suppliers; shareholders; competitors; miscellaneous.

In recent years interest to corporate social responsibility (CSR) has been increased: investors pay attention to social activities of the companies and economists and researchers support companies in social polices improvement. In global terms the influence of social responsibility on the cost of equity capital is investigated by Dhaliwal et al. (2015). Their results show a negative relation between social responsibility disclosure and the cost of equity capital, moreover the association is stronger in stakeholder-oriented countries.

Chapter 4: Financial stability of a country as a combination of external factors

The attention to the financial stability issue has increased because of several reasons. First of all, the last few decades were marked by series of financial stability episodes. Moreover, not only their frequency was notable, but also the speed of their expansion. The government and central banks focus on the increased potential costs of financial crises, as well as its prevention and resolution. Another reason of greater concern about financial stability is growth in the volume of financial transactions and extended complexity of new financial instruments.

Due to contagion effects and consequences of modified crises the costs of financial instability can be very high; it can lead to series of bankruptcy, lost output, misallocation of resources, high unemployment, and even decrease of living standards. Moreover, as a matter of fact the financial stability influences the cost of equity capital as a key element of financial decision process of a company.

Based on the literature review, we determine the financial stability as the situation, where the financial system efficiently fulfils its functions as financial resources allocation, economic

external and internal shocks resistance, macroeconomic risks management, and providing confidence of investors, companies and individuals, sustainable economic growth and sound financial infrastructure.

In addition, several financial stability features can be emphasized: low level of volatility of asset prices, money supply, credit to private sector, exchange rate, equity prices, bond spreads, interest rates, cross-currency SWAP rates and other macroeconomic and financial indicators; efficient allocation of assets; optimal price level; low level of systematic and idiosyncratic risks; robustness to shocks both external and internal; risk diversification.

Chapter 5: Methodology and research design

5.1. Conceptual framework and research questions

The Figure 3 represents the conceptual framework of the research including specific steps of the scientific work. The first step is to identify research problem. The research problem of current work is influence of internal and external factors on the cost of equity capital from the corporate point of view. The next step the development of theoretical framework is a fundamental part of research, which support the explanation of research questions and determination of hypothesis. The critical literature review of published previous studies on the investigated theme is conducted. Based on literature review and composed theoretical background the research questions and hypothesis are determined. In order to answer the indicated questions and test hypothesis the data should be collected. The next step is data analysis of achieved results. The final step stands for results application.

The dissertation work includes theoretical and practical parts regarding the influence of internal and external factors on the cost of equity capital. The theoretical part is conducted by the means of secondary research based on the critical review of existing literature on the investigated topic. The main source of literature secondary resources is international informative databases as Scopus, ScienceDirect, EBSCO, Emerald, ProQuest Central. In addition the literature review was conducted in state libraries as Moravian Library (Brno), Library of Faculty of Business and Management (Brno), Bibliothèque nationale de France (Paris), Dauphine University Library (Paris), Library of Vienna university of economics and business (Vienna), Russian State Library (Moscow). As the sources and availability of data is crucial for quantitative research then multifold resources are used to collect data.

Different kinds of approach were applied in the dissertation work. According to the logic research can be divided into deductive an inductive. The deductive approach is thought of as reasoning from general to particular. The research with deductive approach explores an existing theory, creates a set of hypothesis, tests them with observations and in the end confirm or reject assigned hypothesis. The opposite approach in terms of research logic is inductive approach, which begins with observations. The inductive approach searches patterns from observations, which are developed into tentative hypothesis and consequently reaches the conclusions, i.e. theory. Thus two types of research deductive and inductive were applied in this dissertation work. The first one is used to generate the hypothesis based on the

critical literature review and verify them after. Moreover, the inductive approach is used to generalize the research results and come to conclusion.
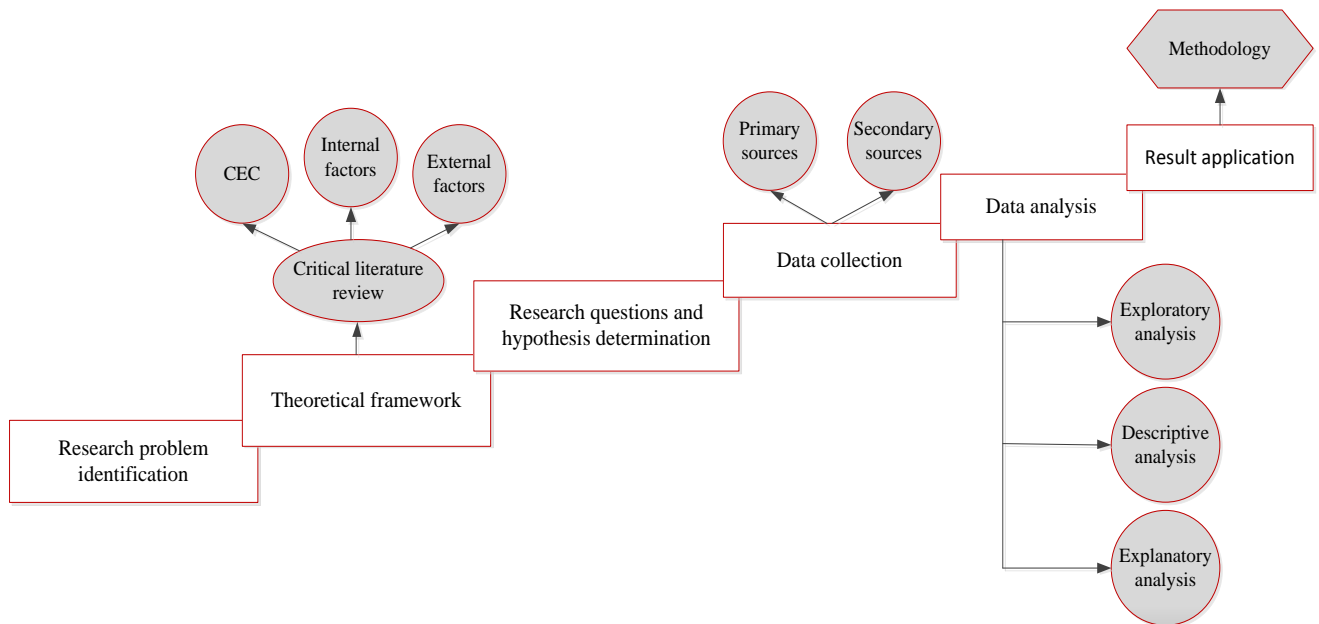

Figure 3: Conceptual framework of the research

In terms of the purpose of research several types of research are applied as

- ✓ *Exploratory*: research problem investigation, literature review
- ✓ *Descriptive*: primary research
- ✓ *Explanatory* (or analytical): evaluation of findings and creation of methodology

As was mentioned before this research represents positivist (or quantitative) paradigm. At the same time in the context of the process of the current research the quantitative approach is chosen, in order to collect primary data on the investigated relations, which can be applied in further analysis. The quantitative research is applied for the purpose of survey and further statistical analysis of results and their application.

Hereafter the outcome of research can be classified into fundamental and applied. The fundamental research extends the theoretical knowledge of the investigated subject, while applied research is focused on specific problems and their solutions. The present research attempts to fill the gap between theory and practice on the theme of internal and external factors and their influence on the CEC and thus to reevaluate the existing associations and facilitate the theory expansion and further research. On the other hand the applied type of research is represented by the practical outcome. The applied research is conducted in order to support the decision making process in the complicated area of equity capital management and specifically in the area of cost of equity capital reduction.

Operating on the premise that the theoretical background regarding influence of internal factors is reach and significant and there is a limited number of studies concerning external factors and their influence on the cost of equity capital, the internal and external factors are

viewed through different angles. The internal factors are considered as unique independent manageable factors and external factors are examined as a set of variables represented the external environment as a whole. From this it follows that we can deliberate research question as a set of several questions.

Research question I:

> ✓ *How do the internal and external factors influence the cost if equity capital?*

First of all based on the literature research of existing studies the set of factors are determined. The findings of the previous studies assist to indicate the significance and direction of influence on the cost of equity capital.

The second research question arises due to the fact that there are many studies concerning the influence of internal factors, where the managers can be lost. On the other hand, there are few studies that show the direct influence of the external factors on the cost of equity capital. Needless to say, there is still a gap between theory and practice (real economy). The theory is based on assumptions that do not satisfy the real economic situation. Moreover, the corporate managers might be not aware of research findings in the scientific sphere in terms of capital costs management. Thus, the second question is arisen.

Research question II:

> ✓ *Is there a gap between theory and practice in terms of influence the internal and external factors on the cost of equity capital?*

In order to answer the first two questions, the comprehensive literature analysis is conducted. The critical review indicates a set of internal and external factors and stages of financial stability of a country. Towards the attempt to answer the raised questions several hypotheses are created. Based on the purpose of this paper to create an aggregate index the analysed internal factors are combined in three categories driven by their common nature. The external factors are transformed into the development state of economy. Hypotheses are stated in the alternative form:

- H1.1. There is significant negative influence of corporate disclosure on the cost of equity capital.
- H1.2. There is significant negative influence of corporate governance on the cost of equity capital.
- H1.3 There is significant negative influence of social factors on the cost of equity capital.
- H1.4 The recession as a state of economy leads to lower cost of equity capital.

The hypotheses are tested based on the conducted primary survey. The rejection of null hypothesis can answer the second question. If the H0 is rejected then the theory is congruent

with practice and there is no gap. But if H0 is accepted than there is a possibility of knowledge gap between theory and practice regarding the influence of specific factor on the cost of equity capital. The Chi-Squared Test and one-sample Kolmogorov-Smirnov test were applied to test hypothesis.

Research question III:

✓ *How a company can reduce its cost of equity capital?*

The third question is directly connected with the main aim of this paper to help a company reduce its cost of equity capital by the means of internal and external factors. By the means of the secondary and primary research the knowledge on the relation between internal and external factors and the CEC is accumulated from theory and practice and transformed into a methodology that support corporate decision making process in CEC reduction.

5.2. *Primary research: survey*

The survey has been chosen as a research strategy to gain primary data. The main aim of the survey is to find the influence of the internal and external factors on the cost of equity capital and evaluate the level of agreement between theory and practice. The survey is associated with deductive approach. It is a popular instrument in research to collect primary data.

As a tool of survey the self-administrated questionnaire is applied in the conducted primary research, which is divided into on-line questionnaire and postal questionnaire. In another words the respondents receive a questionnaire by e-mail or regular post, fill the form and send back using the same delivery method. The questionnaire as a research strategy is chosen due to several factors as anonymity, respondent availability, simplicity form the respondents' point of view and simplicity in data coding and further statistical analysis.

Czech non-financial private joint-stock companies. The companies were selected from database Amadeus by Bureau Van Dijk. After all selection criteria were applied 1469 corporate e-mail addresses were available. The target respondents are financial and executive directors, who represent the experts in the equity capital management. If the e-mail addresses of appropriate respondents were not publicly available, then the email invitation with kindly request to provide the contact of CFO or CEO was sent. After e-mailing campaign towards respondents' direct contacts was conducted 773 direct survey invitations were sent to CFO. The number of full filled questionnaires is 40 fully formed questionnaires, which represents 5% response rate. The research subject is highly confidential thus 5% can be considered as a success especially in Czech Republic environment.

5.2. *Index construction*

This section describes the technical and methodological procedure of final composite index construction. The chain of steps should be implemented, in order to create sophisticated aggregate index that could exhibit robustness and methodological soundness while final

utilization. The chain of steps contains the phases of index development from theoretical framework to the presentation and application. Thus the following steps are taken:

1. Theoretical groundwork for the selection, definition, and combination of factors
2. The main factors selection based on the primary survey results
3. Scale and measurement procedure
4. Weighting of selected factors based on the primary survey results
5. Index construction

Step 1 represents the selection of factors based on the literature research. There are many studies taking attempt to investigate the relation between internal factors and the CEC through different angles. These studies are taken as theoretical background for internal factors selection, their definitions and impact on the cost of equity capital. The external factors were considered as a combination of macro-economic conditions that reflect the state of financial stability of a country. Consequently the state of economy influences the level of capital costs. Thus the *Step 1* indicates the pronounced background for aggregate index creation.

Step 2 By the means of literature review and primary survey the selected factors were chosen to be implemented in the aggregate index.

Step 3 deals with scale adjustments, measurement unit problems and suitable data normalization procedure The main purpose of transformation is to make factors flexible for further integration into final Index. Besides, the numerical values of final Index in unified scale make Index comparable and facilitated for practical application and further analysis.

Step 4 stands for weighting the factors by the means of primary survey. Based on the expert evaluations collected by the utilizing questionnaire the weights of selected factors were determined. The weights are the measures of importance from the point of view of corporate financial directors and executives.

The final *step 5* reflects the index construction, where all weighted factors are aggregated into the final index. In the last step the robustness of the index is checked.

There is an additional step that has not been included into the chain of index construction, however, plays a significant role in index application. The last phase is to simulate the different scenarios of methodology utilization. The simulation shows different types of outcomes and recommendations to three modelled companies with different levels of internal factors development and certain macroeconomic conditions.

Chapter 6: Primary research results

The survey results show that corporate managers have lack of knowledge regarding the internal factors and their influence on the cost of equity capital. More than 40% of respondents have answered neutral regarding the influence of internal factors as board

independence, the structure of board of directors, corporate ethics, size, investors' protection and audit quality. Most of the respondents think that ownership structure, dividend policy and financial performance have impact on the cost of equity capital (more than 84%). However, 80% of respondents agree that ownership structure influence the CEC. As well as 76% of respondent think that dividend policy also has impact on the cost of equity capital. At the same 48% of respondents answer that financial performance does not decrease the cost of equity capital. Moreover, 44% of respondents consider audit quality does not lead to lower cost of equity capital.

All respondents agree that long-term interest rate growth influence the CEC as well as short-term rate and inflation (88% and 87% of respondents respectively). More than 70% of corporate managers think that such external factors as financial market development, sovereign default and banking system default probabilities, sovereign rating, GDP growth and risk free rate might influence the level of equity capital costs. At the same time 67% of respondents consider sovereign debt not to influence the CEC. Besides unemployment rate is evaluated as factor without any impact (63% of respondents). More than 50% of corporate managers define foreign direct investment, government expenditures and political stability also as factors that do not influence CEC.

Therefore 63% of respondents the risk free believe that risk free reduction leads to lower cost of equity capital and better financial market development decrease CEC. At the same time, the long-term interest rate and short-term interest rate growth facilitate increase of CEC according to 87% and 79% of respondents respectively. The growth of sovereign default probability also leads to higher cost of equity capital (67% of CFO agree with such statement).

6.2. Is there a gap in knowledge?

One of the research questions of present paper is to identify the gap between theory and practice, where theory is represented by previous scientific studies on the theme of influence of different factors on the cost of equity capital and where the practice is knowledge and experience of corporate managers. The first test to be performed is Chi-Squared Test in order to test whether the evaluation of factors by experts is equally distributed among levels of influence.

For all variables except Audit quality the null hypothesis ("The distribution of Variable is the same across category of IPO") was remain. The significant result is found only for Audit quality. Thus the listed companies consider Audit quality to be more significant factor in CEC reduction than non-listed companies. It can be explained by the fact that listed companies must have the audit reviews and they can evaluate the importance of audit quality. In terms of external factors based on the Mann-Whitney U test and Kolmogorov-Smirnov test there are also no difference between listed and non-listed companies except three factors, namely sovereign debt sovereign ratings and free risk rate.

Chapter 7: Proposal as methodology towards CEC reduction

Chapter 7 covers the practical application of research findings. By the means of critical literature review and primary research and subsequent analysis of accumulated knowledge, the influence of internal and external factors on the cost of equity capital was determined. These findings contribute to creation of functional methodology supporting CFO's decision-making process in the context of corporate financing with regard to the cost of equity capital manipulations. The methodology represents the combination of internal and external factors that results in definite level of CEC. The internal factors that are manageable compose aggregate Index of Internal factors; thereby the combination of external factors and the level of their development represent the external environment or in another words the state of economy. A company operates under certain macroeconomic conditions at a specific period of time, which it cannot adjust.
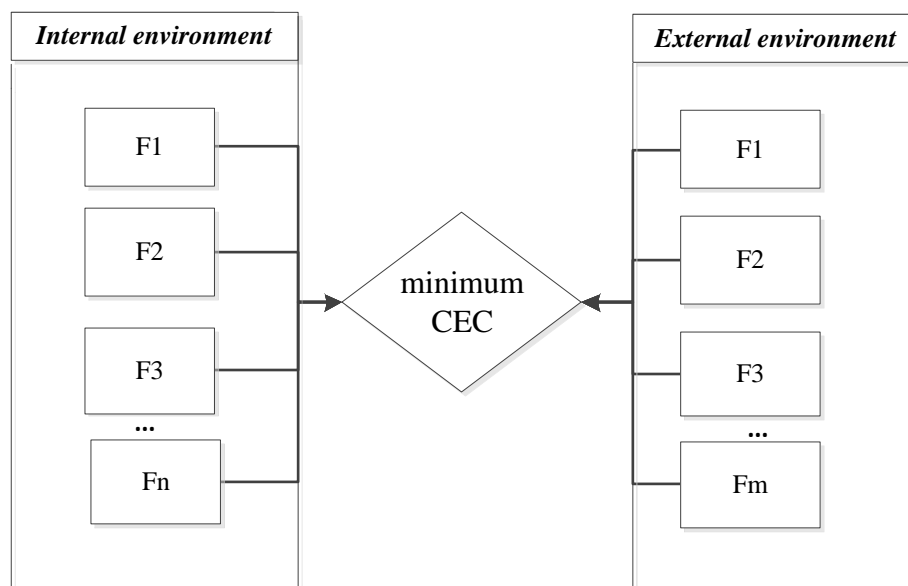

Figure 4: The formative construction of methodology

The methodology is dedicated to evaluate the level of cost of equity capital based on the actual internal factors and current macroeconomical conditions. The methodology accumulates the existing knowledge on the influence of internal and external factors on the cost of equity capital and facilitates effective decisions regarding CEC minimization. The formative construction of the Index is represented by Figure 4 The combination of external factors compose a current state of economy. The set of internal factors represent the internal environment of a company.

The operational framework designed for synthetic index construction requires assumptions, in order to ensure the correct methodological sequence. The main assumption is geographical and limits the Index application to Czech companies. The limitation is caused

by expert evaluation, which was gathered among Czech experts thus the weights of factors reflect the Czech Republic specifics.

In respect that the internal factors are controllable and external factors (specifically the state of financial stability) are beyond the control of managers, the external environment is served as possible corrections to the trend (Figure 5).
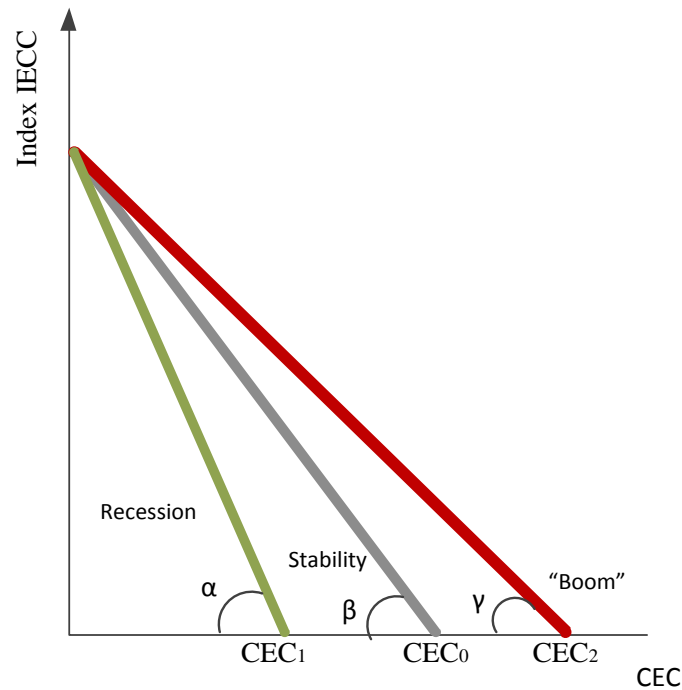

Figure 5: The influence of external environment on the relation between Index and CEC

Under specific combination of internal and external factors there is a possibility to determine the lowest viable level of the CEC; in case of even one factor change as a consequence the cost of equity capital might also be changed (Figure 19). In addition the changes in combination of parameters might lead to changes of minimum possible and maximum possible level of CEC.

By definition, the Index ICEC captures the current and consequential level of cost of equity capital based on the actual state of internal factors in terms of distinct private company.

The most important outcome of the methodology as an applicable tool is ability to facilitate the decision making process of a company. Thus the substantial significance of the proposed tool is to generate recommendations for further improvement of internal environment in order to approach to minimum cost of equity capital. In addition with the relevant importance there is the guidance to changes in external environment (more specifically individual external factors) that might decrease the cost of equity capital.
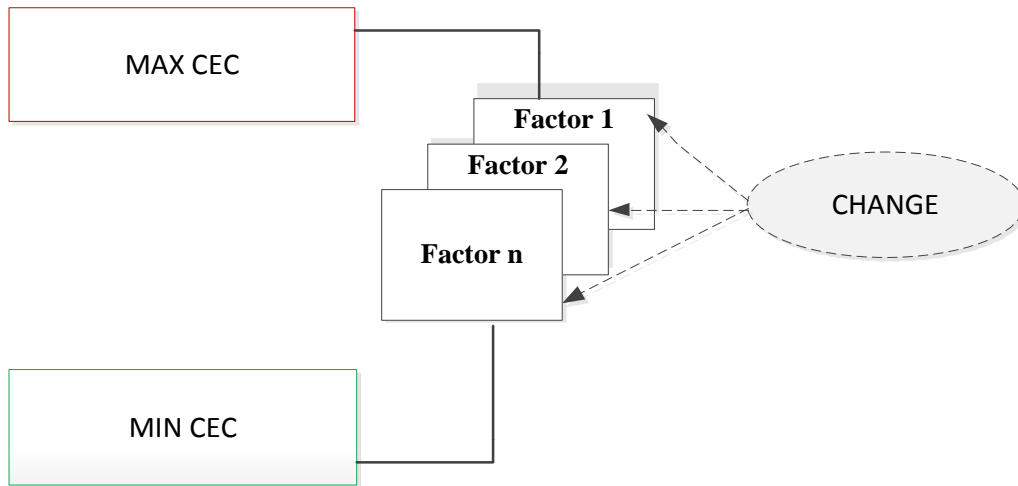
Figure 6: The influence of determinants changes on CEC level

The recommendations are divided into two levels. The first one is more generalized and indicates the areas of improvements; if the sub-indexes are lower than 1, i.e. the Sub-index score is below 75 percentile of selected benchmark.
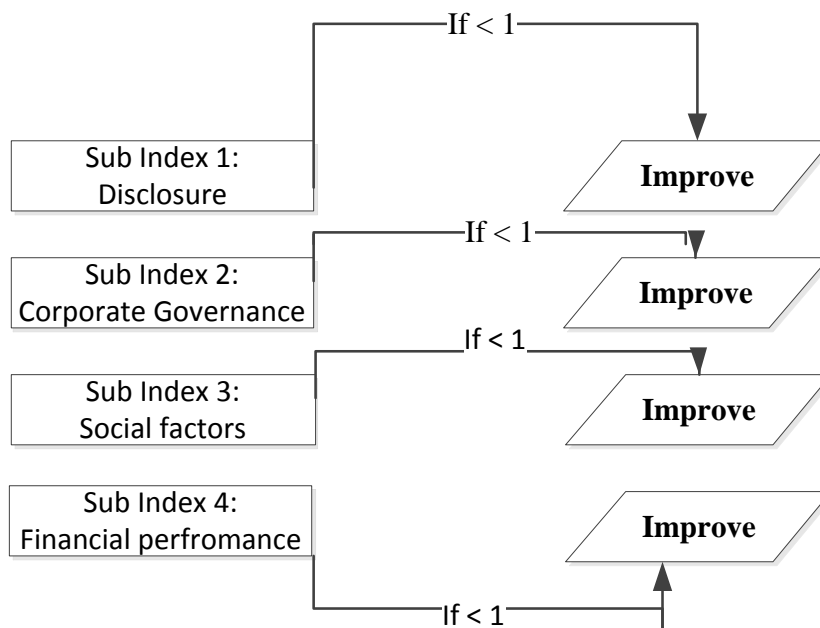

Figure 7: The algorithm of proposed recommendations towards determinants improvement

The second level of recommendation is more detailed including defined actions and improvements in internal environment of a company.

Possible recommendation for Disclosure: Increase voluntary disclosure; Increase share of public available information; Increase amount of information provided to the market; Use of timely disclosure; Disclosure of forecast information; Disclosure of non-financial performance; Utilization of conservative accounting policy; Utilization of high duality reporting system; Switch to International Accounting Standards; Increase audit quality.

Possible recommendations for Corporate Governance: Investors' protection improvement; Shareholder rights improvement; Adjustment of audit committee; Fully independent committee; Increase the independence of board of director; Independence of audit committee; Decrease the excess control.

Possible recommendations for Social factors: Increase of corporate ethics; The stronger management support; Increase the level of corporate culture; Create open communication channels; Provide ethical training; Resource reduction; Emission reduction; Product innovation towards environmental improvements; Decrease environmental risk ; Improvements in employment quality, health and safety; Increase of human rights; Increase in product responsibility; Employment training and development.

Possible recommendations for financial performance: Increase liquidity; Improve financial performance; Smooth earnings; Increase flexibility in external financing; Deeper and more efficient financial planning.

As a rule the indexes include the elements with yes/no terms (for example of a company disclosure its forecasts). Thus the logic of next level of recommendations is follow:
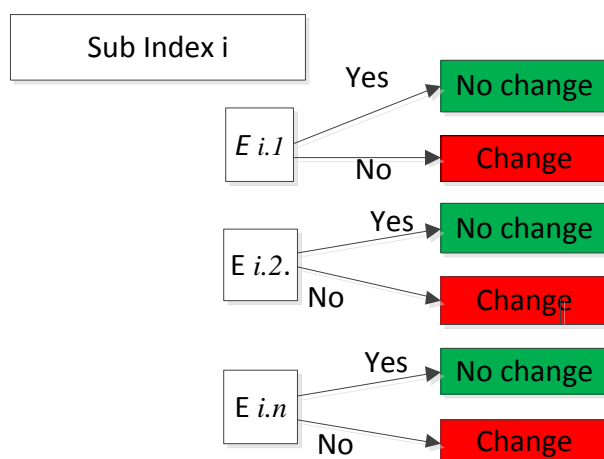

Figure 8: the logic of recommendations on sub-level of Index

In order to verify the methodology, a case study is conducted based on the simulation of three theoretic companies. Assume that there are three theoretic companies that operate in the same industry under specific macroeconomic conditions in the definite time span. Let's name them Company A, Company B and Company C. All companies are non-financial joint-stock large companies from X industry.

Chapter 8: Discussion and concluding remarks

8.1. Concluding remarks on research

Although the influence of several factors on the cost of equity capital has been extensively studied on the past few decades, the knowledge has been spread and has not been accumulated; moreover the influence of internal and external factors in the Czech Republic has remained relatively unexplored. In this work, the knowledge about the influence of internal and external factors on the cost of equity capital has been accumulated, analysed and transformed into specific applicable methodology.

The finding of secondary research highlights the variety of internal factors influencing the costs of equity capital, however, the information spread and is not accumulated. The companies with stronger corporate governance have lower cost of equity capital. Corporate transparence and shareholder rights are the essential components of strong corporate governance. By lower estimation risk and lower agency risk strong shareholder rights and increased financial discloser lead to lower cost of equity capital The company with weaker shareholder rights and higher transparent disclosure policy has similar cost of equity capital as the firm with stronger shareholder rights and lower disclosure. So firm can choose the best way to manage the equity capital by the instrumentally of combination of these two factors. Effective corporate governance includes greater institutional ownership and stronger outside control. So high level of audit quality leads to lower cost of equity capital. At the same time high level financial disclosure reduce information and estimation risks, enhance market liquidity and reduce transaction costs that in result decrease the cost of equity capital. Financial characteristics for example profitability or asset liquidity provide lower capital expenses. However earning smoothness doesn't lead to the lower cost of capital as it was considered by many owners and managers.

There are a few studies regarding the influence of external factors on the stock returns. Despite of the indirect influence of the external factors on the cost of equity capital, the impact might be very significant. The combination of external factors represents the state of economy development, which promotes decrease or increase of CEC.

The finding of primary research has not been previously established in Czech Republic. The finding is partly in agreement with international previous studies on the investigated issue. The primary findings illustrate the CFO perception and experience regarding the cost of equity capital determinants and show the possible gap in knowledge regarding investigated issue.

In order to make finding useful and applicable the methodology is created, which support decision making process of companies in terms of CEC management. The cost of equity capital reduction is one of the key targets of corporate financial management. The corporate managers are more confident on the influence of external factors, which they cannot manage than the influence of internal factors, which they are able to improve. The methodology is based on the expert evaluation, whose knowledge and experience reflect the specifics of

Czech Republic. Therefore, the current methodology (respectively Index ICEC) is applicable for Czech companies.

As a general thing, there are some research limitations. The main limitation of the current research is secondary data availability and the confidence and sensitivity of primary data.

8.2. Contributions of research: theoretical and practical

The current thesis makes original and significant contribution to science and corporate practice.

From the scientific point of view there are *theoretical contribution* and *empirical contribution* of the current thesis:

✓ Accumulation of worldwide knowledge on the theme of the influence of the internal and external factors on the CEC
✓ Collection of unique primary data based on the evidence of Czech companies
✓ Evaluation of the gap between theory and practice on the investigated issue

From the corporate point of view there are the following contributions:

✓ The practical tool supporting corporate decision-making process
✓ Improvement of the CFO knowledge regarding the influence of the internal and external factors on the cost of equity capital

8.3. Recommendations for future research

The current research is promising and future-oriented. There are several recommendations for future research to be extended. The collection of evidence on the cost of equity capital and internal factors values included in the aggregate index for Czech Republic environment should be conducted. This kind of primary data will increase the opportunity of Czech scientific society to conduct comprehensive research in the field of corporate finance and in the context of current research development will support analysis to identificate the exact coefficients of influence under certain country's specifics. In another words elimination of limitations of current research is a first step of future research proposition. The further future step is based on regression analysis make a forecast of macroeoconomic conditions and possible development of internal factors, which in the end will give a predicted cost of equity capital.

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Biography

Education

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Research stays

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Accomplishments:
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- monitor and report the financial performance

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Publication list

MOKHOVA, N.; ZINECKER, M. Corporate Negative Equity: The Evidence from the European Union. Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, 2016, roč. 64, č. 3, s. 1021-1036. ISSN 1211-8516

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