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# Corporate Governance in Sweden – A Success Story?

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## Abstract

This paper takes a performance-based approach to corporate governance and investigates whether compliance with the corporate governance code in Sweden equates to a lower cost of capital, measured as cost of equity, cost of debt and the weighted average of these, the WACC. The premonition is that adherence to governance codes should lower the risk profile of the firm, leading investors and creditors to requiring a lower premium to associate themselves with the firm financially. Previous studies, e.g. *Bozec & Bozec, (2010)*, *Pham et al, (2012)* and *Zhu, (2009)* have established a significant relationship between the variables, although one has to be aware of the strong possibility of the presence of endogeneity. To overcome this problem, this study utilizes instrumental variables, as well as running the tests in a two-stage least-square framework with fixed-effects. A further distinction is also made by testing if SMEs have a larger relative gain of governance than large-cap listed peers. The findings are that there are financial advantages to compliance with governance. Specifically, board composition and nomination committee shows to have a significant lowering effect on the cost of capital for the whole population, being all listed companies in Sweden for the years 2008-2013. Furthermore, the relative gain is somewhat higher for SMEs compared to larger companies.

**Keywords:** Corporate Governance, Sweden, Compliance, Performance, Cost of Capital, Cost of Equity, Cost of Debt, Board Composition, Audit Committee, Nomination Committee, Remuneration Committee

## Table of Contents

<b>1</b>	<b>Introduction.....</b>	<b>11</b>
1.1	Purpose and Research Question.....	12
1.2	Background.....	14
1.2.1	Corporate Governance Code in Sweden.....	14
1.2.2	The Shareholders' Meeting.....	14
1.2.3	The board of Directors and Their Duties.....	14
1.2.4	The Composition of the Board of Directors.....	15
1.2.5	Committees.....	15
1.2.6	Disclosure of Corporate Governance.....	16
1.3	Philosophies of Corporate Governance.....	16
1.3.1	Agency Theory.....	16
1.3.2	Stewardship Theory.....	16
1.3.3	Transaction Cost Economies.....	16
1.3.4	Stakeholder Theory.....	17
1.3.5	Resource Dependency Theory.....	17
<b>2</b>	<b>Definitions.....</b>	<b>18</b>
<b>3</b>	<b>Framework and Previous Research.....</b>	<b>19</b>
3.1	Internal Corporate Governance Mechanisms.....	19
3.2	External Corporate Governance Mechanisms.....	20
3.3	Performance of Corporate Governance.....	20
3.4	Governance Influence on the Cost of Capital.....	21
<b>4</b>	<b>Methodology.....</b>	<b>24</b>
4.1	Data collection and Time-Horizon.....	24
4.2	Dependent Variable.....	24
4.2.1	Estimating the Cost of Equity Capital.....	25
4.2.2	Estimating the Cost of Debt Capital.....	25
4.3	Independent Variables.....	26
4.4	Data Issues.....	26
4.5	Instrumental variables.....	27
4.6	Control Variables.....	29
4.7	Regressions.....	30
4.8	Data Reliability.....	32
<b>5</b>	<b>Hypotheses Development.....</b>	<b>33</b>
5.1	H <sub>0</sub> : Compliance with Corporate Governance Leads to a Lower Cost of Capital.....	33
5.2	H <sub>0</sub> : Compliance with Corporate Governance Leads to a Lower cost of Equity.....	33
5.3	H <sub>0</sub> : Compliance with Corporate Governance Leads to a Lower Cost of Debt.....	34
5.4	H <sub>0</sub> : The relative Gain of Governance is Higher for SMEs than Large-Cap Listed Companies.....	34
<b>6</b>	<b>Estimation Results and Analysis.....</b>	<b>35</b>
6.1	Descriptive Statistics.....	35
6.2	Results and Analysis of the Hypotheses.....	35
6.2.1	Compliance with Corporate Governance Leads to a Lower Cost of Capital.....	37
6.2.2	Compliance with Corporate Governance Leads to a Lower Cost of Equity.....	38
6.2.3	Compliance with Corporate Governance Leads to a Lower Cost of Debt.....	39
6.2.4	The Relative Gain of Governance is Higher for SMEs than Large-Cap Listed Companies.....	40

<b>7 Conclusion .....</b>	<b>43</b>
7.1 Recommendations for Further Research.....	44
<b>References.....</b>	<b>45</b>
<b>Appendix A: Miscellaneous.....</b>	<b>49</b>
<b>Appendix B: Correlation Matrices.....</b>	<b>50</b>
<b>Appendix C: Reduced Form Regressions .....</b>	<b>59</b>
<b>Appendix D: Regression Results.....</b>	<b>62</b>
<b>Appendix E: The Swedish Code of Corporate Governance.....</b>	<b>66</b>

**List of Figures**

Figure 1: Change of WACC when complying with corporate governance using panel least squares.....42  
Figure 2: Change of cost of equity when complying with corporate governance using panel least squares .....42  
Figure 3: Change of WACC when complying with corporate governance using 2SLS .....42  
Figure 4: Change of cost of equity when complying with corporate governance using 2SLS 42

## List of Tables

Table 1: Structure of the thesis and description of the chapter .....	13
Table 2: Description of the instruments applied .....	27
Table 3: Overview of the instruments applied for each regression .....	28
Table 4: Describing statistics for output, input and control variables .....	35
Table 5: Hausman test for all companies on the defined independent variables .....	36
Table 6: Summary of the results; for details s. Table 27 – Table 32 .....	36
Table 7: Overview of the instruments applied in the 2SLS regressions .....	49
Table 8: J-test for over-identification on the regressions using two-stage least-squares.....	49
Table 9: Correlation Matrix for WACC for all companies observed; statistically significant coefficients (5% or better) are shown in bold numbers .....	50
Table 10: Correlation Matrix for cost of equity for all companies observed; statistically significant coefficients (5% or better) are shown in bold numbers .....	51
Table 11: Correlation Matrix for cost of debt for all companies observed; statistically significant coefficients (5% or better) are shown in bold numbers .....	52
Table 12: Correlation Matrix for WACC for SMEs; statistically significant coefficients (5% or better) are shown in bold numbers .....	53
Table 13: Correlation Matrix for WACC for large-cap companies; statistically significant coefficients (5% or better) are shown in bold numbers .....	54
Table 14: Correlation Matrix for cost of equity of SMEs; statistically significant coefficients (5% or better) are shown in bold numbers.....	55
Table 15: Correlation Matrix for cost of equity of large-cap companies; statistically significant coefficients (5% or better) are shown in bold numbers .....	56
Table 16: Correlation Matrix for cost of debt of SMEs; statistically significant coefficients (5% or better) are shown in bold numbers.....	57
Table 17: Correlation Matrix for cost of debt of large-cap companies; statistically significant coefficients (5% or better) are shown in bold numbers .....	58
Table 18: Impact of CG codes and WACC on Instrumental Variables for all companies; statistically significant coefficients (5% or better) are shown in bold numbers .....	59
Table 19: Impact of CG codes and cost of equity on Instrumental Variables for all companies; statistically significant coefficients (5% or better) are shown in bold numbers.....	59
Table 20: Impact of CG codes and cost of debt on Instrumental Variables for all companies; statistically significant coefficients (5% or better) are shown in bold numbers .....	59
Table 21: Impact of CG codes and WACC on Instrumental Variables for SMEs; statistically significant coefficients (5% or better) are shown in bold numbers .....	60
Table 22: Impact of CG codes and WACC on Instrumental Variables for large-cap companies; statistically significant coefficients (5% or better) are shown in bold numbers.....	60
Table 23: Impact of CG codes and cost of equity on Instrumental Variables for SMEs; statistically significant coefficients (5% or better) are shown in bold numbers .....	60
Table 24: Impact of CG codes and cost of equity on Instrumental Variables for large-cap companies; statistically significant coefficients (5% or better) are shown in bold numbers.....	61
Table 25: Impact of CG codes and cost of debt on Instrumental Variables for SMEs; statistically significant coefficients (5% or better) are shown in bold numbers .....	61
Table 26: Impact of CG codes and cost of debt on Instrumental Variables for large-cap companies; statistically significant coefficients (5% or better) are shown in bold numbers.....	61
Table 27: Panel Least Squares estimation for WACC.....	62
Table 28: Panel Least Squares estimation for cost of equity .....	62

Table 29: Panel Least Squares estimation for cost of debt .....	63
Table 30: Two-Stage Least-Squares estimation for WACC.....	64
Table 31: Two-Stage Least-Squares estimation for cost of equity .....	64
Table 32: Two-Stage Least-Squares estimation for cost of debt .....	65
Table 33: Summary of the Swedish Code of Corporate Governance (1/3) .....	66
Table 34: Summary of the Swedish Code of Corporate Governance (2/3) .....	67
Table 35: Summary of the Swedish Code of Corporate Governance (3/3) .....	68

### **List of Equations**

(1) Calculation of WACC.....	24
(2) Calculation of cost of equity .....	25
(3) Calculation of beta .....	25
(4) Equation of the base regression on WACC .....	30
(5) Equation of the base regression on cost of equity.....	30
(6) Equation of the base regression on cost of debt.....	30
(7) Reduced regression including WACC and control variables on beta.....	31
(8) Reduced regression including cost of equity and control variables on beta .....	31
(9) Reduced regression including cost of debt and control variables on beta .....	31

**Abbreviations**

2SLS	Two-Stage Least Squares
Avg. Non. Com.	Average non-Compliance
AUDITCOM	Audit Committee
Bn	Billions
BOARDCO	Board Composition
Cap	Capitalization
CAPM	Capital Asset Pricing Model
CEO	Chief Executive Officer
CG	Corporate Governance
CGI	Corporate Governance Index
COD	Cost of Debt
COE	Cost of Equity
Cmpr.	Compare
Cov.	Covariance
CSR	Corporate Social Responsibility
DDM	Dividend discount model
E.g.	Exempli gratia; 'for example'
Et al	Et alii; 'and others'
Etc.	et cetera
I.e.	id est; 'in other words'
Ind.	Index
Max.	Maximum
Min.	Minimum
N.a.	Not applicable
NOMCOM	Nomination Committee
OLS	Ordinary Least Squares
REMUNCO	Remuneration Committee
S.	See
SEK	Swedish Kronor
SME	Small- and Medium-Sized Enterprises
St. Dev.	Standard Deviation
TCE	Transaction Cost Economics
US	United States of America
Var	Variance
WACC	Weighted Average Cost of Capital

## 1 Introduction

Corporate governance systems exist in order to ensure reliable markets for investors and other parties involved (*Tengblad, 2004; CG code, 2010*). It serves as a mechanism to mitigate agency risks attributable to separation of ownership and control. However, the description could also be to ensure accountability toward in-direct societal stakeholders, through implementation of CSR efforts. Whichever one is most correct, the subject has been under constant development since the implementation of the first framework in the 1990's (*Tricker, 2012*). In essence, governance has the ability to limit managerial opportunistic behavior, as well as securing the quality of information flowing from the corporation (*Ramly & Rashid, 2010*).

In Sweden, and many other places in Europe and the world, adherence to governance means complying with discretionary codes of best practice. Each company that is subject to the codes can choose to either comply, or if they choose not to, provide an explanation. The present framework of corporate governance codes in Sweden came in effect in 2008 and includes both broad and specific dictations, for example, concerning board independence, the notion of including committees and securing the independence of these. Overall, the aim of the framework is to increase confidence and secure the supply of risk capital (*CG code, 2010*).

As explained in *Ramly & Rashid (2010)*, firms with robust monitoring devices, i.e. high adherence to governance, should have a lower risk for managerial abuse and better resource allocation. Therefore, such a firm should have lower risk and consequently access to cheaper capital (*Love, 2005*). In fact, previous studies have established such a connection. Studying the Australian-, Canadian- and American markets between the years 1993-2005, *Pham et al, (2012)*, *Bozec & Bozec, (2010)*, *Ashbaugh et al, (2004)* and *Zhu (2009)*, among others, find that the cost of capital is a decreasing function of corporate governance activities and quality.

Building on these papers and methodologies, this thesis will take a similar, performance-based view of corporate governance and investigate whether compliance with the Swedish corporate governance code has a decreasing effect on the cost structure of Swedish listed companies between the years 2008 and 2013. The first Swedish corporate governance code came into force in 2005, with the revised version being implemented in 2008. Thus, to the author's knowledge, there has been no study on the current corporate governance framework, and specifically its effect on the cost structure of Swedish firms. A review of the current corporate governance code follows in the next section. The tests will focus on four groups of

governance variables, namely board composition, audit committee-, nomination committee- and remuneration committee composition and independence.

In addition, an attempt is made to make a distinction of performance within the population. The objective will also be to investigate whether the relative gain of governance is larger for small- and middle-sized enterprises (SMEs) compared to large-cap listed companies. As SME's face the same exhortations as larger corporations, but are significantly smaller in terms of revenue, market capitalization etc., the relative cost of compliance per every SEK revenue are higher for these companies. Simply put, the relative effort to comply could be viewed as greater for SME's rather than larger firms (*Nedelchev, 2013*). Consequently, one of the targets of this thesis is to investigate whether such a result can be found.

The findings of this study can help to understand the performance of the corporate governance system in Sweden and be interesting for managers in general, and specifically when both developing a governance- and a financial strategy.

### **1.1 Purpose and Research Question**

The purpose of this study is to investigate whether there are financial advantages associated with adhering to corporate governance codes by testing the premonition that complying companies have lower cost of capital than non-complying peers. In order to fulfill the purpose, the following researched questions are stated:

- Are there financial advantages to compliance with corporate governance codes in Sweden?
- Are these advantages larger for SMEs rather than large cap listed companies?

The thesis is structured as follows:

Chapter	Content
<b>2 Definitions</b>	This chapter describes general definitions of parts of the thesis that need further explanations. It includes definitions regarding the grouping of the companies and the control variables.
<b>3 Framework and Previous Research</b>	This chapter describes the previous research in the field of Corporate Governance. Further, a discussion of previous findings and its shortcomings will be held. As Corporate Governance is a relatively new topic in Sweden, the expectation is to find limited previous research in a Swedish context.
<b>4 Methodology</b>	This chapter describes the tests and data for the purpose of this thesis. Later chapters will include previous research in this field and describe the models applied.
<b>5 Hypotheses Development</b>	This chapter describes the development of four different hypotheses regarding complying with corporate governance codes that will be tested in chapter 6.
<b>6 Estimation Results and Analysis</b>	This chapter starts with the descriptive statistics of this thesis. Furthermore, it shows the results of the regressions and analyses the outcomes. It further gives explanations regarding those results. A summary of the significant results can be observed in table 6. The structure of this chapter is following the order used in chapter 5.
<b>7 Conclusion</b>	The final chapter of this thesis summarizes the findings in the analysis and concludes the results. It further shows fields where future research should be conducted in the future.

**Table 1:** Structure of the thesis and description of the chapter

## 1.2 Background

### 1.2.1 Corporate Governance Code in Sweden

Corporate Governance codes in Sweden are applied through a discretionary method of *comply-or-explain*, meaning that each company listed in Sweden can individually choose to apply the codes of best practice. This means that it is a self-regulated structure which serves to complement legislation and other corporate governance rules set out by Companies Act, the Annual Accounts Act, the stock exchange regulation and statements from the Swedish Securities Counsel. If a company decides not to comply with the principles stated in guidelines, the reason should be disclosed in their financial reports. According to the Swedish corporate governance code, the aim of guidelines is to ensure that companies are run as efficient as possible. Also, its objective is to secure the confidence of the shareholders and other potential investors, so that risk capital can flow into organizations and markets in an unhindered manner. Any company that is listed on a regulated market in Sweden is subject to the following corporate governance codes depicted in broad terms (*CG code, 2010*). See appendix E for a detailed review of the code.

### 1.2.2 The Shareholders' Meeting

The shareholders' meeting is the company's highest decision-making body, and should create conditions so that shareholders can exercise their right to be active. The information regarding the meeting should be presented to shareholders as soon as time and venue have been decided, as well as in such fashion that the shareholders are given adequate time to prepare. Further, the meeting should be attended by the company chairman, the CEO and, if possible, all the members of the board. At least one member from the nomination committee and one of the auditors should be present. The minutes from the meeting should be posted on the company website following the meeting (*CG code, 2010*).

### 1.2.3 The board of Directors and Their Duties

The chair of the board has the outmost responsibility of the board of directors and should therefore ensure that the directors fulfill its responsibilities and that the work is conducted in an efficient manner. The board's tasks also consist of ensuring that adequate systems for internal control and financial reporting are in place, as well as producing the appropriate financial reports. In the absence of such internal auditing systems, the justification and general need for it should be evaluated annually and stated in the reports. The work of the board and the CEO should also be evaluated annually and presented in a structured and

systematic manner, and presented to the nomination committee for its consideration (*CG code, 2010*).

#### **1.2.4 The Composition of the Board of Directors**

The board should have a composition corresponding to the phase or circumstances of the company and should also promote diversity and equal gender representation. Only one member of the board should also be a member of the executive management. Overall, the aim is for the members to be in a position of independence toward the company and the executive management. The level of independence is assessed through employment history at the company, as well as any other contractual or compensational relationship with the company in question. Also, if the person has any direct- or indirect ties, family or otherwise, with the company is considered. In addition to the above mentioned, at least two of the management and company independent directors should also be independent of the company's shareholders. In order to assess such independence, the director's relationship with the shareholders should be considered. For example, a member that has a contractual relationship with a company that is a major shareholder in the company in question is not deemed independent (*CG code, 2010*).

#### **1.2.5 Committees**

The corporate governance code states that the company should have a nomination committee that has the objective to propose candidates for the role of chair, members of the board and auditor, as well as remuneration for those candidates. The committee should have at least three members, of which the majority should be independent of the company and the management. Neither the CEO nor members from the management are to be members of the committee. In addition, at least one member should be independent toward the company's majority shareholder. The second committee is the remuneration committee that is responsible for deciding on remuneration issues. In line with the nomination committee should the members be independent of the management and the company in general, however, it can be chaired by the chairman of the company. If the board deems it appropriate, the tasks of the remuneration committee can be performed by the board, given the condition of no involvement by an executive management director. Lastly, the audit committee should comprise of no fewer than three members. The details regarding independence and the composition are the same as with the other committees (*CG code, 2010*).

### **1.2.6 Disclosure of Corporate Governance**

In the event of non-compliance of a section of the code, the company should clearly disclose the reason and which measures they have taken instead. Also, information should be presented regarding, for example members of the board of directors, the composition, the division of work, the committees, attendance of meetings and detailed information regarding the CEO. The company website should include a section of corporate governance (*CG code, 2010*).

## **1.3 Philosophies of Corporate Governance**

### **1.3.1 Agency Theory**

Agency theory views governance issues from a perspective of a principal and agent, where the first is a term for the shareholders and the latter a denotation of the director. The theory assumes that the agent is a utility maximizing individual that seeks to expropriate from the shareholders in order to gain as much as possible herself. The behavior is possibly due to information asymmetry between the shareholder and the director. The costs that arise from minimizing this sort of activities are called agency costs. As stated in *Tricker (2008)*, evidence of behavior in line with the principal-agent description is not hard to find empirically. It is also an issue that has increased with the growing dispersion of ownership in some economies, as each individual shareholder has limited insight into the operations of the company. Much of the governance codes and legislation across the world are in place to mitigate to possibility of agency issues (*Tricker, 2008*).

### **1.3.2 Stewardship Theory**

In contrast to agency theory, stewardship theory takes a less immoral point of view. The theory points to the director as having a sole assignment, which is the legal foundation of shareholder protection. The shareholders elect directors to serve on the board of directors that should serve according to their interest in every aspect. Stewardship theory recognizes the need to identify other stakeholders of the firm, but the primary loyalty should be toward the shareholders. In fact, the theory states that the other stakeholders (e.g. employees, suppliers etc.) have their interest protected by law (*Tricker, 2008*).

### **1.3.3 Transaction Cost Economies**

Transaction cost economics (TCE) stems from work by *Coase* in the 1930's, and concerns itself with managerial discretion when it comes to how to govern operations. Firms exist in

order to minimize transaction costs. Coase recognized that a firm could save costs by producing in-house rather than outside of the organization, i.e. the assumption of efficient markets break down. Building on the work of Coase, *Williamson (2007)* provides additional thoughts on TCE stating the reasons as to why markets break down. The cognitive limitations of humans provides for bounded rationality, as well as opportunistic behavior and tendency for expropriation. In addition, problems with specificity, frequency and uncertainty create market inefficiency (*Tricker, 2008*).

#### **1.3.4 Stakeholder Theory**

As one might suspect from the notation, the implication of stakeholder theory is to adhere to all those actors or parties affected by the decisions of the company, for example including customers and the community where the company is active. In some parts of the world, the approach to take all stakeholders into consideration is normative, as it is included in legislation or the corporate governance codes. In other places, it is still up to managerial discretion to include it or not. The challenge in taking such an approach is that the companies no longer just have a single stakeholder, the shareholders, to satisfy. Instead, it demands a balance between the needs and wants of all those affected or involved. As a response to the critics of stakeholder theory, enlightened shareholder value prescribes a path where devotion to stakeholders creates shareholder value. The idea is that only by considering all the stakeholders can a corporation create long term sustainable value. (*Tricker, 2008*).

#### **1.3.5 Resource Dependency Theory**

The resource dependency theory sees the board of directors as a linchpin, situated strategically in-between the company and the market. The idea is that the directors should provide connections to resources that the company might need. For example, the board could arrange connections with potential customers or suppliers or give access to sources of capital (*Tricker, 2008*).

## 2 Definitions

*This chapter describes general definitions of parts of the thesis that need further explanations. It includes definitions regarding the grouping of the companies and the control variables.*

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Large-cap companies in this thesis are defined as companies that have a market value of equity over one billion Euro<sup>1</sup>, which is in accordance to the definition of Nasdaq OMX Nordic. As of 25 May 2014, the exchange rate between the Euro and the Swedish Kronor (SEK) is 9.0554<sup>2</sup>, which leads to large cap companies being defined as companies with a market value over SEK 9.0554bn. On the other side, SMEs are defined as companies that have a market value of equity smaller than SEK 9.0554bn.

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<sup>1</sup> As of 25<sup>th</sup> May 2014.

<sup>2</sup> Source: Yahoo! Finance, <http://finance.yahoo.com/q?s=EURSEK=X> (accessed on: 25<sup>th</sup> May 2014).

### 3 Framework and Previous Research

*This chapter describes the previous research in the field of Corporate Governance. Further, a discussion of previous findings and its shortcomings will be held. As Corporate Governance is a relatively new topic in Sweden, the expectation is to find limited previous research in a Swedish context.*

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#### 3.1 Internal Corporate Governance Mechanisms

Governance serves to mitigate the agency problem that can arise from the separation of ownership and control. Better monitoring devices mitigate the risk of management expropriation. One such device is the board of directors. Owners appoint directors to serve in their interest and to maximize value (Aguilera, 2005). The board hire and monitor management, whom in turn are responsible for the day-to-day operations of the firm. Empirically, though, the results are not always significant (Soh, 2011). Therefore, there are additional governance mechanisms within the board of directors that aim to minimize the risk of a system breakdown, namely the size and composition. The board should comprise of independent directors, which serve to mitigate the risk that personal interests interfere with the best interest of the corporation. The belief is also that an independent director can evaluate management in a more impartial manner. Bednar (2012) criticizes the concept of formal board independence, instead suggesting that a board might not be independent due to social factors. The idea is that other influences such as demographic similarity and informal relationships can interfere with the independence.

The size-factor of a board alleviates, for example, the risk that any director should act in a dominating manner (Ramly & Rashid, 2010). Furthermore, the board should also consist of remuneration-, audit- and nomination committees, responsible for ensuring adequate and fair managerial remuneration, the quality and independent result of the audit and recruitment of directors (Tricker, 2012). The specific details regarding the rules of the committees differ from country to country. However, the fundamental implication is to safeguard from expropriation in various ways. The remuneration committee should comprise independent members so that compensation is fair and grounded in performance (Clifford & Evans, 1996). Effective compensation systems should incentivize performance that does not create opportunistic and harmful behaviour (Ramly & Rashid, 2010). Likewise, the independence of the audit committee is paramount in order to guarantee the quality and correctness of the

audit activities. Lastly, the nomination committee should strive to make the nomination of management and directors a respectable process (*Tricker, 2012*).

The ownership structure of a firm is a strong governance device. Owners with a substantial stake, i.e. institutional shareholders and family-owners, can easily influence the management and the company direction. As block-holders generally are more interested in long-term success of the company, they can diminish any risk of managerial short-termism. Thus, the chance of a greater alignment of the owners and managers interests is significant. However, the agency problem could, in such a context, shift from the classic owner-manager conflict to instead incorporate minority- and majority shareholders (*Ramly & Rashid, 2010*). The board independence is even more important in that respect. Overall, governance devices have been shown to be less effective in family-owned corporations (*Palmberg, 2012*).

### 3.2 External Corporate Governance Mechanisms

The legal system is one of the most important and effective systems for governance as it regulates firm behaviour and ensures investor protection (*Babatunde & Olaniran, 2009*). Needless to state, the quality of the rules and enforcement differs across the world. In countries with weak judicial systems, governance tends to be even more important. Another type of external mechanism that can influence firms are the gatekeepers, i.e. media, analysts etc. *Coffee (2005)* suggests that different gatekeepers have more importance in different economies and legal regimes. Generally, the gatekeeper serves a better function in a dispersed regime, where there are fewer block-holders that monitor management, even though that can trigger another type of expropriation, as stated above. For example, auditor independence is affected in a concentrated ownership structure as the auditor reports to the management that consist of the large owner. The auditor can have difficulties to escape the control of the group it is expected to monitor (*Coffee, 2005*).

### 3.3 Performance of Corporate Governance

The success of the governance mechanisms have empirically been tested in performance-based studies; where a vast amount of research has documented that mechanisms can positively contribute to firm performance and value (*Ramly & Rashid, 2010; Soh, 2011; Zhu, 2009*). As for board independence, one of the most investigated variables, *Lama (2012)* and *Palmberg (2012)* report that the majority of research fails to find a significant association with firm performance. Moreover, *Amir et al (2010)* states that the quality of information is

inversely related to the cost of capital. Due to the fact that auditors influence the reported information, auditor independence and financial reporting is said to be positively related. Furthermore, the quality and quantity of the information flowing from the corporation increases transparency and decreases the information asymmetry between the firm and the market. These factors decrease the overall risk profile of the firm. Creditors and investors will therefore demand a lower risk premium on their required return on equity and debt, respectively (*Bozec & Bozec, 2010*). In essence, governance serves as investor, or financier, protection.

### 3.4 Governance Influence on the Cost of Capital

As *Soh (2011)* reports, it is a widely accepted statement that a high level of corporate governance has a positive impact on a firm's cost of capital, e.g. decreasing them. Taking a performance-based approach, *Bozec & Bozec (2010)* study the Canadian market during the years of 2002 and 2005, and tests governance levels with the corresponding weighted average cost of capital and finds a strong relationship between the variables. Measuring governance through a ROB- (Report on business) index, it suggests that better devotion to governance is associated with decreased WACC for Canadian firms. The ROB-index incorporates a wide set of governance variables that are identified as being critical to the effectiveness of governance. The index comprises board composition, an assessment of board independence, as well as the three committees; nomination, remuneration and audit. Furthermore, the index scores compensation, shareholder rights and information disclosure. In line with these results, *Pham et al (2012)* report in their study on the Australian market for the years 1994 and 2003 that greater insider ownership, higher presence of institutional block-holders and small independent boards serve to lower the overall cost of capital.

Other studies concentrate on the cost of equity and cost of debt respectively. *Shah & Butt (2009)* find a negative relationship between cost of equity and board size, studying the Pakistani market. The interpretation is that a board with many members decreases the risk that one can dominate the decisions. Equivalently, managerial ownership is found to have a negative impact on the cost of equity. As such, a board consisting of members with ownership will likely have a higher cost of equity compared to a board with lower managerial ownership. Unexpectedly, audit committee- and board independence are found to have an insignificant effect. The explanation offered is the Pakistani law system, as it does not distinguish between independent- and dependent directors. *Ashbaugh et al (2004)*, whom test

the quality of firm financial disclosure quality, ownership structure, stakeholder rights, as well as board structure in relation to cost of equity, find significant results. In a US setting, the governance variables are turned into a composite index and the measure utilized as cost of equity capital is two-fold; the average firms expected return and the price-earnings growth ratio.

In an emerging market setting, *Chen et al (2004)* investigate how disclosure and corporate governance affect cost of equity capital of nine Asian countries for the years 2000 and 2001, and find a significant negative relationship between the variables. The cost of equity capital estimate is derived from the residual income valuation model and the governance variables are taken from a Credit Lyonnais study. The authors state that country-level investor protection also has a predictive ability of the cost of equity. The same result is also the finding in *Guangming et al (2011)*, whom study the Chinese market and establish governance indices with a focus on information disclosure. They conclude that the cost of equity decreases with transparent and high quality disclosures. *Zhu (2009)* suggests a substitution effect for governance impact on the cost of debt when it comes to countries with weak legal systems, as the author finds that firm-level governance practices could substitute for country-level protection. As for the cost of equity, a complementary effect is attained, as the cost of equity is the lowest for firms in countries with better legal systems. Overall, the findings are coherent with previous studies that cost of debt and equity are lower for firms with good governance for the 22 countries studied.

Turning to research into governance impact on the cost of debt, *Blom & Schauten (2006)* test the premise that higher quality of governance practice should imply lower cost of debt, as debt holders should take governance activities into account when assessing the default risk. The authors use the Deminor Rating for the years 2000 and 2004 as a proxy for governance variables. The rating consists of four main categories; shareholder rights, range of takeover defences, disclosures and board structure. The stated premise is found to be true, namely that firms with upright governance also have a lower cost of debt. Studying the French market, *Piot & Piera (2007)* investigate whether governance and audit quality has an impact on the cost of debt. The explanation offered is that debt-holders risk originates in agency expropriation risk and information risk. The first concerns the risk that managers tries to transfer wealth on the expense of creditors, and the latter relates to the quality of financial reporting. The study find that the three governance traits; board involvement in monitoring of governance issues, the monitoring power of institutional investors, board independence, all

have a significant reducing effect on the cost of borrowing. *Klock et al (2005)* investigate governance and the cost of debt, where governance is proxied by anti-takeover provisions and debt is calculated as the yield spread. The results indicate that substantial anti-takeover provisions and weak shareholder protections are related to a lower cost of debt.

*Bozec & Bozec (2010)* summarize former studies on the relationship between governance and cost of capital, which suggests that research in a North American setting generally has yielded inconclusive results. Studies performed in an European- and emerging country context is much more conclusive toward the fact that governance significantly influence cost of capital. Moreover, the dissimilarities in results is said to be due to the differences in legal systems and weak investor protection. In a country with weak systems and protection, the governance code is said to be much more forceful and significant. In addition, the *comply-or-explain* approach that is in use in some economies is suggested to yield more inter-firm variations and therefore a stronger result.

## 4 Methodology

*This chapter describes the tests and data for the purpose of this thesis. Later chapters will include previous research in this field and describe the models applied.*

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The thesis uses a quantitative- and deductive research approach, as the aim is to explore the level of explanatory power of certain corporate governance variables on the firms cost of capital (Saunders, 2009). Hypotheses are formed according to findings of previously performed studies in the field of corporate governance and the Swedish corporate governance framework.

### 4.1 Data collection and Time-Horizon

The data included in the study consists of Swedish small-, mid- and large-cap listed companies that all are subject to the Swedish corporate governance framework. Thus, the number of companies included in the study is 242 with a fall-out of 13. The fall-out is due to lacking information published. For example, some of the companies did not publish corporate governance information prior to 2010. Other firms included were first listed on the market later on during the period. There are 59 large-cap listed companies included, as well as 183 SMEs. The study covers the period of 2008 until 2013, since the latest corporate governance framework was published in 2008. The overall number of observations becomes 1,190. The data is manually gathered from annual- and corporate governance reports, where compliance and non-compliance is, or at least should be, explicitly stated. Moreover, information regarding control- and dependent variables are collected through the databases CapitalIQ and Datastream.

### 4.2 Dependent Variable

The Weighted Average Cost of Capital (WACC) incorporates the firms cost of equity, cost of debt, the tax rate and its capital structure, the amount of debt and equity on the balance sheet (Miles & Ezzell, 1980). The equation can be written as;

$$\text{WACC} = \frac{\text{Equity}}{\text{Total assets}} * R_e + \frac{\text{Debt}}{\text{Total assets}} * R_d * (1 - T_c) \quad (1)$$

Where  $R_e$  is the notation for the cost of equity capital and  $R_d$  is the cost of debt capital.

### 4.2.1 Estimating the Cost of Equity Capital

Estimation of the cost of equity capital, or the investors required rate of return, can be performed in different ways. Three popular methods include the Capital Asset Pricing Model (CAPM) (*Sharpe, 1964; Treynor, 1962 & Lintner, 1965*), *Fama & French (1993)* Three Factor Model and the Dividend Discount Model (DDM) (*Soh, 2011*). However, there are issues regarding the models that can lead to inaccurate results. Firstly, the use of historical data to project the market risk premium in the CAPM, leads to high standard errors. The second limitation is regarding the varying risk factor loadings through time and across industries. The models call for a constant loading in order to be accurate. The last problem is choosing the right model, as the different models present different results (*Fama & French, 2007*). Although it is still ambiguous which method is the most appropriate to utilize (*Soh, 2011*), the primary approach used in previous research is the CAPM (*e.g. Bozec & Bozec, 2010*). The CAPM can be written as follows;

$$R_e = R_f + \beta(R_m - R_f) \quad (2)$$

Where  $R_f$  is the risk free rate,  $\beta$  is the notation for beta, the sensitivity of the firm to the market as a whole, and  $R_m$  is the market return.  $(R_m - R_f)$  is the market risk premium discussed above. Due to the difficulty of estimating a precise risk premium, the authors implement the findings of *Sörenson (2011)*, where it is suggested that a reasonable equity risk premium for the Swedish market is around 4.5 %. This premium level is also supported in *Jäckel & Muhlhäuser (2011)*, whom report an equity premium of 4.93% for Sweden. As for an appropriate risk free rate, the 10-year government bond is used, which is proposed in *Sörensson (2011)*. The beta coefficient is gathered manually based on the returns of the stock price and calculated in the following way:

$$\text{Beta} = \frac{\text{Cov}(R_m, R_e)}{\text{Var}(R_m)} \quad (3)$$

### 4.2.2 Estimating the Cost of Debt Capital

The most common measure for the cost of debt in prior research is the yield spread, which is the average debt yield to maturity in excess of the risk free rate (see for example, *Bradley & Chen, 2011; Blom & Shauten, 2008; Soh, 2011*). Since this measure only can be computed using publicly traded debt, and the majority of the companies included in this study do not have that, this study defines the cost of debt as the interest payments divided by the total

outstanding debt, yielding a percentage. Such a methodology is employed in *Zhu (2009)* and *Francis et al (2005)*.

### 4.3 Independent Variables

Similarly to measures of corporate governance included in previous studies (*Bozec & Bozec, 2011; Pham et al, 2012; Blom & Schauten, 2008; Bradley & Chen, 2011; Ashbaugh et al, 2004*), the included variables in this study are measures of board composition (section 4), audit committee- (section 7), nomination committee- (section 2) and remuneration committee (section 9) composition and independence. That is, the majority of the variables tested are internal governance mechanisms that are found to be explicitly stated in the Swedish corporate governance code. The methodology to arrive at a compliance or non-compliance for each of the variables, are to manually browse the firm's annual reports for each of the years included in the study, looking for explicitly stated deviations of the code. Similarly to *Zhu (2009)* and *Li (2010)*, a binary value of 1 is assigned if the firm does not comply with the code and zero otherwise, for each of the categories. Moreover, as the binary value of 1 indicates non-compliance, this study will interpret a positive coefficient as a decrease in the cost of capital. Due to data issues, explained in the following section, the independent variables are subject to slight transformation applied as instrumental variables.

### 4.4 Data Issues

There is an apparent risk that corporate governance studies include less desirable properties that may bias how the independent variable affects the dependent variable if it is ignored (*Wintoki et al, 2009*). *Bozec & Bozec (2010)* discuss an omitted variable problem that could arise if an unobservable variable affects both the dependent- and independent variables. Endogeneity could also involve reverse causality, meaning that the casual effect of how the dependent- and independent variables affect each other cannot be determined. Previous studies use instrumental variables, as well as utilizing a two-stage least-square (2SLS) framework, to mitigate the problems (*Bozec & Bozec, 2011; Pham et al, 2012; Blom & Schauten, 2008; Bradley & Chen, 2011; Ashbaugh et al, 2004*). This study addresses the risk of endogeneity by incorporating instrumental variables to proxy for the governance mechanisms, as well as running the regressions with fixed-effects, two-stage framework. In addition, according to *Zheka (2006)*, the use of control variables reduces the problem of finding the optimal differences. The Hausman (1978) test established that a fixed-effects set

up was more appropriate than a random effects, by rejecting the null hypothesis of equal coefficients (*Brooks, 2008*).

#### 4.5 Instrumental variables

The objective of instrumental variables is to find variables that are correlated with the explanatory, endogenous variables, but uncorrelated with the dependent variables, which is a difficult process (*Zheka, 2006*). Table 2 below shows an overview of the instruments used in this thesis. Due to the difficulty, the decision is made to use indices for those variables. While the corporate governance variables used are binary, i.e. either 0 or 1, the index measures the percentage of non-compliance in a certain section of the code or the code as an entity. In order to test the instruments, the J-test, also known as the Sargan test, is incorporated after running the 2SLS regression, which tests for over-identification (*Hansen, 1982*). The null hypothesis is that  $J = 0$ , which is that the over-identification is valid, i.e. the instruments are correlated with the error term. Rejecting the J-test therefore shows that the instruments are identified and valid.

Instruments	Explanation
CGI	Corporate governance index, calculated as the average of the percentage of non-compliance of all four tested corporate governance sections.
Avg. non.-com.	Average non-compliance, calculated as the average of non-compliance of the binary non-compliance all four test corporate governance sections.
Index 'number'	Percentage of non-compliance for a specific part of the code.
Index 'number' + Index 'number'	Percentage of non-compliance of two specific parts of the code.
Index 'number' * Index 'number'	Product of two/three indices of specific parts of the corporate governance code.

**Table 2:** Description of the instruments applied

As certain indices, or sums/products of indices, are also explaining the dependent variable, different indices are constructed for different regressions in order to overcome the endogeneity issue. Nevertheless, the corporate governance index constructed is always part of the set of instrumental variables. As described in Table 2, it is calculated as the average percentage of non-compliance among the four tested sections of the code. The average non-compliance ('Avg. non.-com.') is the average of the binary non-compliance of each section of the code and is calculated in a similar way as the corporate governance index. The indices ('Index') are defined as the percentage of non-compliance in each of the tested sections of the

code. Table 3 shows the instruments applied for the regressions in the 2SLS setup. The corporate governance index is part in every regression while the other four instruments are changing, which is caused by the arising problem of explaining the dependent variable. This is due to the fact that those might explain the dependent variable and can therefore not be applied in the regression.

Appendix B shows the correlation matrices for the explained variable, the corporate governance variables and the instrumental variables. *Zheka (2006)* used instrumental variables, even though they might be correlated with the dependent variable. This instrumental variable should, nevertheless, not be explained by the dependent variable in the reduced form regression.

Table 18 through Table 26 show the reduced form regressions with instrumental variables substituting for dependent variables and the previously dependent variables are being part of the independent variables. It is shown that WACC, cost of equity and cost of debt is not explanatory in any of the regression, while the corporate governance variables are significant to explain the instrumental variables.

	Instrument 1	Instrument 2	Instrument 3	Instrument 4	Instrument 5
<b>WACC</b>					
Overall	CGI	Ind. 2 * Ind. 7 * Ind. 9	Index 2 + Index 4	Index 4 + Index 7	Index 4 + Index 9
SME	CGI	Ind. 2 * Ind. 4 * Ind. 9	Index 2 + Index 4	Index 2 + Index 7	Index 2 + Index 9
Large-Cap	CGI	Ind. 2 + Ind. 4 + Ind. 9	Ind. 2 * Ind. 7 * Ind. 9	Index 4 + Index 7	Index 4 + Index 9
<b>Cost of Equity</b>					
Overall	CGI	Ind. 2 * Ind. 7 * Ind. 9	Index 2 + Index 4	Index 2 + Index 7	Index 2 + Index 9
SME	CGI	Ind. 2 * Ind. 7 * Ind. 9	Index 2 + Index 4	Index 2 + Index 7	Index 2 + Index 9
Large-Cap	CGI	Ind. 2 + Ind. 4 + Ind. 9	Ind. 2 * Ind. 7 * Ind. 9	Index 4 + Index 7	Index 7 + Index 9
<b>Cost of Debt</b>					
Overall	CGI	Ind. 2 * Ind. 7 * Ind. 9	Index 2 + Index 4	Index 4 + Index 7	Index 4 + Index 9
SME	CGI	Ind. 2 * Ind. 7 * Ind. 9	Index 2 + Index 4	Index 2 + Index 9	Index 4 + Index 9
Large-Cap	CGI	Ind. 2 + Ind. 4 + Ind. 7	Ind. 2 * Ind. 7 * Ind. 9	Index 4 + Index 9	Index 7 + Index 9

**Table 3:** Overview of the instruments applied for each regression

#### 4.6 Control Variables

Control variables that are known to have predictive power over a firm's cost of capital are included in the regressions in order to control for their predictive effects.

Also included in, for example *Ashbaugh et al, (2004)*, *Zhu, (2009)*, *Bozec & Bozec, (2010)* and *Chen et al, (2004)*, a size factor is defined as the log of total assets. The expectation is that size is negatively correlated to the cost of capital, due to the fact that larger firms are expected to be more diversified (*Bozec & Bozec, 2010*), more transparent, as well as having reduced bankruptcy risk (*Byun, 2007*). This should have a lowering effect of the overall risk profile.

Furthermore, beta is included to control for the systematic risk (*Ashbaugh et al, 2010*; *Byun, 2007*), and volatility to control for the idiosyncratic, firm-specific risk (*Zhu, 2009*; *Pham et al, 2012*). The anticipation for these variables is to have a positive effect on the cost of capital, as a riskier firm should have a higher capital cost, for both the debt- and equity portion.

A leverage variable (*Zhu, 2009*; *Bozec & Bozec, 2010*; *Pham et al, 2012*), defined as total debt over equity, is included for two reasons. Firstly, firms with higher leverage are likely to have higher cost of debt than other firms. Secondly, that fact will also imply a higher bankruptcy risk, meaning that equity-holders should require a higher rate of return on their capital. Hence, leverage is expected to have an increasing effect on the cost of capital.

Another variable included is ownership (*Zhu, 2009*), which is defined as the three largest shareholders of a company. Being the norm in many countries outside of the US, large shareholders hold a monitoring role of management and can possibly mitigate this form of agency issue.

Finally, market-to-book is a control variable commonly included in equivalent studies (*Pham et al, 2012*; *Bozec & Bozec, 2010*; *Ashbaugh et al, 2010*; *Zhu 2009*). The M/B is to proxy for growth prospects. As stated in *Bozec & Bozec, (2010)*, the relationship between M/B and the cost of capital is difficult to predict beforehand. High growth companies are partly anticipated to be riskier, increasing the cost of capital. On the other hand, they are expected to yield higher returns in the future, which is a decreasing effect on the capital cost. Empirically, the relationship is found to be decreasing (*Hail & Leuz, 2006*).

## 4.7 Regressions

In order to test the stated hypotheses, different panel data regressions are run. Each of the regressions is run with Panel Least Squares, as well as 2SLS. All tests are run with robust standard errors to capture possible heteroskedasticity problems that could occur in the regression. Firstly, a Hausman test is applied to test whether a fixed- or random-effects model should be applied. If the test statistic is rejected, the fixed-effects model fits the data better than the random effects model and is therefore to be preferred. The first regressions are panel least squares regression with robust standard errors on the dependent variables WACC, cost of equity and cost of debt. The independent variables in this case are the different sections of the Swedish code of corporate governance and the control variables discussed in 4.6, namely:

- Beta
- Debt-to-Equity ratio
- Market-to-Book ratio
- The shareholdings of the three largest shareholders
- Size, calculated as the logarithm of total assets
- 12-month volatility of the stock price

The base regressions are stated in the following way:

$$\begin{aligned} \mathbf{WACC}_{i,t} = & \alpha + \beta_1 \mathbf{CG2}_{i,t} + \beta_2 \mathbf{CG4}_{i,t} + \beta_3 \mathbf{CG7}_{i,t} + \beta_4 \mathbf{CG9}_{i,t} + \beta_5 \mathbf{BETA}_{i,t} + \beta_7 \mathbf{MB}_{i,t} + \beta_7 \mathbf{DE}_{i,t} \\ & + \beta_8 \mathbf{SH}_{i,t} + \beta_9 \mathbf{SIZE}_{i,t} + \beta_{10} \mathbf{VOLA}_{i,t} \end{aligned} \quad (4)$$

$$\begin{aligned} \mathbf{COE}_{i,t} = & \alpha + \beta_1 \mathbf{CG2}_{i,t} + \beta_2 \mathbf{CG4}_{i,t} + \beta_3 \mathbf{CG7}_{i,t} + \beta_4 \mathbf{CG9}_{i,t} + \beta_5 \mathbf{DE}_{i,t} + \beta_6 \mathbf{DE}_{i,t} + \beta_7 \mathbf{SH}_{i,t} \\ & + \beta_8 \mathbf{SIZE}_{i,t} + \beta_9 \mathbf{VOLA}_{i,t} \end{aligned} \quad (5)$$

$$\begin{aligned} \mathbf{COD}_{i,t} = & \alpha + \beta_1 \mathbf{CG2}_{i,t} + \beta_2 \mathbf{CG4}_{i,t} + \beta_3 \mathbf{CG7}_{i,t} + \beta_4 \mathbf{CG9}_{i,t} + \beta_5 \mathbf{BETA}_{i,t} + \beta_7 \mathbf{MB}_{i,t} + \beta_7 \mathbf{DE}_{i,t} \\ & + \beta_8 \mathbf{SH}_{i,t} + \beta_9 \mathbf{SIZE}_{i,t} + \beta_{10} \mathbf{VOLA}_{i,t} \end{aligned} \quad (6)$$

where

**WACC** = Weighted Average Cost of Capital

**COE** = Cost of Equity

**COD** = Cost of Debt

**CG2** = Compliance with section 2 of the Swedish code of Corporate Governance (Nomination Committee)

**CG4** = Compliance with section 4 of the Swedish code of Corporate Governance (Board Composition)

**CG7** = Compliance with section 7 of the Swedish code of Corporate Governance (Audit Committee)

**CG9** = Compliance with section 9 of the Swedish code of Corporate Governance (Remuneration Committee)

**BETA** = One-year beta of the share price of the company

**DE** = Debt-to-equity ratio of the company

**MB** = Market-to-book ratio of the company

**SH** = Sum of the ownership of the largest three shareholders of the company

**SIZE** = Logarithm of the total assets of the company

**VOLA** = One-year volatility of the share price of the company

The second and main regression is the two-stage least squares regression with instrumental variables introduced. The instrumental variables applied needs to be correlated with the corporate governance variables, but unrelated with the output, i.e. WACC, cost of equity and cost of debt. The correlation matrix provides a first indication into the validity of the instruments. Nevertheless, a reduced form regression is run to observe whether the instrument is explained by the corporate governance variables and the independent variables (cmpr. *Zheka, 2006*). The reduced form equations are stated below. Note that equation 7 is for instrumental variables for WACC, equation 8 for cost of equity and equation 9 for the cost of debt.

$$\begin{aligned} \mathbf{IV}_{\text{WACC},t} = & \alpha + \beta_1 \text{CG2}_{i,t} + \beta_2 \text{CG4}_{i,t} + \beta_3 \text{CG7}_{i,t} + \beta_4 \text{CG9}_{i,t} + \beta_5 \text{BETA}_{i,t} + \beta_6 \text{DE}_{i,t} + \beta_7 \text{MB}_{i,t} \\ & + \beta_9 \text{SIZE}_{i,t} + \beta_{10} \text{VOLA}_{i,t} + \beta_{11} \text{WACC}_{i,t} \end{aligned} \quad (7)$$

$$\begin{aligned} \mathbf{IV}_{\text{COE},t} = & \alpha + \beta_1 \text{CG2}_{i,t} + \beta_2 \text{CG4}_{i,t} + \beta_3 \text{CG7}_{i,t} + \beta_4 \text{CG9}_{i,t} + \beta_6 \text{DE}_{i,t} + \beta_7 \text{MB}_{i,t} + \beta_8 \text{SH}_{i,t} \\ & + \beta_9 \text{SIZE}_{i,t} + \beta_{10} \text{VOLA}_{i,t} + \beta_{11} \text{WACC}_{i,t} \end{aligned} \quad (8)$$

$$\begin{aligned} \mathbf{IV}_{\text{COD},t} = & \alpha + \beta_1 \text{CG2}_{i,t} + \beta_2 \text{CG4}_{i,t} + \beta_3 \text{CG7}_{i,t} + \beta_4 \text{CG9}_{i,t} + \beta_5 \text{BETA}_{i,t} + \beta_6 \text{DE}_{i,t} + \beta_7 \text{MB}_{i,t} \\ & + \beta_8 \text{SH}_{i,t} + \beta_9 \text{SIZE}_{i,t} + \beta_{10} \text{VOLA}_{i,t} + \beta_{11} \text{WACC}_{i,t} \end{aligned} \quad (9)$$

Similar to the panel least squares regression, adjustments for cross-sectional fixed effects are made, as well as White's robust standard errors are applied. Further, a J-test is applied to

measure the effectiveness of the introduced instruments. If the J-test is rejected, the instruments are sufficient and it gives more confidence regarding the model.

#### **4.8 Data Reliability**

In terms of reliability, it is important to point out that the data included in the thesis could be subject to database- and human error. The authors cannot guarantee the legitimacy of the data gathered from the databases Datastream and/or CapitalIQ. Also, as a large quantity of the data regarding the governance codes are collected manually, there is a risk of misinterpretation or an equivalent error. In addition to this, as discussed earlier, there is a risk of econometric issues, such as endogeneity etc.

## 5 Hypotheses Development

*This chapter describes the development of four different hypotheses regarding complying with corporate governance codes that will be tested in chapter 6.*

---

### 5.1 H<sub>0</sub>: Compliance with Corporate Governance Leads to a Lower Cost of Capital

The corporate governance framework in Sweden states that the aim of the code is to increase the overall confidence, as well as the supply of risk capital (*CG code, 2010*). Theoretically, the interpretation is that non-compliance should result in lower confidence and less supply of risk capital, portrayed as a higher cost of capital. As stated in the previous section, the majority of studies into the relationship between adherence to governance and the cost of capital have yielded a significant outcome. In fact, studies in a European setting are almost exhaustively found to have a significant impact. North American studies are, however, a bit more ambiguous. The Swedish context offers the *comply-or-explain* approach that *Bozec & Bozec (2010)* used to explain the strong significant relationship between governance and cost of capital in an emerging market setting. The argument was that this creates larger inter-firm variations. However, the Swedish judicial system is very strong, meaning that the governance system does not have to bridge a gap in the same extent as in countries with weak investor protection and a weak overall legal system. In general, the difference between a fully-compliant firm and non-compliant firm in Sweden is not as large as it would be for the equivalent firm in an emerging country, using an argument in line with *Bozec & Bozec (2010)* and *Zhu (2009)*. The risk-spread is therefore lower for the Swedish market. Nonetheless, in line with conclusions of previous studies, combined with the statements in the corporate governance framework, the expectation is to find a significant relationship between the governance variables and the overall cost of capital, as it should lower the risk profile of the firm.

### 5.2 H<sub>0</sub>: Compliance with Corporate Governance Leads to a Lower cost of Equity

Governance seeks to mitigate agency costs by lowering the possibilities for such behavior. By creating independent boards and committees that have a diminishing effect on individual expropriation, the cost of equity should be lower for firms with more independent committees and boards, i.e. governance. This is also the general finding of studies, e.g., *Shah & Butt (2009)*, *Ashbaugh et al (2004)* and *Chen et al (2004)*.

### **5.3 H<sub>0</sub>: Compliance with Corporate Governance Leads to a Lower Cost of Debt**

The same argument, as stated above, can be extended to the cost of debt. The risk that should be compensated through a risk premium is lowered by governance activities. Also, previous studies establish a significant negative relationship, e.g. *Blom & Schauten (2006)*, *Piot & Piera (2007)* and *Klock et al (2005)*. However, debt-holders have another method at their disposal, they can impose covenants to restrict management. Factors that are perceived to be too risky can be adjusted in a contract. Therefore, creditors could perhaps not depend as heavily on regulations and enforcement to protect their interest. The general expectation is still that governance activities should have a lowering effect on the cost of debt.

### **5.4 H<sub>0</sub>: The relative Gain of Governance is Higher for SMEs than Large-Cap Listed Companies**

As SME's face the same exhortations as larger corporations, but are significantly smaller in terms of revenue, market capitalization etc., the relative cost of compliance per every SEK revenue are higher for these companies. Simply put, the relative effort to comply could be viewed as greater for SME's rather than larger firms (*Nedelchev, 2013*). In addition to this, as SMEs are less transparent compared to larger companies, the expectation is to find a stronger negative significance between governance and the cost of capital for SMEs compared to larger-cap listed corporations.

## 6 Estimation Results and Analysis

*This chapter starts with the descriptive statistics of this thesis. Furthermore, it shows the results of the regressions and analyses the outcomes. It further gives explanations regarding those results. A summary of the significant results can be observed in Table 6.<sup>3</sup> The structure of this chapter is following the order used in chapter 5.*

### 6.1 Descriptive Statistics

The following table states the descriptive statistics for the variables included in the tests. As previously discussed, the overall observations are 1,190, which is divided in observations from 59 large-cap companies and 183 SMEs. For details, see Table 4 below:

	Observations	Mean	St. Dev.	Min	Max
<i>Output variable</i>					
WACC	1,190	5.3%	1.6%	1.0%	15.4%
Cost of Equity	1,190	3.0%	1.6%	0.0%	9.5%
Cost of Debt	989	5.3%	1.6%	1.0%	15.4%
<i>Input variables</i>					
2. Nomination Committee	1,190	0.29	0.46	0	1
4. Board Composition	1,190	0.05	0.22	0	1
7. Audit Committee	1,190	0.23	0.42	0	1
9. Remuneration Committee	1,190	0.12	0.32	0	1
<i>Control variables</i>					
Beta	1,190	0.66	0.36	0.00	2.11
Debt/Equity ratio	1,017	1.05	4.05	-20.11	78.89
Market-to-Book ratio	1,185	2.63	9.65	-86.41	285.75
Shareholder	1,190	0.51	1.08	0.06	37.06
Log (Total Assets)	1,178	7.89	8.68	4.42	9.81
Volatility	1,190	0.42	0.18	0.11	1.67

**Table 4:** Describing statistics for output, input and control variables

### 6.2 Results and Analysis of the Hypotheses

The overall results of the study can be found in the appendix from page 50 onwards. Further, the results of the J-test for over-identification can be found in Table 8. Table 6 shows a summary of the results and its statistical significance. Before running the regressions, tests for fixed- and random effects need to be applied. The Hausman test for correlated random effects is performed to test whether a fixed- or a random effects model is to be applied. As Table 5 shows the test-statistic is not rejected, which results in the fact that the fixed effects

<sup>3</sup> Statistically significant results in this chapter are shown in the following way:

- \*\*\* significant on a 1% level
- \*\* significant on a 5% level
- \* significant on a 10% level

model should be applied for all regressions regarding WACC and cost of equity, but a random effects model should be used for the cost of debt.

Regression	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
<b>WACC</b>			
Overall	32.2014	10	0.0004
SME	27.1003	10	0.0025
Large-Cap	27.0033	10	0.0026
<b>Cost of Equity</b>			
Overall	43.6665	9	0.0000
SME	26.4427	9	0.0017
Large-Cap	77.7011	9	0.0000
<b>Cost of Debt</b>			
Overall	12.7697	10	0.2368
SME	15.2974	10	0.1216
Large-Cap	84.0574	10	0.5893

**Table 5:** Hausman test for all companies on the defined independent variables

Furthermore, a correlation matrix is obtained to show the cross-correlations between the instrumental variable, the control variables and the specific independent variable (s. Table 9 through Table 17). To further test the instruments, a reduced regression is run (s. equations 4 through 6), which can be observed on the Table 18 through Table 26.

Panel Least Squares										
	CG variables				Control variables					
	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	Beta	D/E	M/B	Shareholder	Size	Volatility
<b>WACC</b>										
Overall	Yes*	Yes*			Yes***	Yes**	Yes***			Yes**
SME		Yes**			Yes***	Yes**	Yes***			Yes**
Large-Cap					Yes***				Yes*	Yes***
<b>Cost of Equity</b>										
Overall	Yes*			Yes**	n.a.	Yes*		Yes***	Yes*	Yes***
SME				Yes***	n.a.	Yes**	Yes**	Yes***		Yes***
Large-Cap		Yes***			n.a.	Yes***	Yes***	Yes***	Yes**	Yes***
<b>Cost of Debt</b>										
Overall						Yes*				
SME						Yes**				
Large-Cap										

Two-Stage Least-Squares										
	CG variables				Control variables					
	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	Beta	D/E	M/B	Shareholder	Size	Volatility
<b>WACC</b>										
Overall	Yes**	Yes**			Yes***	Yes**	Yes**			Yes**
SME		Yes*			Yes***	Yes**	Yes***			Yes**
Large-Cap					Yes***				Yes*	Yes***
<b>Cost of Equity</b>										
Overall	Yes**			Yes***	n.a.	Yes*		Yes***	Yes*	Yes***
SME	Yes*			Yes***	n.a.	Yes**	Yes**	Yes***		Yes***
Large-Cap		Yes*			n.a.	Yes***	Yes***	Yes***	Yes**	Yes***
<b>Cost of Debt</b>										
Overall						Yes***	Yes**		Yes***	Yes*
SME						Yes***	Yes*		Yes***	Yes*
Large-Cap										

**Table 6:** Summary of the results; for details s. Table 27 – Table 32

### 6.2.1 Compliance with Corporate Governance Leads to a Lower Cost of Capital

The first hypothesis to be tested is that corporate governance, or certain parts of the code, has a significant impact on the cost of capital of a firm. Using a basic OLS-regression, utilizing cross-sectional fixed effects and robust standard errors, gives a first indication on the result. It can be shown that the nomination committee (CG section 2) and the board composition (CG section 4) have a significant impact on the cost of capital on a 10% level (p-value = 0.0549\* and p-value = 0.0681\*). The audit committee and the remuneration committee (section 7 and 9) do not have a significant impact on the cost of capital. Also, the coefficients are positive, showing that non-violations of those two sections lead to a lower cost of capital. For a summary, see Table 27. Consequently, the other way around is also true. The control variables included yield different results, as beta, leverage, market-to-book and volatility exhibit significant impact. All variables except leverage have a positive effect, which is expected as increasing leverage should have an increasing effect on the cost of capital. Size and ownership structure are insignificant in the tests.

Using 2SLS with instrumental variables presents results that confirm the outcomes from the OLS regression. The instrumental variables applied are defined in Table 7 and the correlation matrix of the instruments, the control variables and the dependent variable are shown in Table 9. The nomination committee, as well as the board composition, have significant impact on cost of capital on a 5% level (p-value = 0.0105\*\* and p-value = 0.0369\*\*). As in the OLS, the coefficients are positive, showing that applying those two codes has a negative effect on the cost of capital. Further, compliance with the codes for the audit committee and the remuneration committee does not have a significant impact on cost of capital (s. Table 30). As for the control variables, the results are the same as in the tests for panel least squares.

The following hypothesis can therefore not be rejected:

*H<sub>0</sub>: Compliance with corporate governance leads to a lower cost of capital*

The regression results points to the overall fact that the nomination committee- and board composition are the variables of interest when viewing the effects on the weighted average of the cost of capital. This is a bit contradictory to what *Lama (2012)* and *Palmberg (2012)* state, namely that the majority of studies fail to find a significant relationship between firm performance and board composition. Furthermore, it can be stated that these factors are most successful in decreasing the risk profile of the firm. As Swedish companies often have large, controlling owners, it is not surprising that the governance variables do not have as

significant of an overall impact as in for example *Bozec & Bozec (2010)* and *Pham et al (2012)*. *Palmberg (2012)* indicated that governance mechanisms have less effect in such in a concentrated ownership context. This could be due to the fact that these majority owners have substantial control and insight into the corporation, and therefore do not value the governance variables as high as in a market with dispersed ownership. Also, the Swedish legal system offers considerable protection by default, leaving less of a judicial gap for governance to close. It could be claimed, however, that such an argument is hard to make comparing with for example North American studies, as those markets also have good legal regulation. Instead, it could be more applicable to markets with weaker legal systems, e.g. emerging markets. Also, the structure, or the overall rules of the code, could play a substantial role. The *comply-or-explain* method leaves the decision-making up to the company. This means that non-compliance of the code actually could be the most appropriate direction for the company in question. From a stewardship theory perspective, the market could trust and be content with the managerial abilities to utilize the resources in the most effective way. Perhaps concentrating on other ventures is viewed by the market as more risk-lowering than focusing on governance activities.

Nevertheless, it is still a bit surprising that audit committee existence and independence do not yield significant results. As disclosed in *Coffee (2005)*, ensuring audit committee independence can be even harder in a market with concentrated ownership, as the majority owner have the ability to influence the independence in a larger extent than in a market with a dispersed ownership structure. Therefore, if a company manages to overcome this obstacle, the result should be apparent. Also, as *Amir et al (2010)* claim, the audit independence tends to influence the quality of information produced and communicated, positively. Therefore, an independent audit function should correspond to a lower cost of capital.

### **6.2.2 Compliance with Corporate Governance Leads to a Lower Cost of Equity**

The second hypothesis is that corporate governance has a significant lowering effect on the cost of equity of a firm. In this case, beta is not applied as one of the control variables, as this is correlated to the cost of equity when applying CAPM. Again, a basic OLS-regression using cross-sectional fixed effects and robust standard errors are applied. Interestingly, significant results can be obtained for the sections 2 and 9 (p-value = 0.0700\* and p-value = 0.0000\*\*\*), which is different from the observations for the overall cost of capital in the previous section. For the sections 4 and 7 of the Swedish corporate governance code, no significant results

could be obtained (p-value = 0.6258 and p-value = 0.1787). The coefficients and the significance can be observed in Table 28. Of the control variables, only market-to-book is insignificant. The others are significant on 10- and 5% levels, with only leverage having an increasing effect on the cost of equity.

In a 2SLS setting, applying instrumental variables, using cross-sectional fixed effects and robust standard errors, the results are even more significant for section 2 of the corporate governance code (p-value = 0.0258\*\*), which is significant on a 5% level, while section 9 remains at a p-value of 0.0000\*\*\*. Furthermore, the sections 4 and 7 of the code have shown no impact on the cost of equity and could therefore be less important when trying to lower the cost of capital (s. Table 31). The control variables show similar results as for the panel least squares.

The following hypothesis can therefore also not be rejected:

*H<sub>0</sub>: Compliance with the corporate governance code leads to lower cost of equity*

The interpretation of the finding is that equity holders value nomination- and remuneration committee independence the highest, and has a lower required return on their equity as these committees exist and exhibit independence. The fact that the results indicated some significant relationship between governance and the cost of equity is in line with *Ashbaugh (2004)*, *Chen et al (2004)*, *Guangming et al (2011)* and *Zhu (2009)*. Coherent with the findings of *Shah & Butt (2009)*, audit committee- and board composition does not play a substantial role in setting the return requirement for owners. Perhaps there is not a concern of agency problems arising attributable to the composition of these functions. It could be that the average beliefs are in line with stewardship theory and contradictory to agency theory that the board does not try to expropriate from the shareholders.

### **6.2.3 Compliance with Corporate Governance Leads to a Lower Cost of Debt**

As stated in chapter 5.3, the premonition is that compliance with corporate governance has a significant lowering effect on the cost of debt. Applying OLS-regression on the cost of debt using cross-sectional fixed effects and robust standard errors, shows, once again, a first indication of which variables might drive the cost of debt (s. Table 29). It is shown that none of the corporate governance codes are significant. Further, only the debt-to-equity ratio is significant (p-value = 0.0605\*), even though only on a 10% level.

In a 2SLS setup with instrumental variables, the regression yields the same result and no variables but debt/equity is significant (p-value = 0.0608\*). This is coherent with the hypothesis that debt holders can control certain risks in contract covenants. Therefore, they do not rely as much on regulation and enforcement as owners. The results can be obtained in. Further, the J-test for over-identifying variables (J-test = 0.3159) is rejected, which gives more confidence in the instrumental variables applied. In contrast to the finding of the least squares estimation, all control variables except beta and ownership structure are significant. Size and leverage have an increasing effect on the cost of debt.

This leads to the rejection of the following hypothesis:

*H<sub>0</sub>: Compliance with corporate governance leads to lower cost of debt*

In contrast to the findings of *Blom & Schauten (2006)*, *Piot & Piera (2007)* and *Klock et al (2005)*, none of the governance variables yielded explanatory power of the cost of debt. A possible explanation could be that debt holders can restrict the risk through covenants. They can individually specify the conditions given and thereby control the possible agency problems instead of relying on governance to safeguard from expropriation. Surprisingly, size leads to a higher cost of debt, which is quite counterintuitive.

#### **6.2.4 The Relative Gain of Governance is Higher for SMEs than Large-Cap Listed Companies**

The final hypothesis to be tested is whether the relative gain for complying with corporate governance is higher for SMEs than for companies that are defined as large-cap companies. It is further tested if the effect differs for WACC, cost of equity and cost of debt. The results are summarized in Table 27 through Table 32. Firstly, a base regression for both sets of companies is run on WACC. It is shown, for SMEs, that the section 4 of the corporate governance code is significant (p-value = 0.0480\*\*) with a positive coefficient. Thus, this section has a lowering effect on the cost of capital. For the large-cap companies, no significance for any parts of corporate governance can be observed.

In a 2SLS setup, the results for SMEs appear to be even less significant, as the section 2 are significant only on 10% level (p-value = 0.0912). On the flip side, no significance can be observed for large-cap firms in any of the sections. The J-statistics are both rejected (= 0.8647 and = 0.5327), which shows that the applied instruments are proper. It can therefore be summarized that complying with corporate governance has a more significant

impact on the cost of capital for SMEs than for large-cap firms, even though it is a slim margin.

In a next step, the difference between SMEs and large-cap firms is tested regarding the cost of equity. Once again, the beta is taken out of the control variables in order to overcome the multicollinearity problem that arises when applying CAPM. The basic panel least squares regression shows that only section 9 of the corporate governance code has as a significant impact on the cost of equity for SMEs (p-value = 0.0006\*\*\*). For the blue chip companies, only section 4 is slightly significant (p-value = 0.0831\*) on a 10% level. Applying 2SLS with instrumental variables shows that also section 2 of the corporate governance code has an impact on the cost of equity for SMEs (p-value = 0.0784\*). Moreover, as with the panel least squares estimation, section 9 is also significant (p-value = 0.0003\*\*\*). For the large-cap companies, only section 4 is slightly significant (p-value = 0.0831\*), while complying with other parts of the code does not lead to a significant improvement in the cost of equity. Again, the instruments applied for the regression are proper with J-statistics of 0.4974 for SMEs and 0.4143 for large-cap companies. It can therefore be summarized that complying with the code of corporate governance is more beneficial for SMEs than for large-cap companies with regards to the cost of equity. Nevertheless, the margin is relatively slim.

Lastly, the difference between SMEs and large-cap companies is tested regarding its effect on the cost of debt. Once again, a basic panel least squares regression is run, which shows for both, SMEs and large-cap companies no significant impact of any corporate governance variables. Using 2SLS including instrumental variables complies with that result and the fact that good corporate governance does not lead to any impact on the cost of debt, regardless of the size of the company. Also, the regression passes the J-test (= 0.1932 for SMEs and = 0.6237 for large-cap), which gives confidence that the instruments applied are proper. It can therefore be summarized that complying with corporate governance codes, regardless of the size of the company, does not have any significant effect on the cost of debt.

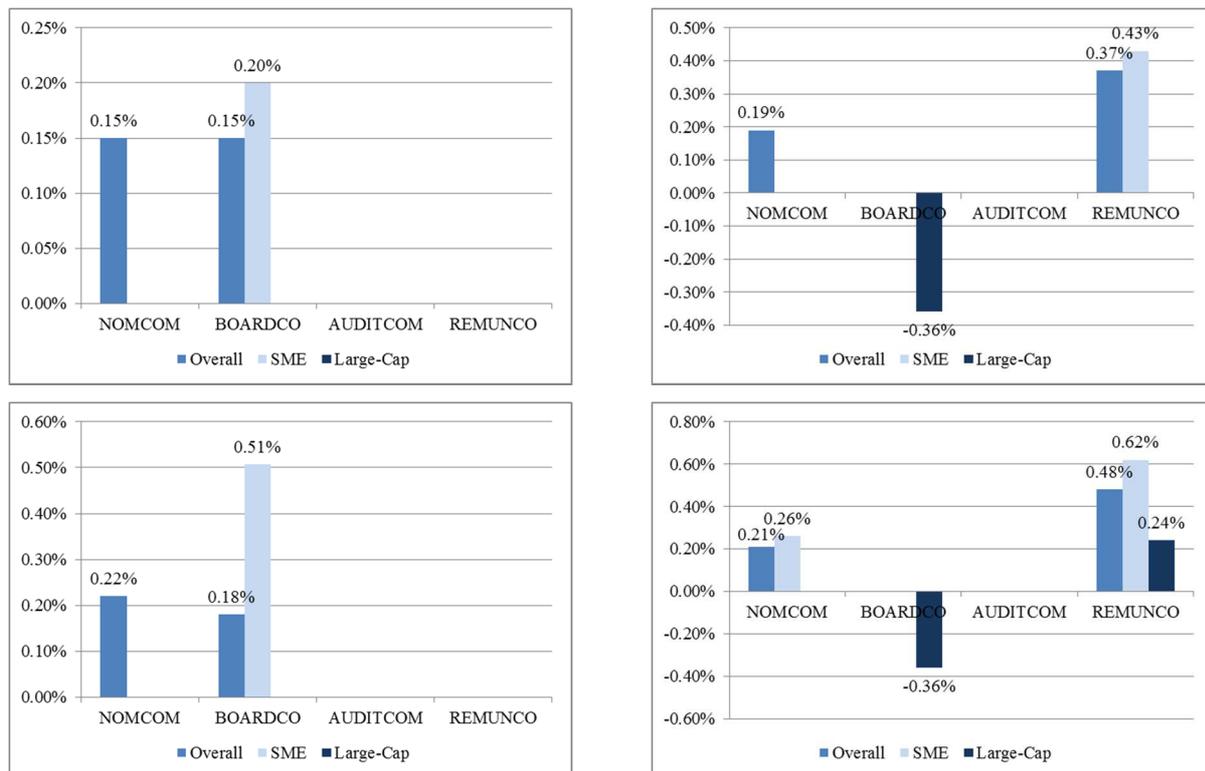
Overall the hypothesis cannot be rejected:

*H<sub>0</sub>: The relative gain of governance is higher for SMEs than large-cap listed companies*

Analyzing the difference in findings between SMEs and large-cap companies, one explanation could be that the difference in information available between the two groups of companies. The information flow is quite larger for listed large-cap companies, as well as the overall transparency. The knowledge regarding SMEs is much more limited. As such, the

market seems to value adherence to governance more for the smaller companies, although the difference is quite small.

Finally, the following graphs depict how the governance variables affect the respective capital cost when there is a change in the governance strategy, from compliance to non-compliance. Evidently, the largest effect is for SMEs in relation to WACC, with a change of roughly 0.51% on average when the company goes from compliance to non-compliance for board composition. Remarkably, for the large-cap listed companies, the average finding is that the cost of equity goes up with 0.36% when going from compliance to non-compliance for board composition. This finding is clearly not coherent with theory, as compliance should not have any negative implications for the companies. Again, the notion of board independence may not be seen as value creating by the market. Perhaps it could be that the market does not concur with the formal independence, an argument in line with *Bednar (2012)*. However, assigning a penalty in the form of higher cost of equity is still a rather strange reaction to adherence of the code.



**Figure 1 and Figure 2 (top row):** Change of WACC (left) and cost of equity (right) when complying with corporate governance using panel least squares

**Figure 3 and Figure 4 (bottom row):** Change of WACC (left) and cost of equity (right) when complying with corporate governance using 2SLS

## 7 Conclusion

*The final chapter of this thesis summarizes the findings in the analysis and concludes the results. It further shows fields where future research should be conducted in the future.*

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The overall aim of the corporate governance code in Sweden is to increase confidence and ensure the flow of risk capital. The interpretation in this study have been that if a company chooses to not comply, the overall confidence and flow of risk capital should be lower, and consequently have a higher cost of capital. This study finds results both in line and inconsistent with previous studies performed in the field. The weighted average cost of capital is a decreasing function of adherence to the principles regarding nomination committee and board composition, for the overall population. Complying with the principles regarding audit- and remuneration committees does not equal a lower cost of capital for the same firms. Interestingly, governance has no significant relationship with the cost of debt, however with the cost of equity. Dividing the population into groups containing SMEs and large-cap listed companies, it is evident that compliance to governance lowers the cost of capital for SMEs in a marginally larger extent than for large-cap listed peers. As SMEs are less transparent, investors and creditors value governance activities more than for the larger corporations. This circumstance seems only fair as the relative effort of complying can be viewed as higher for smaller companies compared to the larger ones. The conclusion is therefore that there are financial advantages associated with two of the four investigated governance variables for the population as a whole. These advantages are specifically strongest for SMEs. Overall, the governance circumstance of *comply-or-explain* could play a role how stakeholders value governance. As companies can handle the activities at their own discretion, their decision to not comply with a certain section of the code could be viewed by the market as the most appropriate for the firm. Furthermore, it is important to point out the data issues that potentially could bias the results. For example, one such issue is reverse causality. It is difficult to establish the link of causality, that is, if enhanced governance activities lead to a lower cost of capital or if a lower cost of capital leads to enhanced governance activities.

The findings of this study contribute to the literature of corporate governance. For practitioners, it could be interesting to find out how the market views certain activities and how a governance strategy should be formulated, in order to reap the most benefits.

## **7.1 Recommendations for Further Research**

Further research could look deeper into the cost efforts of governance. By qualitatively investigating the financial efforts of introducing certain governance functions, a further comparison could be made of the pay-offs for adhering to governance. More specifically, companies might hesitate to implement certain parts of corporate governance as the costs might exceed the benefits, in their view. The costs could include additional remuneration to board members, travel costs etc. Combining the research with this thesis can provide company leaders with valuable support in the decision-making of whether to implement certain parts of the code of corporate governance.

In addition, research should also turn to enforcement of the code. Yes, the code is flexible in nature in terms of compliance. However, when a company chooses not to comply, a clear explanation is to be disclosed. This is not found in all cases.

## References

### Publications

- Aguilera, R.V. (2005) "Corporate Governance & Director Accountability: an Institutional Comparative Perspective" *British Journal of Management* Vol. 16 pp. 39-53.
- Amir, E., Guan, Y., Livne, G. (2010) "Auditor Independence and the Cost of Capital Before and After Sarbanes-Oxley: The Case of Newly Issued Public Debt" *European Accounting Review* 19:4, pp. 633-664.
- Ashbaugh, H., Collins, D., LaFond, R. (2004) "Corporate Governance and the Cost of Equity Capital" Working Paper.
- Babatunde, M.A & Olaniran, O. (2009) "The Effects of External and Internal Mechanisms on Governance and Performance of Corporate Firms in Nigeria" *Corporate Ownership and Control* Vol. 7. No. 2 pp. 330-345.
- Bednar, M.K (2012) "Watchdog or Lapdog? A Behavioral View of the Media as a Corporate Governance Mechanism" *Academy of Management Journal* Vol. 55 No. 1 pp. 131-150.
- Bozec, R & Bozec, Y. (2010) "Corporate Governance Quality and the Cost of Capital" Working paper.
- Blom, S.B & Schauten, M.B.J. (2008) "Corporate Governance and the Cost of Debt" *New Development in Financial Modeling*, Cambridge Scholars Publishing pp. 116-145.
- Bradley, M & Chen, D. (2010) "Corporate Governance and the Cost of Debt: Evidence from Director Limited Liability and Indemnification Provisions" *Journal of Corporate Finance* V. 17 pp. 83-107.
- Byun, H,Y. (2007) "The Cost of Debt Capital and Corporate Governance Practices" *Asia-Pacific Journal of Financial Studies* V.36 No. 5. pp. 765-80.
- Chen, K., Hongqi, Y. (2004), "Earnings Management and Capital Resource Allocation: Evidence from China's Accounting-Based Regulation of Rights Issues," *Accounting Review*, Vol. 79 pp. 645-665.
- Coase, R.H (1937) "The Nature of the Firm" *Economica* Vol. 4 No. 16 pp. 386-405.
- Clifford, P.W & Evans, R.T. (1996) "The State of Corporate Governance Practices in Australia" *Corporate Governance: An International Review* Vol. 4. No. 2 pp. 60-70.
- Coffee, J. (2005) "A Theory of Corporate Scandals: Why the USA and Europe Differ" *Oxford Review of Economic Policy* Vol. 21 No. 2.
- Fama, E & French, K, (2007) "Migration" *Financial Analysts Journal* Vol. 63 No. 3 pp. 48-58.

Fama, E & French, K (1993) “Common Risk Factors in the Returns of Stocks and Bonds” *Journal of Financial Economics* Vol. 33 pp. 3-56.

Francis, J., LaFond., Olsson, P., Schipper, K. (2005) “The Market Pricing of Accruals Quality” *Journal of Accounting and Economics* No. 39.

Gaunming G., Menghua, Z., Xun, G. (2011) ”Corporate Governance and Cost of Equity Capital” *Business Management and Electronic Information* Vol. 2 pp. 221-225.

Hansen, L.P (1982) “Large Sample Properties of Generalized Method of Moments Estimators” *Econometrica* Vol. 50 pp. 1029-1054.

Hail, L & Leuz, C. (2006) “International Differences in the Cost of Equity Capital: Do Legal Institutions and Securities Regulations Matter?” *Journal of Accounting Research* Vol. 4 No. 3 pp. 485-531.

Jäckel, C & Muhlhäuser, K. (2011) “The Equity Risk Premium Across European Markets: An Analysis Using the Implied Cost of Capital” Working Paper.

Klock, M., Mansi, S., Maxwell, W. (2005) ”Does Corporate Governance Matter to Bondholders?” Available at SSRN: <http://ssrn.com/abstract=527663> or <http://dx.doi.org/10.2139/ssrn.527663>.

Lama, T.B. (2005) “Empirical Evidence on the Link Between Compliance with Governance of Best Practice and Firms Operating Results” *Australasian Accounting Business and Finance Journal* Vol. 6 No. 5.

Li, E. (2010) “Does Corporate Governance Affect the Cost of Equity Capital?” Working Paper.

Lintner, J (1965) “The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets” *Review of Economics and Statistics* pp. 13-37.

Love, I. (2011) “Corporate Governance and Performance around the World: What We Know and What We Don’t” *Oxford University Press* 26 pp. 42-70.

Miles, J.A & Ezzell, J.R (1980) “The Weighted Average Cost of Capital, Perfect Capital Markets and Project Life: A Clarification” *Journal of Finance and Quantitative Analysis* Vol. 15. No. 3 pp. 719-730.

Nedelchev, M. (2013) “Good Practices in Corporate Governance: One-size-fits-all vs. Comply-or-explain” *International Journal of Business Administration* Vol. 4 No. 6 pp. 75-81.

Pham P,K., Suchard, J,O., Zein, J. (2012) “Corporate Governance, Cost of Capital and Performance: Evidence from Australian Firms” *Journal of Applied Corporate Finance*, Vol. 24, Issue 3, pp. 84-93, 2012.

Palmberg, J. (2012) “The Performance Effect of Corporate Board of Directors” *European Journal of Law and Economics*.

Piot, C & Piera-Missioner, F. (2007) "Corporate Governance, Audit Quality, and the Cost of Debt Financing of French Listed Companies".

Shah, S.Z.A & Butt, S.A (2009) "The Impact of Corporate Governance on the Cost of Equity: Empirical Evidence from Pakistani Listed Companies" *The Lahore Journal of Economics* Vol. 14 No. 1 pp. 139-171.

Sharpe, W.F (1964) "Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk" *Journal of Finance* pp. 425-442.

Soh, T.M. (2011) "Corporate Governance and the Cost of Capital" *International Journal of Governance* V. 1 No. 1.

Sörenson, T. (2011) "The Equity Risk Premium on the Swedish Stock Market" Working Paper.

Tengblad, S. (2004) "Expectations of Alignment: Examining the Link Between Financial Markets and Managerial Work" *European Group of Organizational studies* 25:583.

Swedish Corporate Governance Board (2010) "The Swedish Corporate Governance Code".

Treynor, J.L (1962) "Toward a Theory of Market Value of Risky Assets" Unpublished Manuscript.

Williamson, O.E (2007) "Transaction Cost Economics: An Introduction" Discussion Paper.

Wintoki, M.B., Linck, S.L., Netter, J.M (2009) "Endogeneity and the Dynamics of Corporate Governance" *Centre for Economic Policy Research*.

Zheka, V. (2006) "Does Corporate Governance Predict Firms' Performance? The Case of Ukraine" Available at SSRN: <http://ssrn.com/abstract=877913>.

Zhu, F. (2012) "Differential Effects of Corporate Governance on the Cost of Equity and Debt Capital: An International Study" Available at SSRN: <http://ssrn.com/abstract=2160150> or <http://dx.doi.org/10.2139/ssrn.2160150>.

## **Books**

Brooks, C (2008) "Introductory Econometrics For Finance" Second Edition, *Cambridge University Press*.

Tricker, B (2012) "Corporate Governance – Principle, Policies and Practices" Second edition, *Oxford University Press*.

Saunders, M (2009) "Research Methods for Business Students" Fifth Edition, *Pearson Education*.

## **Databases and Websites**

CapitalIQ.

Datastream.

Yahoo! Finance “EUR/SEK Exchange Rate”, <http://finance.yahoo.com/q?s=EURSEK=X>, accessed on 25<sup>th</sup> May 2014.

## Appendix A: Miscellaneous

	Instrument 1	Instrument 2	Instrument 3	Instrument 4	Instrument 5
<b>WACC</b>					
Overall	CGI	Ind. 2 * Ind. 7 * Ind. 9	Index 2 + Index 4	Index 4 + Index 7	Index 4 + Index 9
SME	CGI	Ind. 2 * Ind. 4 * Ind. 9	Index 2 + Index 4	Index 2 + Index 7	Index 2 + Index 9
Large-Cap	CGI	Ind. 2 + Ind. 4 + Ind. 9	Ind. 2 * Ind. 7 * Ind. 9	Index 4 + Index 7	Index 4 + Index 9
<b>Cost of Equity</b>					
Overall	CGI	Ind. 2 * Ind. 7 * Ind. 9	Index 2 + Index 4	Index 2 + Index 7	Index 2 + Index 9
SME	CGI	Ind. 2 * Ind. 7 * Ind. 9	Index 2 + Index 4	Index 2 + Index 7	Index 2 + Index 9
Large-Cap	CGI	Ind. 2 + Ind. 4 + Ind. 9	Ind. 2 * Ind. 7 * Ind. 9	Index 4 + Index 7	Index 7 + Index 9
<b>Cost of Debt</b>					
Overall	CGI	Ind. 2 * Ind. 7 * Ind. 9	Index 2 + Index 4	Index 4 + Index 7	Index 4 + Index 9
SME	CGI	Ind. 2 * Ind. 7 * Ind. 9	Index 2 + Index 4	Index 2 + Index 9	Index 4 + Index 9
Large-Cap	CGI	Ind. 2 + Ind. 4 + Ind. 7	Ind. 2 * Ind. 7 * Ind. 9	Index 4 + Index 9	Index 7 + Index 9

**Table 7:** Overview of the instruments applied in the 2SLS regressions

	J-test
<b>WACC</b>	
Overall	0.9853
SME	0.2408
Large-Cap	0.5327
<b>Cost of Equity</b>	
Overall	0.7989
SME	0.4974
Large-Cap	0.4143
<b>Cost of Debt</b>	
Overall	0.5910
SME	0.7863
Large-Cap	0.5960

**Table 8:** J-test for over-identification on the regressions using 2SLS

## Appendix B: Correlation Matrices

	WACC	NOMCOM	BOARDCO	AUDITCO M	REMUNCO	CGI	Index 2 + Index 4	Ind. 2 * Ind. 7 * Ind. 9	Index 4 + Index 7	Index 4 + Index 9
WACC	1.0000									
<i>p-value</i>	---									
NOMCOM	0.0148	1.0000								
<i>p-value</i>	0.6094	---								
BOARDCO	-0.0512	0.0118	1.0000							
<i>p-value</i>	0.0775	0.6833	---							
AUDITCOM	<b>-0.0906</b>	-0.0491	-0.0088	1.0000						
<i>p-value</i>	0.0018	0.0906	0.7622	---						
REMUNCO	-0.0324	<b>0.0703</b>	<b>0.1075</b>	<b>0.0845</b>	1.0000					
<i>p-value</i>	0.2644	0.0153	0.0002	0.0035	---					
CGI	<b>-0.0613</b>	<b>0.6172</b>	<b>0.2956</b>	<b>0.5507</b>	<b>0.4568</b>	1.0000				
<i>p-value</i>	0.0346	0.0000	0.0000	0.0000	0.0000	---				
Ind. 2 * Ind. 7 * Ind. 9	-0.0040	<b>0.1771</b>	0.0097	<b>0.2071</b>	<b>0.3137</b>	<b>0.4092</b>	1.0000			
<i>p-value</i>	0.8895	0.0000	0.7390	0.0000	0.0000	0.0000	---			
Index 2 + Index 4	-0.0171	<b>0.8704</b>	<b>0.3722</b>	-0.0112	<b>0.1121</b>	<b>0.7416</b>	<b>0.2360</b>	1.0000		
<i>p-value</i>	0.5567	0.0000	0.0000	0.6987	0.0001	0.0000	0.0000	---		
Index 4 + Index 7	<b>-0.0984</b>	-0.0336	<b>0.4242</b>	<b>0.8705</b>	<b>0.1439</b>	<b>0.6520</b>	<b>0.2462</b>	<b>0.1531</b>	1.0000	
<i>p-value</i>	0.0007	0.2466	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	
Index 4 + Index 9	-0.0348	0.0560	<b>0.6622</b>	0.0432	<b>0.7848</b>	<b>0.5132</b>	<b>0.2164</b>	<b>0.2953</b>	<b>0.3398</b>	1.0000
<i>p-value</i>	0.2306	0.0533	0.0000	0.1363	0.0000	0.0000	0.0000	0.0000	0.0000	---

**Table 9:** Correlation Matrix for WACC for all companies observed; statistically significant coefficients (5% or better) are shown in bold numbers

	COE	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	CGI	Index 2 + Index 4	Ind. 2 * Ind. 7 * Ind. 9	Index 4 + Index 7	Index 2 + Index 7
COE	1.0000									
<i>p-value</i>	---									
NOMCOM	<b>-0.0779</b>	1.0000								
<i>p-value</i>	0.0072	---								
BOARDCO	<b>-0.1065</b>	0.0118	1.0000							
<i>p-value</i>	0.0002	0.6833	---							
AUDITCOM	<b>-0.1867</b>	-0.0491	-0.0088	1.0000						
<i>p-value</i>	0.0000	0.0906	0.7622	---						
REMUNCO	0.0355	<b>0.0703</b>	<b>0.1075</b>	<b>0.0845</b>	1.0000					
<i>p-value</i>	0.2215	0.0153	0.0002	0.0035	---					
CGI	<b>-0.1734</b>	<b>0.6172</b>	<b>0.2956</b>	<b>0.5507</b>	<b>0.4568</b>	1.0000				
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.0000	---				
Ind. 2 * Ind. 7 * Ind. 9	0.0085	<b>0.1771</b>	0.0097	<b>0.2071</b>	<b>0.3137</b>	<b>0.4092</b>	1.0000			
<i>p-value</i>	0.7683	0.0000	0.7390	0.0000	0.0000	0.0000	---			
Index 2 + Index 4	<b>-0.1287</b>	<b>0.8704</b>	<b>0.3722</b>	-0.0112	<b>0.1121</b>	<b>0.7416</b>	<b>0.2360</b>	1.0000		
<i>p-value</i>	0.0000	0.0000	0.0000	0.6987	0.0001	0.0000	0.0000	---		
Index 2 + Index 7	<b>-0.1923</b>	<b>0.6879</b>	0.0056	<b>0.6173</b>	<b>0.1303</b>	<b>0.8992</b>	<b>0.3648</b>	<b>0.7104</b>	1.0000	
<i>p-value</i>	0.0000	0.0000	0.8465	0.0000	0.0000	0.0000	0.0000	0.0000	---	
Index 4 + Index 7	<b>-0.2108</b>	-0.0336	<b>0.4242</b>	<b>0.8705</b>	<b>0.1439</b>	<b>0.6520</b>	<b>0.2462</b>	<b>0.1531</b>	<b>0.5837</b>	1.0000
<i>p-value</i>	0.0000	0.2466	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---

**Table 10:** Correlation Matrix for cost of equity for all companies observed; statistically significant coefficients (5% or better) are shown in bold numbers

	COD	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	CGI	Index 2 + Index 4	Ind. 2 * Ind 7 * Ind.9	Index 4 + Index 7	Index 4 + Index 9
<b>COD</b>	1.0000									
<i>p-value</i>	---									
NOMCOM	0.0509	1.0000								
<i>p-value</i>	0.1095	---								
BOARDCO	0.0107	0.0149	1.0000							
<i>p-value</i>	0.7369	0.6390	---							
AUDITCOM	<b>0.0784</b>	-0.0328	0.0005	1.0000						
<i>p-value</i>	0.0136	0.3029	0.9867	---						
REMUNCO	-0.0572	0.0607	<b>0.1214</b>	<b>0.0870</b>	1.0000					
<i>p-value</i>	0.0721	0.0565	0.0001	0.0062	---					
CGI	<b>0.0652</b>	<b>0.6232</b>	<b>0.3153</b>	<b>0.5622</b>	<b>0.4567</b>	1.0000				
<i>p-value</i>	0.0404	0.0000	0.0000	0.0000	0.0000	---				
Ind. 2 * Ind 7 * Ind.9	-0.0035	<b>0.1900</b>	0.0097	<b>0.2262</b>	<b>0.3332</b>	<b>0.4409</b>	1.0000			
<i>p-value</i>	0.9136	0.0000	0.7614	0.0000	0.0000	0.0000	---			
Index 2 + Index 4	0.0545	<b>0.8730</b>	<b>0.3892</b>	0.0166	<b>0.1206</b>	<b>0.7555</b>	<b>0.2580</b>	1.0000		
<i>p-value</i>	0.0868	0.0000	0.0000	0.6012	0.0001	0.0000	0.0000	---		
Index 4 + Index 7	<b>0.0723</b>	-0.0131	<b>0.4472</b>	<b>0.8645</b>	<b>0.1552</b>	<b>0.6707</b>	<b>0.2683</b>	<b>0.1939</b>	1.0000	
<i>p-value</i>	0.0230	0.6813	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	
Index 4 + Index 9	-0.0265	0.0577	<b>0.6919</b>	0.0539	<b>0.7856</b>	<b>0.5225</b>	<b>0.2320</b>	<b>0.3242</b>	<b>0.3733</b>	1.0000
<i>p-value</i>	0.4047	0.0695	0.0000	0.0899	0.0000	0.0000	0.0000	0.0000	0.0000	---

**Table 11:** Correlation Matrix for cost of debt for all companies observed; statistically significant coefficients (5% or better) are shown in bold numbers

	WACC	NOMCOM	BOARDCO	AUDITCO M	REMUNCO	CGI	Index 2 + Index 4	Ind. 2 * Ind. 4 * Ind. 7	Index 2 + Index 9	Index 4 + Index 7
<b>WACC</b>	1.0000									
<i>p-value</i>	---									
NOMCOM	-0.0543	1.0000								
<i>p-value</i>	0.1109	---								
BOARDCO	-0.0506	0.0557	1.0000							
<i>p-value</i>	0.1377	0.1025	---							
AUDITCOM	-0.0240	-0.0179	<b>-0.0677</b>	1.0000						
<i>p-value</i>	0.4823	0.6004	0.0469	---						
REMUNCO	-0.0589	0.0595	<b>0.0870</b>	<b>0.0861</b>	1.0000					
<i>p-value</i>	0.0842	0.0809	0.0106	0.0115	---					
CGI	-0.0624	<b>0.6315</b>	<b>0.2871</b>	<b>0.5547</b>	<b>0.4240</b>	1.0000				
<i>p-value</i>	0.0670	0.0000	0.0000	0.0000	0.0000	---				
Ind. 2 * Ind. 4 * Ind. 9	0.0126	<b>0.1469</b>	<b>0.3781</b>	-0.0089	<b>0.2607</b>	<b>0.2620</b>	1.0000			
<i>p-value</i>	0.7125	0.0000	0.0000	0.7942	0.0000	0.0000	---			
Index 2 + Index 4	-0.0588	<b>0.8666</b>	<b>0.3968</b>	-0.0071	<b>0.1002</b>	<b>0.7522</b>	<b>0.2656</b>	1.0000		
<i>p-value</i>	0.0844	0.0000	0.0000	0.8349	0.0032	0.0000	0.0000	---		
Index 2 * Index 7	-0.0038	<b>0.4036</b>	0.0292	<b>0.4253</b>	<b>0.0821</b>	<b>0.5953</b>	<b>0.0843</b>	<b>0.4742</b>	1.0000	
<i>p-value</i>	0.9121	0.0000	0.3922	0.0000	0.0159	0.0000	0.0133	0.0000	---	
Index 2 + Index 9	-0.0510	<b>0.8346</b>	0.0629	0.0440	<b>0.4616</b>	<b>0.7961</b>	<b>0.2202</b>	<b>0.8590</b>	<b>0.4763</b>	1.0000
<i>p-value</i>	0.1347	0.0000	0.0648	0.1967	0.0000	0.0000	0.0000	0.0000	0.0000	---

**Table 12:** Correlation Matrix for WACC for SMEs; statistically significant coefficients (5% or better) are shown in bold numbers

	WACC	NOMCOM	BOARDCO	AUDITCO M	REMUNCO	CGI	Index 2 + Index 4	Avg. Non. Com.	Index 4 + Index 7	Index 4 + Index 9
WACC	1.0000									
<i>p-value</i>	---									
NOMCOM	0.1618	1.0000								
<i>p-value</i>	0.0033	---								
BOARDCO	-0.0197	<b>-0.1260</b>	1.0000							
<i>p-value</i>	0.7222	0.0224	---							
AUDITCOM	<b>-0.2059</b>	<b>-0.1361</b>	<b>0.2070</b>	1.0000						
<i>p-value</i>	0.0002	0.0136	0.0002	---						
REMUNCO	0.0125	0.0946	<b>0.1820</b>	0.0954	1.0000					
<i>p-value</i>	0.8210	0.0872	0.0009	0.0846	---					
CGI	-0.0019	<b>0.5999</b>	<b>0.3175</b>	<b>0.5176</b>	<b>0.5711</b>	1.0000				
<i>p-value</i>	0.9732	0.0000	0.0000	0.0000	0.0000	---				
Ind. 2 + Ind. 4 + Ind. 7	-0.0170	<b>0.6600</b>	<b>0.3058</b>	<b>0.5829</b>	<b>0.2390</b>	<b>0.9282</b>	1.0000			
<i>p-value</i>	0.7591	0.0000	0.0000	0.0000	0.0000	0.0000	---			
Ind. 2 * Ind. 7 * Ind. 9	-0.0809	<b>0.1976</b>	-0.0249	<b>0.3191</b>	<b>0.3489</b>	<b>0.5463</b>	<b>0.5092</b>	1.0000		
<i>p-value</i>	0.1435	0.0003	0.6531	0.0000	0.0000	0.0000	0.0000	---		
Index 4 + Index 7	<b>-0.1805</b>	-0.1024	<b>0.5280</b>	<b>0.9048</b>	<b>0.2241</b>	<b>0.6433</b>	<b>0.6797</b>	<b>0.4813</b>	1.0000	
<i>p-value</i>	0.0010	0.0639	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	
Index 4 + Index 9	0.0159	0.0342	<b>0.6229</b>	<b>0.1628</b>	<b>0.8578</b>	<b>0.6172</b>	<b>0.3381</b>	<b>0.2350</b>	<b>0.4143</b>	1.0000
<i>p-value</i>	0.7749	0.5373	0.0000	0.0031	0.0000	0.0000	0.0000	0.0000	0.0000	---

**Table 13:** Correlation Matrix for WACC for large-cap companies; statistically significant coefficients (5% or better) are shown in bold numbers

	COE	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	CGI	Index 2 + Index 4	Ind. 2 * Ind. 7 * Ind. 9	Index 2 + Index 9	Index 2 + Index 7
COE	1.0000									
<i>p-value</i>	---									
NOMCOM	-0.0543	1.0000								
<i>p-value</i>	0.1109	---								
BOARDCO	-0.0506	0.0557	1.0000							
<i>p-value</i>	0.1377	0.1025	---							
AUDITCOM	-0.0240	-0.0179	<b>-0.0677</b>	1.0000						
<i>p-value</i>	0.4823	0.6004	0.0469	---						
REMUNCO	-0.0589	0.0595	<b>0.0870</b>	<b>0.0861</b>	1.0000					
<i>p-value</i>	0.0842	0.0809	0.0106	0.0115	---					
CGI	-0.0624	<b>0.6315</b>	<b>0.2871</b>	<b>0.5547</b>	<b>0.4240</b>	1.0000				
<i>p-value</i>	0.0670	0.0000	0.0000	0.0000	0.0000	---				
Ind. 2 * Ind. 7 * Ind. 9	0.0126	<b>0.1469</b>	<b>0.3781</b>	-0.0089	<b>0.2607</b>	<b>0.2620</b>	1.0000			
<i>p-value</i>	0.7125	0.0000	0.0000	0.7942	0.0000	0.0000	---			
Index 2 + Index 4	-0.0588	<b>0.8666</b>	<b>0.3968</b>	-0.0071	<b>0.1002</b>	<b>0.7522</b>	<b>0.2656</b>	1.0000		
<i>p-value</i>	0.0844	0.0000	0.0000	0.8349	0.0032	0.0000	0.0000	---		
Index 2 + Index 7	-0.0454	<b>0.6877</b>	-0.0031	<b>0.6289</b>	<b>0.1141</b>	<b>0.9044</b>	<b>0.1002</b>	<b>0.7083</b>	1.0000	
<i>p-value</i>	0.1830	0.0000	0.9280	0.0000	0.0008	0.0000	0.0032	0.0000	---	
Index 2 + Index 9	-0.0510	<b>0.8346</b>	0.0629	0.0440	<b>0.4616</b>	<b>0.7961</b>	<b>0.2202</b>	<b>0.8590</b>	<b>0.7211</b>	1.0000
<i>p-value</i>	0.1347	0.0000	0.0648	0.1967	0.0000	0.0000	0.0000	0.0000	0.0000	---

**Table 14:** Correlation Matrix for cost of equity of SMEs; statistically significant coefficients (5% or better) are shown in bold numbers

	COE	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	CGI	Index 2 + Index 4	Index 7 + Index 9	Index 4 + Index 7	Index 2 + Index 9
COE	1.0000									
<i>p-value</i>	---									
NOMCOM	<b>-0.1727</b>	1.0000								
<i>p-value</i>	0.0017	---								
BOARDCO	<b>-0.1456</b>	<b>-0.1260</b>	1.0000							
<i>p-value</i>	0.0083	0.0224	---							
AUDITCOM	<b>-0.3279</b>	<b>-0.1361</b>	<b>0.2070</b>	1.0000						
<i>p-value</i>	0.0000	0.0136	0.0002	---						
REMUNCO	0.0417	<b>0.0946</b>	<b>0.1820</b>	0.0954	1.0000					
<i>p-value</i>	0.4514	0.0872	0.0009	0.0846	---					
CGI	<b>-0.2904</b>	<b>0.5999</b>	<b>0.3175</b>	<b>0.5176</b>	<b>0.5711</b>	1.0000				
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.0000	---				
Ind. 2 + Ind. 4 + Ind. 7	<b>-0.3757</b>	<b>0.6600</b>	<b>0.3058</b>	<b>0.5829</b>	<b>0.2390</b>	<b>0.9282</b>	1.0000			
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---			
Ind. 2 * Ind. 7 * Ind. 9	-0.1060	<b>0.1976</b>	-0.0249	<b>0.3191</b>	<b>0.3489</b>	<b>0.5463</b>	<b>0.5092</b>	1.0000		
<i>p-value</i>	0.0552	0.0003	0.6531	0.0000	0.0000	0.0000	0.0000	---		
Index 4 + Index 7	<b>-0.3289</b>	-0.1024	<b>0.5280</b>	<b>0.9048</b>	<b>0.2241</b>	<b>0.6433</b>	<b>0.6797</b>	<b>0.4813</b>	1.0000	
<i>p-value</i>	0.0000	0.0639	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	
Index 7 + Index 9	<b>-0.2087</b>	0.0170	<b>0.2184</b>	<b>0.7744</b>	<b>0.6578</b>	<b>0.7758</b>	<b>0.6269</b>	<b>0.6032</b>	<b>0.8135</b>	1.0000
<i>p-value</i>	0.0001	0.7591	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---

**Table 15:** Correlation Matrix for cost of equity of large-cap companies; statistically significant coefficients (5% or better) are shown in bold numbers

	COD	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	CGI	Index 2 + Index 4	Ind. 2 * Ind 7 * Ind.9	Index 2 + Index 9	Index 4 + Index 9
<b>COD</b>	1.0000									
<i>p-value</i>	---									
<b>NOMCOM</b>	-0.0543	1.0000								
<i>p-value</i>	0.1109	---								
<b>BOARDCO</b>	-0.0506	0.0557	1.0000							
<i>p-value</i>	0.1377	0.1025	---							
<b>AUDITCOM</b>	-0.0240	-0.0179	-0.0677	1.0000						
<i>p-value</i>	0.4823	0.6004	0.0469	---						
<b>REMUNCO</b>	-0.0589	0.0595	<b>0.0870</b>	<b>0.0861</b>	1.0000					
<i>p-value</i>	0.0842	0.0809	0.0106	0.0115	---					
<b>CGI</b>	-0.0624	<b>0.6315</b>	<b>0.2871</b>	<b>0.5547</b>	<b>0.4240</b>	1.0000				
<i>p-value</i>	0.0670	0.0000	0.0000	0.0000	0.0000	---				
<b>Ind. 2 * Ind. 7 * Ind. 9</b>	0.0276	<b>0.1673</b>	0.0248	<b>0.1763</b>	<b>0.2969</b>	<b>0.3661</b>	1.0000			
<i>p-value</i>	0.4181	0.0000	0.4675	0.0000	0.0000	0.0000	---			
<b>Index 2 + Index 4</b>	-0.0588	<b>0.8666</b>	<b>0.3968</b>	-0.0071	<b>0.1002</b>	<b>0.7522</b>	<b>0.2656</b>	1.0000		
<i>p-value</i>	0.0844	0.0000	0.0000	0.8349	0.0032	0.0000	0.0000	---		
<b>Index 2 + Index 9</b>	-0.0510	<b>0.8346</b>	0.0629	0.0440	<b>0.4616</b>	<b>0.7961</b>	<b>0.3576</b>	<b>0.8590</b>	1.0000	
<i>p-value</i>	0.1347	0.0000	0.0648	0.1967	0.0000	0.0000	0.0000	0.0000	---	
<b>Index 4 + Index 9</b>	-0.0527	0.0649	<b>0.6778</b>	0.0060	<b>0.7574</b>	<b>0.4818</b>	<b>0.2105</b>	<b>0.3048</b>	<b>0.3812</b>	1.0000
<i>p-value</i>	0.1218	0.0569	0.0000	0.8598	0.0000	0.0000	0.0000	0.0000	0.0000	---

**Table 16:** Correlation Matrix for cost of debt of SMEs; statistically significant coefficients (5% or better) are shown in bold numbers

	COD	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	CGI	Index 2 + Index 4	Avg. Non. Com.	Index 4 + Index 7	Index 4 + Index 9
<b>COD</b>	1.0000									
<i>p-value</i>	---									
<b>NOMCOM</b>	<b>-0.1727</b>	1.0000								
<i>p-value</i>	0.0017	---								
<b>BOARDCO</b>	<b>-0.1456</b>	-0.1260	1.0000							
<i>p-value</i>	0.0083	0.0224	---							
<b>AUDITCOM</b>	<b>-0.3279</b>	<b>-0.1361</b>	<b>0.2070</b>	1.0000						
<i>p-value</i>	0.0000	0.0136	0.0002	---						
<b>REMUNCO</b>	0.0417	0.0946	<b>0.1820</b>	0.0954	1.0000					
<i>p-value</i>	0.4514	0.0872	0.0009	0.0846	---					
<b>CGI</b>	<b>-0.2904</b>	<b>0.5999</b>	<b>0.3175</b>	<b>0.5176</b>	<b>0.5711</b>	1.0000				
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.0000	---				
<b>Ind. 2 + Ind. 4 + Ind. 7</b>	<b>-0.3757</b>	<b>0.6600</b>	<b>0.3058</b>	<b>0.5829</b>	<b>0.2390</b>	<b>0.9282</b>	1.0000			
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---			
<b>Ind. 2 * Ind. 7 * Ind. 9</b>	-0.1060	<b>0.1976</b>	-0.0249	<b>0.3191</b>	<b>0.3489</b>	<b>0.5463</b>	<b>0.5092</b>	1.0000		
<i>p-value</i>	0.0552	0.0003	0.6531	0.0000	0.0000	0.0000	0.0000	---		
<b>Index 4 + Index 9</b>	-0.0214	0.0342	<b>0.6229</b>	<b>0.1628</b>	<b>0.8578</b>	<b>0.6172</b>	<b>0.3381</b>	<b>0.2350</b>	1.0000	
<i>p-value</i>	0.6991	0.5373	0.0000	0.0031	0.0000	0.0000	0.0000	0.0000	---	
<b>Index 7 + Index 9</b>	<b>-0.2087</b>	0.0170	<b>0.2184</b>	<b>0.7744</b>	<b>0.6578</b>	<b>0.7758</b>	<b>0.6269</b>	<b>0.6032</b>	<b>0.6266</b>	1.0000
<i>p-value</i>	0.0001	0.7591	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---

**Table 17:** Correlation Matrix for cost of debt of large-cap companies; statistically significant coefficients (5% or better) are shown in bold numbers

## Appendix C: Reduced Form Regressions

	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	WACC	Adj. R <sup>2</sup>	# observ.
CGI	<b>0.0405</b>	<b>0.0353</b>	<b>0.0395</b>	<b>0.0330</b>	-0.0230	0.9276	1,003
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.2731		
Ind. 2 * Ind. 7 * Ind. 9	<b>0.0002</b>	<b>0.0000</b>	<b>0.0003</b>	<b>0.0005</b>	0.0001	0.1714	1,003
<i>p-value</i>	0.0000	0.5237	0.0000	0.0000	0.9645		
Index 2 + Index 4	<b>0.1612</b>	<b>0.1407</b>	<b>0.0076</b>	<b>0.0052</b>	-0.0805	0.9060	1,003
<i>p-value</i>	0.0000	0.0000	0.0002	0.0469	0.2293		
Index 4 + Index 7	0.0004	<b>0.0725</b>	<b>0.0761</b>	<b>0.0035</b>	-0.0072	0.9455	1,003
<i>p-value</i>	0.5657	0.0000	0.0000	0.0001	0.7480		
Index 4 + Index 9	0.0000	<b>0.0707</b>	-0.0008	<b>0.0599</b>	0.0013	0.9487	1,003
<i>p-value</i>	0.9702	0.0000	0.0780	0.0000	0.9319		

**Table 18:** Impact of CG codes and WACC on Instrumental Variables for all companies; statistically significant coefficients (5% or better) are shown in bold numbers

	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	COE	Adj. R <sup>2</sup>	# observ.
CGI	<b>0.0404</b>	<b>0.0353</b>	<b>0.0395</b>	<b>0.0331</b>	-0.0057	0.9276	1,003
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.8035		
Ind. 2 * Ind. 7 * Ind. 9	<b>0.0002</b>	0.0000	<b>0.0003</b>	<b>0.0005</b>	0.0013	0.1723	1,003
<i>p-value</i>	0.0000	0.5243	0.0000	0.0000	0.3201		
Index 2 + Index 4	<b>0.1610</b>	<b>0.1405</b>	<b>0.0075</b>	<b>0.0054</b>	-0.0855	0.9059	1,003
<i>p-value</i>	0.0000	0.0000	0.0002	0.0382	0.2378		
Index 2 + Index 7	<b>0.0809</b>	-0.0001	<b>0.0799</b>	<b>0.0006</b>	-0.0550	0.9126	1,003
<i>p-value</i>	0.0000	0.9572	0.0000	0.0001	0.1987		
Index 4 + Index 7	0.0003	<b>0.0725</b>	<b>0.0761</b>	<b>0.0035</b>	-0.0122	0.9456	1,003
<i>p-value</i>	0.5806	0.0000	0.0000	0.0000	0.6113		

**Table 19:** Impact of CG codes and cost of equity on Instrumental Variables for all companies; statistically significant coefficients (5% or better) are shown in bold numbers

	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	COD	Adj. R <sup>2</sup>	# observ.
CGI	<b>0.0408</b>	<b>0.0354</b>	<b>0.0397</b>	<b>0.0319</b>	0.0015	0.9325	975
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.8561		
Ind. 2 * Ind 7 * Ind.9	<b>0.0002</b>	-0.0001	<b>0.0003</b>	<b>0.0005</b>	-0.0001	0.1781	975
<i>p-value</i>	0.0000	0.4587	0.0000	0.0000	0.9012		
Index 2 + Index 4	<b>0.1615</b>	<b>0.1402</b>	<b>0.0077</b>	<b>0.0055</b>	0.0030	0.9047	975
<i>p-value</i>	0.0000	0.0000	0.0020	0.0399	0.9129		
Index 4 + Index 7	0.0005	<b>0.0726</b>	<b>0.0760</b>	<b>0.0031</b>	-0.0039	0.9471	975
<i>p-value</i>	0.4445	0.0000	0.0000	0.0004	0.6611		
Index 4 + Index 9	0.0003	<b>0.0709</b>	-0.0004	<b>0.0581</b>	0.0053	0.9780	975
<i>p-value</i>	0.2107	0.0000	0.1644	0.0000	0.1843		

**Table 20:** Impact of CG codes and cost of debt on Instrumental Variables for all companies; statistically significant coefficients (5% or better) are shown in bold numbers

	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	WACC	Adj. R <sup>2</sup>	# observ.
CGI	<b>0.0415</b>	<b>0.0356</b>	<b>0.0396</b>	<b>0.0329</b>	0.0035	0.9126	687
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.9109		
Ind. 2 * Ind. 4 * Ind. 9	<b>0.0001</b>	<b>0.0004</b>	<b>0.0001</b>	0.0000	0.0010	0.0609	687
<i>p-value</i>	0.0383	0.0000	0.0116	0.7383	0.5474		
Index 2 + Index 4	<b>0.1699</b>	<b>0.1380</b>	<b>0.0085</b>	<b>0.0094</b>	-0.0130	0.8902	687
<i>p-value</i>	0.0000	0.0000	0.0018	0.0110	0.8993		
Index 2 * Index 7	<b>0.0074</b>	0.0011	<b>0.0084</b>	0.0009	0.0150	0.3601	687
<i>p-value</i>	0.0000	0.3107	0.0000	0.2532	0.5065		
Index 2 + Index 9	<b>0.0844</b>	-0.0031	<b>0.0033</b>	<b>0.0647</b>	-0.0101	0.8777	687
<i>p-value</i>	0.0000	0.2357	0.0230	0.0000	0.8558		

**Table 21:** Impact of CG codes and WACC on Instrumental Variables for SMEs; statistically significant coefficients (5% or better) are shown in bold numbers

	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	WACC	Adj. R <sup>2</sup>	# observ.
CGI	<b>0.0380</b>	<b>0.0311</b>	<b>0.0393</b>	<b>0.0336</b>	0.0088	0.9734	316
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.6927		
Ind. 2 + Ind. 4 + Ind. 7	<b>0.1503</b>	<b>0.1280</b>	<b>0.1583</b>	<b>0.0161</b>	-0.0109	0.9697	316
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.8921		
Ind. 2 * Ind. 7 * Ind. 9	<b>0.0003</b>	<b>-0.0005</b>	<b>0.0006</b>	<b>0.0006</b>	-0.0008	0.2549	316
<i>p-value</i>	0.0003	0.0063	0.0000	0.0000	0.7566		
Index 4 + Index 7	<b>0.0037</b>	<b>0.0640</b>	<b>0.0792</b>	<b>0.0081</b>	-0.0054	0.9474	316
<i>p-value</i>	0.0014	0.0000	0.0000	0.0000	0.8921		
Index 4 + Index 9	0.0009	<b>0.0696</b>	-0.0005	<b>0.0591</b>	0.0231	0.9592	316
<i>p-value</i>	0.2352	0.0000	0.6249	0.0000	0.3751		

**Table 22:** Impact of CG codes and WACC on Instrumental Variables for large-cap companies; statistically significant coefficients (5% or better) are shown in bold numbers

	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	COE	Adj. R <sup>2</sup>	# observ.
CGI	<b>0.0415</b>	<b>0.0356</b>	<b>0.0396</b>	<b>0.0329</b>	-0.0032	0.9127	687
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.9193		
Ind. 2 * Ind. 7 * Ind. 9	<b>0.0002</b>	<b>0.0000</b>	<b>0.0002</b>	<b>0.0004</b>	0.0027	0.1465	687
<i>p-value</i>	0.0000	0.8911	0.0000	0.0000	0.0814		
Index 2 + Index 4	<b>0.1699</b>	<b>0.1380</b>	<b>0.0084</b>	<b>0.0095</b>	-0.0533	0.8904	687
<i>p-value</i>	0.0000	0.0000	0.0018	0.0103	0.6055		
Index 2 + Index 7	<b>0.8361</b>	0.0006	<b>0.0802</b>	<b>0.0058</b>	-0.0439	0.8988	687
<i>p-value</i>	0.0000	0.8382	0.0000	0.0065	0.4632		
Index 2 + Index 9	<b>0.0844</b>	-0.0031	<b>0.0033</b>	<b>0.0648</b>	0.0108	0.8779	687
<i>p-value</i>	0.0000	0.2325	0.0233	0.0000	0.8469		

**Table 23:** Impact of CG codes and cost of equity on Instrumental Variables for SMEs; statistically significant coefficients (5% or better) are shown in bold numbers

	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	COE	Adj. R <sup>2</sup>	# observ.
CGI	<b>0.0380</b>	<b>0.0311</b>	<b>0.0393</b>	<b>0.0336</b>	0.0312	0.9734	316
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.1876		
Ind. 2 + Ind. 4 + Ind. 7	<b>0.1500</b>	<b>0.1279</b>	<b>0.1584</b>	<b>0.0161</b>	-0.0445	0.9698	316
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.5994		
Ind. 2 * Ind. 7 * Ind. 9	<b>0.0003</b>	<b>-0.0005</b>	<b>0.0006</b>	<b>0.0006</b>	-0.0008	0.2571	316
<i>p-value</i>	0.0003	0.0051	0.0000	0.0000	0.7629		
Index 4 + Index 7	<b>0.0037</b>	<b>0.6393</b>	<b>0.0792</b>	<b>0.0081</b>	-0.0223	0.9475	316
<i>p-value</i>	0.0013	0.0000	0.0000	0.0000	0.5994		
Index 7 + Index 9	<b>0.0092</b>	<b>-0.0183</b>	<b>0.1571</b>	<b>0.1343</b>	0.1250	0.9484	316
<i>p-value</i>	0.0004	0.0040	0.0000	0.0000	0.1876		

**Table 24:** Impact of CG codes and cost of equity on Instrumental Variables for large-cap companies; statistically significant coefficients (5% or better) are shown in bold numbers

	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	COD	Adj. R <sup>2</sup>	# observ.
CGI	<b>0.0419</b>	<b>0.0358</b>	<b>0.0399</b>	<b>0.0313</b>	0.0026	0.9191	662
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.8041		
Ind. 2 * Ind. 7 * Ind. 9	<b>0.0002</b>	0.0000	<b>0.0002</b>	<b>0.0005</b>	0.0003	0.1536	662
<i>p-value</i>	0.0000	0.9638	0.0000	0.0000	0.5303		
Index 2 + Index 4	<b>0.1707</b>	<b>0.1375</b>	<b>0.0089</b>	<b>0.0099</b>	-0.0017	0.8890	662
<i>p-value</i>	0.0000	0.0000	0.0014	0.0107	0.9634		
Index 2 + Index 9	<b>0.0851</b>	-0.0030	<b>0.0041</b>	<b>0.0622</b>	0.0026	0.8889	662
<i>p-value</i>	0.0000	0.2397	0.0037	0.0000	0.8891		
Index 4 + Index 9	-0.0002	<b>0.0711</b>	-0.0003	<b>0.0572</b>	0.0034	0.9871	662
<i>p-value</i>	0.3938	0.0000	0.2094	0.0000	0.3371		

**Table 25:** Impact of CG codes and cost of debt on Instrumental Variables for SMEs; statistically significant coefficients (5% or better) are shown in bold numbers

	NOMCOM	BOARDCO	AUDITCOM	REMUNCO	COD	Adj. R <sup>2</sup>	# observ.
CGI	<b>0.0380</b>	<b>0.0311</b>	<b>0.0393</b>	<b>0.0336</b>	0.0038	0.9733	313
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.7101		
Ind. 2 + Ind. 4 + Ind. 7	<b>0.1503</b>	<b>0.1282</b>	<b>0.1582</b>	<b>0.0160</b>	-0.0220	0.9696	313
<i>p-value</i>	0.0000	0.0000	0.0000	0.0000	0.5496		
Ind. 2 * Ind. 7 * Ind. 9	<b>0.0003</b>	<b>-0.0005</b>	<b>0.0005</b>	<b>0.0006</b>	-0.0009	0.2559	313
<i>p-value</i>	0.0003	0.0068	0.0000	0.0000	0.4280		
Index 4 + Index 9	0.0010	<b>0.0696</b>	-0.0006	<b>0.0592</b>	0.0186	0.9594	313
<i>p-value</i>	0.2011	0.0000	0.5584	0.0000	0.1188		
Index 7 + Index 9	<b>0.0093</b>	<b>-0.0184</b>	<b>0.1571</b>	<b>0.1343</b>	0.0153	0.9482	313
<i>p-value</i>	0.0004	0.0041	0.0000	0.0000	0.7101		

**Table 26:** Impact of CG codes and cost of debt on Instrumental Variables for large-cap companies; statistically significant coefficients (5% or better) are shown in bold numbers

	CG Variables				Control Variables						Adj. R <sup>2</sup>	# observ.
	NOMCOM	BOARDCO	AUDITCO M	REMUNCO	Beta	D/E	M/B	Shareholder	Size	Volatility		
Overall	<b>0.0015*</b>	<b>0.0015*</b>	-0.0003	-0.0015	<b>0.0247***</b>	<b>-0.0003**</b>	<b>0.0001***</b>	0.0000	-0.0012	<b>0.0256**</b>	0.6634	1,003
<i>p-value</i>	0.0549	0.0681	0.7930	0.3072	0.0000	0.0231	0.0095	0.8640	0.3927	0.0159		
SME	0.0009	<b>0.0020**</b>	-0.0006	-0.0030	<b>0.0271***</b>	<b>-0.0003**</b>	<b>0.0001***</b>	0.0000	0.0000	<b>0.0220**</b>	0.5878	687
<i>p-value</i>	0.2829	0.0480	0.5687	0.2164	0.0000	0.0173	0.0032	0.8009	0.9841	0.0169		
Large-Cap	0.0029	-0.0029	0.0018	0.0011	<b>0.0173***</b>	-0.0007	0.0002	-0.0047	<b>-0.0046*</b>	<b>0.0339***</b>	0.7647	316
<i>p-value</i>	0.1421	0.2572	0.3093	0.5039	0.0008	0.6855	0.7359	0.7553	0.0594	0.0090		

Table 27: Panel Least Squares estimation for WACC<sup>4</sup>

	CG Variables				Control Variables					Adj. R <sup>2</sup>	# observ.
	NOMCOM	BOARDCO	AUDITCO M	REMUNCO	D/E	M/B	Shareholder	Size	Volatility		
Overall	<b>0.0019*</b>	-0.0009	-0.0011	<b>0.0037**</b>	<b>-0.0001*</b>	0.0000	<b>0.0002***</b>	<b>0.0034*</b>	<b>0.0228***</b>	0.7904	1,003
<i>p-value</i>	0.0700	0.6258	0.1787	0.0000	0.0651	0.1917	0.0000	0.0872	0.0001		
SME	0.0023	-0.0008	-0.0009	<b>0.0043***</b>	<b>-0.0001**</b>	<b>0.0000**</b>	<b>0.0003***</b>	0.0027	<b>0.0229***</b>	0.6285	687
<i>p-value</i>	0.1372	0.6553	0.2684	0.0006	0.0494	0.0402	0.0000	0.2148	0.0005		
Large-Cap	-0.0002	<b>-0.0036***</b>	-0.0008	0.0025	<b>-0.0020***</b>	<b>0.0004***</b>	<b>-0.0231***</b>	<b>0.0072**</b>	<b>0.0281***</b>	0.8230	316
<i>p-value</i>	0.8516	0.0831	0.5085	0.1086	0.0000	0.0001	0.0000	0.0129	0.0005		

Table 28: Panel Least Squares estimation for cost of equity<sup>4</sup>

<sup>4</sup> Statistically significant results are shown in the following way:

- \*\*\* significant on a 1% level
- \*\* significant on a 5% level
- \* significant on a 10% level

	CG Variables				Control Variables						Adj. R <sup>2</sup>	# observ.
	NOMCOM	BOARDCO	AUDITCO M	REMUNCO	Beta	D/E	M/B	Shareholder	Size	Volatility		
Overall	-0.0017	-0.0042	0.0020	0.0002	-0.0041	<b>-0.0003*</b>	0.0000	-0.0001	-0.0037	0.0224	0.4970	975
<i>p-value</i>	<i>0.4053</i>	<i>0.3023</i>	<i>0.4578</i>	<i>0.9671</i>	<i>0.4666</i>	<i>0.0605</i>	<i>0.6777</i>	<i>0.6253</i>	<i>0.4672</i>	<i>0.1186</i>		
SME	-0.0026	-0.0048	0.0020	0.0025	-0.0047	<b>-0.0003**</b>	0.0000	-0.0001	-0.0020	0.0170	0.4412	662
<i>p-value</i>	<i>0.2621</i>	<i>0.2662</i>	<i>0.4447</i>	<i>0.7281</i>	<i>0.3855</i>	<i>0.0409</i>	<i>0.5961</i>	<i>0.6913</i>	<i>0.7239</i>	<i>0.1658</i>		
Large-Cap	0.0028	-0.0024	0.0006	-0.0012	0.0001	0.0023	-0.0006	0.0047	-0.0098	0.0241	0.5711	313
<i>p-value</i>	<i>0.2518</i>	<i>0.5346</i>	<i>0.8561</i>	<i>0.6752</i>	<i>0.9931</i>	<i>0.1367</i>	<i>0.1416</i>	<i>0.8368</i>	<i>0.1535</i>	<i>0.2239</i>		

**Table 29:** Panel Least Squares estimation for cost of debt<sup>4</sup>

	CG Variables				Control Variables						Adj. R <sup>2</sup>	# observ.
	NOMCOM	BOARDCO	AUDITCO M	REMUNCO	Beta	D/E	M/B	Shareholder	Size	Volatility		
Overall	<b>0.0022**</b>	<b>0.0018**</b>	0,0008	-0,0027	<b>0.0248***</b>	<b>-0.0003**</b>	<b>0.0001**</b>	0,0000	-0,0012	<b>0.0254**</b>	0,6629	1 003
<i>p-value</i>	0,0105	0,0369	0,5653	0,1300	0,0000	0,0223	0,0105	0,8523	0,3894	0,0166		
SME	0,0005	<b>0.0051*</b>	-0,0009	-0,0025	<b>0.0271***</b>	<b>-0.0003**</b>	<b>0.0001***</b>	0,0000	0,0000	<b>0.0220**</b>	0,5866	687
<i>p-value</i>	0,7691	0,0912	0,7037	0,5120	0,0000	0,0245	0,0040	0,8119	0,9991	0,0171		
Large-Cap	0,0029	-0,0029	0,0018	0,0011	<b>0.0173***</b>	-0,0007	0,0002	-0,0047	<b>-0.0046*</b>	<b>0.0339***</b>	0,7647	316
<i>p-value</i>	0,1421	0,2572	0,3093	0,5039	0,0008	0,6855	0,7359	0,7553	0,0594	0,0090		

**Table 30:** Two-Stage Least-Squares estimation for WACC<sup>4</sup>

	CG Variables				Control Variables					Adj. R <sup>2</sup>	# observ.
	NOMCOM	BOARDCO	AUDITCO M	REMUNCO	D/E	M/B	Shareholder	Size	Volatility		
Overall	<b>0.0021**</b>	-0,0011	-0,0014	<b>0.0048***</b>	<b>-0.0001*</b>	0,0000	<b>0.0002***</b>	<b>0.0034*</b>	<b>0.0230***</b>	0,7902	1 003
<i>p-value</i>	0,0258	0,5488	0,2946	0,0000	0,0634	0,1901	0,0000	0,0848	0,0001		
SME	<b>0.0026*</b>	-0,0011	-0,0009	<b>0.0062***</b>	<b>0.0001**</b>	<b>0.0000**</b>	<b>0.0003***</b>	0,0028	<b>0.0229***</b>	0,6278	687
<i>p-value</i>	0,0784	0,5191	0,4197	0,0003	0,0470	0,0425	0,0000	0,2004	0,0006		
Large-Cap	-0,0002	<b>-0.0036*</b>	-0,0008	0,0025	<b>-0.0020***</b>	<b>0.0004***</b>	<b>-0.0231***</b>	0,0072**	<b>0.0281***</b>	0,7190	316
<i>p-value</i>	0,8516	0,0831	0,5085	0,1086	0,0000	0,0001	0,0000	0,0129	0,0005		

**Table 31:** Two-Stage Least-Squares estimation for cost of equity<sup>4</sup>

	CG Variables				Control Variables						Adj. R <sup>2</sup>	# observ.
	NOMCOM	BOARDCO	AUDITCO M	REMUNCO	Beta	D/E	M/B	Shareholder	Size	Volatility		
Overall	0,0018	-0,0014	0,0031	-0,0026	0,0011	<b>-0.0005***</b>	<b>0.0001**</b>	-0,0001	<b>-0.0035***</b>	<b>0.0246*</b>	0,0415	975
<i>p-value</i>	<i>0,4364</i>	<i>0,7149</i>	<i>0,3864</i>	<i>0,5884</i>	<i>0,6820</i>	<i>0,0000</i>	<i>0,0142</i>	<i>0,2545</i>	<i>0,0000</i>	<i>0,0574</i>		
SME	0,0019	-0,0017	0,0043	-0,0029	0,0030	<b>-0.0005***</b>	<b>0.0001*</b>	-0,0001	<b>-0.0030**</b>	<b>0.0232*</b>	0,0149	662
<i>p-value</i>	<i>0,4949</i>	<i>0,6845</i>	<i>0,2242</i>	<i>0,6435</i>	<i>0,2345</i>	<i>0,0000</i>	<i>0,0636</i>	<i>0,2635</i>	<i>0,0188</i>	<i>0,0543</i>		
Large-Cap	-0,0008	0,0057	-0,0040	-0,0018	-0,0037	0,0004	-0,0001	-0,0093	-0,007088	0,0296	0,0686	313
<i>p-value</i>	<i>0,8006</i>	<i>0,6738</i>	<i>0,5105</i>	<i>0,5297</i>	<i>0,6490</i>	<i>0,7982</i>	<i>0,7829</i>	<i>0,4156</i>	<i>0,1216</i>	<i>0,1015</i>		

**Table 32:** Two-Stage Least-Squares estimation for cost of debt<sup>4</sup>

## Appendix E: The Swedish Code of Corporate Governance

1 The shareholders' meeting	
1.1	As soon as the time and venue of the shareholders' meeting have been decided, and no later than in conjunction with the third quarter report, the information is to be posted on the company's website. This information is also to include the closing date for issues to be submitted by shareholders for inclusion in the
1.2	The notice of meeting and other documents relevant to the shareholders' meeting are to be available in such time and in such a form that they provide shareholders with sufficient opportunity to form a well-founded opinion on the issues raised.
1.3	The company chair and as many members of the board as are required for a quorum are to be present at shareholders' meetings. The chief executive officer is to attend. At least one member of the company's nomination committee, at least one of the company's auditors and, if possible, each member of
1.4	The company's nomination committee is to propose a chair for the annual general meeting. The proposal is to be presented in the notice of the meeting.
1.5	The shareholders' meeting is to be conducted in Swedish and the material presented is to be available in Swedish. If the ownership structure warrants it, and it is financially feasible, the company is to offer simultaneous interpretation into other relevant languages, as well as translation of all or parts of the meeting
1.6	A shareholder, or a representative of a shareholder, who is neither a member of the board nor an employee of the company is to be appointed to verify the minutes of the shareholders' meeting.
1.7	The minutes of the latest annual general meeting and any subsequent extraordinary shareholders' meetings are to be posted on the company's website. It is not necessary to publish the register of voters from the meeting or any attachments containing such information. The minutes are also to be translated from Swedish into any other language warranted by the ownership structure, providing this is financially feasible.
2 Appointment and remuneration of the board and statutory auditor	
2.1	The company is to have a nomination committee. The nomination committee is to propose candidates for the post of chair and other members of the board, as well as fees and other remuneration to each member of the board. The nomination committee is also to make proposals on the election and remuneration
2.2	The shareholders' meeting is to appoint members of the nomination committee or to specify how they are to be appointed. This decision is to include procedures for replacing members of the nomination committee who leave before its work is concluded.
2.3	The nomination committee is to have at least three members, one of whom is to be appointed committee chair. The majority of the members of the nomination committee are to be independent of the company and its executive management. Neither the chief executive officer nor other members of the executive management are to be members of the nomination committee. At least one member of the nomination committee is to be independent of the company's largest shareholder in terms of votes or any group of shareholders that act in concert in the governance of the company.
2.4	Members of the board of directors may be members of the nomination committee but may not constitute a majority thereof. Neither the company chair nor any other member of the board may chair the nomination committee. If more than one member of the board is on the nomination committee, no more than one of these may be dependent of a major shareholder in the company.
2.5	The company is to announce the names of members of the nomination committee on its website no later than six months before the annual general meeting. If any member has been appointed by a particular owner, that owner's name is to be stated. If any member leaves the committee, this information is to be published. If a new member is appointed to the nomination committee, the corresponding information about the new member is to be provided. The website is also to provide information on how shareholders may submit recommendations to the nomination committee.
2.6	The nomination committee's proposals are to be presented in the notice of a shareholders' meeting where the election of board members or auditor is to be held and on the company's website. When the notice of the shareholders' meeting is issued, the nomination committee is to issue a statement on the company's website explaining its proposals regarding the board of directors with regard to the requirements concerning the composition of the board contained in Code rule 4.1. If the outgoing chief executive officer is nominated for the post of chair, reasons for this proposal are also to be fully explained.
2.7	At a shareholders' meeting where the election of board members or auditor is to be held, the nomination committee is to give an account of how it has conducted its work and explain its proposals.
3 The tasks of the board of directors	
3.1	The principle tasks of the board of directors include: <ul style="list-style-type: none"> <li>establishing the overall operational goals and strategy of the company,</li> <li>appointing, evaluating and, if necessary, dismissing the chief executive officer,</li> <li>ensuring that there is an effective system for follow-up and control of the company's operations,</li> <li>ensuring that there is a satisfactory process for monitoring the company's compliance with laws and other regulations relevant to the company's defining necessary guidelines to govern the company's ethical conduct,</li> <li>ensuring that the company's external communications are characterised by openness, and that they are accurate, reliable and relevant.</li> </ul>
3.2	The board is to approve any significant assignments the CEO has outside the company.

**Table 33:** Summary of the Swedish Code of Corporate Governance (1/3)

4 The size and composition of the board	
4.1	The board is to have a composition appropriate to the company's operations, phase of development and other relevant circumstances. The board members elected by the shareholders' meeting are collectively to exhibit diversity and breadth of qualifications, experience and background. The company is to strive
4.2	Deputies for directors elected by the shareholders' meeting are not to be appointed.
4.3	No more than one member of the board may be a member of the executive management of the company or a subsidiary.
4.4	The majority of the directors elected by the shareholders' meeting are to be independent of the company and its executive management. A director's independence is to be determined by a general assessment of all factors that may give cause to question the individual's independence of the company or its whether the individual is the chief executive officer or has been the chief executive officer of the company or a closely related company within the last whether the individual is employed or has been employed by the company or a closely related company within the last three years, whether the individual receives a not insignificant remuneration for advice or other services beyond the remit of the board position from the company, a closely related company or a person in the executive management of the company, whether the individual has or has within the last year had a significant business relationship or other significant financial dealings with the company or a closely related company as a client, supplier or partner, either individually or as a member of the executive management, a member of the board or a major shareholder in a company with such a business relationship with the company, whether the individual is or has within the last three years been a partner at, or has as an employee participated in an audit of the company conducted by, the company's or a closely related company's current or then auditor, whether the individual is a member of the executive management of another company if a member of the board of that company is a member of the executive management of the company, or whether the individual has a close family relationship with a person in the executive management or with another person named in the points above if that person's direct or indirect business with the company is of such magnitude or significance as to justify the opinion that the board member is not to be
4.5	At least two of the members of the board who are independent of the company and its executive management are also to be independent in relation to the company's major shareholders. In order to determine a board member's independence, the extent of the member's direct and indirect relationships with major shareholders is to be taken into consideration. A member of the board who is employed by or is a board member of a company which is a major shareholder is not to be regarded as independent. In this context, a major shareholder is defined as controlling, directly or indirectly, at least ten per cent of the shares or votes in the company. If a company owns more than 50 per cent of the shares, ownership interest or votes in another company, the former is
4.6	Nominees are to provide the nomination committee with sufficient information to enable an assessment of the candidate's independence as defined in 4.4 and
4.7	Members of the board are to be appointed for a period extending no longer than to the end of the next annual general meeting.
5 The task of directors	
5.1	Each director is to form an independent opinion on each matter considered by the board and to request whatever information he or she believes necessary for the board to make well-founded decisions.
5.2	Each director is obliged to acquire the knowledge of the company's operations, organisation, markets etc., required for the assignment.
6 The chair of the board	
6.1	The chair of the board is to be elected by the shareholders' meeting. If the chair relinquishes the position during the mandate period, the board is to elect a chair from among its members to serve until the end of the next annual general meeting.
6.2	If the chair of the board is an employee of the company or has duties assigned by the company in addition to his or her responsibilities as chair, the division of work and responsibilities between the chair and the chief executive officer is to be clearly stated in the board's statutory Rules of Procedure and its
6.3	The chair is to ensure that the work of the board is conducted efficiently and that the board fulfils its obligations.
7 Board procedures	
7.1	The board is to review the relevance and appropriateness of its statutory Rules of Procedure, Instruction to the chief executive officer and Reporting
7.2	If the board establishes special committees to prepare its decisions on specific issues, its Rules of Procedure are to specify the duties and decision-making powers that the board has delegated to these committees and how the committees are to report to the board. Committees are to keep minutes of their
7.3	An audit committee is to comprise no fewer than three board members. The majority of the members of the committee are to be independent of the company and its executive management. At least one of the committee members who are independent of the company and its executive management is also
7.4	The board is to ensure that the company has adequate internal controls and formalised routines to ensure that approved principles for financial reporting and internal controls are applied, and that the company's financial reports are produced in accordance with legislation, applicable accounting standards and other
7.5	At least once a year, the board is to meet the company's statutory auditor without the chief executive officer or any other member of the executive
7.6	The board of directors is to ensure that the company's six- or nine-month report is reviewed by the statutory auditor.
7.7	The minutes of the board are to provide a clear representation of the matters discussed, the material supporting each item and the substance of the decisions taken. The minutes are to be sent to each member of the board as soon as possible following the board meeting.

**Table 34:** Summary of the Swedish Code of Corporate Governance (2/3)

8 Evaluation of the board of directors and the chief executive officer	
8.1	The board of directors is to evaluate its work annually, using a systematic and structured process, with the aim of developing the board's working methods and efficiency. The results of this evaluation are to be made available to the nomination committee where relevant.
8.2	The board is to continuously evaluate the work of the chief executive officer. The board is to examine this issue formally at least once a year, and no member of the executive management is to be present during this formal evaluation process.
9 Remuneration of the board and executive management	
9.1	The board is to establish a remuneration committee, whose main tasks are to: prepare the board's decisions on issues concerning principles for remuneration, remunerations and other terms of employment for the executive monitor and evaluate programmes for variable remuneration, both ongoing and those that have ended during the year, for the executive management, and monitor and evaluate the application of the guidelines for remuneration that the annual general meeting is legally obliged to establish, as well as the current remuneration structures and levels in the company.
9.2	The chair of the board may chair the remuneration committee. The other shareholders' meeting-elected members of the committee are to be independent of the company and its executive management. Appropriate knowledge and experience of executive remuneration issues is to exist among the members of the committee. If the board considers it is more appropriate, the entire board may perform the remuneration committee's tasks, on condition that no board
9.3	If the remuneration committee or the board uses the services of an external consultant, it is to ensure that there is no conflict of interest regarding other assignments this consultant may have for the company or its executive management.
9.4	Variable remuneration is to be linked to predetermined and measurable performance criteria aimed at promoting the company's long term value creation.
9.5	Variable remuneration paid in cash is to be subject to predetermined limits regarding the total outcome.
9.6	When designing systems for variable remuneration of the executive management that is to be paid in cash, the board is to consider imposing restrictions which make payment of a certain proportion of the remuneration conditional on whether the performance on which compensation is based proves to be which allow the company to reclaim components of remuneration that have been paid on the basis of information which later proves to be manifestly
9.7	The shareholders' meeting is to decide on all share and share-price related incentive schemes for the executive management. The decision of the shareholders' meeting is to include all the principle conditions of the scheme.
9.8	Share- and share-price-related incentive programmes are to be designed with the aim of achieving increased alignment between the interests of the participating individual and the company's shareholders.
9.9	Fixed salary during a period of notice and severance pay are together not to exceed an amount equivalent to the individual's fixed salary for two years.
10 Information on Corporate Governance	
10.1	In its corporate governance report, the company is to state clearly which Code rules it has not complied with, explain the reasons for each case of non-compliance and describe the solution it has adopted instead.
10.2	As well as the items stipulated by legislation, the following information is to be included in the corporate governance report if it is not presented in the annual the composition of the company's nomination committee. If any member of the committee has been appointed by a particular owner, the name of this the information on each member of the board that is required by Code rule 2.6, the division of work among members of the board and how the work of the board was conducted during the most recent financial year, including the number of board meetings held and each member's attendance at board meetings, the composition, tasks and decision-making authority of any board committees, and each member's attendance at the respective committee's meetings, for the CEO age, principal education and work experience, significant professional commitments outside the company, and holdings of shares and other financial instruments in the company or similar holdings by related natural or legal persons, as well as shareholdings and part ownership in enterprises with which the company has significant business relations, any infringement of the stock exchange rules applicable to the company, or any breach of good practice on the securities market reported by the relevant exchange's disciplinary committee or the Swedish Securities Council during the most recent financial year.
10.3	The company is to have a section of its website devoted to corporate governance matters, where the company's three most recent corporate governance reports are to be posted, together with that part of the audit report which deals with the corporate governance report or the auditor's written statement on the

**Table 35:** Summary of the Swedish Code of Corporate Governance (3/3)