Master Degree Project in Accounting

Capital Market Trust in Management

An empirical study on trust in management with regard to investors' risk
perception and capital market effects

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Abstract

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Title: Capital Market Trust in Management – An empirical study on trust in management with regard to investors' risk perception and capital market effects

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Background & Problem Definition: One of the primary functions of financial accounting is to establish trust and to provide reliable, credible and useful information to its users, such as investors, in order for the capital markets to function. Managers have an important role in providing financial statements with high credibility as well as in the creation and maintenance of trust in accounting. If trust can be assumed to be an alternative to increased information and a factor that reduces uncertainty, it can be argued that trust in management would result in a lower perceived risk among investors and a lower cost of equity capital from the firm's perspective.

Purpose: The purpose of this study is to test whether trust in management is associated with a lower perceived risk among investors and, thus, can have any real economic consequences for the capital market.

Research Design & Methodology: The hypothesis is tested on a sample of European companies with listed stocks. Trust in management is defined as tenure on the job for top management, while the bid-ask spread, share price volatility, trading volume and analyst forecast dispersion serve as proxies for investors' perceived risk or uncertainty and consequently as indicators of the effect on a firm's cost of capital.

Results & Conclusion: The empirical results indicate that trust could have both a direct and an indirect effect on investors' risk perception, which suggests that trust can have real economic consequences for the capital market. When the bid-ask spread is used as a proxy, the study provides evidence of a statistically significant negative association between trust in management and investors' perceived risk or uncertainty. This suggests that trust in management could lower the perceived risk of investors and consequently a firm's cost of capital. However, the other proxies for risk show an association with trust that has the opposite direction from what was first anticipated, which suggests that the association is more complex than first expected. Thus, further research is needed before any general conclusions can be made.

Keywords: Trust in management, information risk, uncertainty, capital market, cost of equity

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Thank you!

Gothenburg, May 2014

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Emilia Sörenson

To my beloved Karin

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1. Introduction

This chapter will present the problem background of this study and the problem discussion, which will result in a coherent argument for the choice of study. The purpose of the study will be presented as well as the chosen scope and its delimitations. In addition, a brief reflection of the relevance of the study will be given.

This master thesis investigates the effect of trust in management with regard to capital markets in order to establish whether trust can have any real economic consequences. The study empirically tests if management tenure, as a proxy for trust, can explain a lower level of cost of equity capital[1] by decreasing investors' perceived risk of an investment. If investor trust in management can be assumed to result in a lower perceived risk, it could lead to a lower required return, or differently stated, a lower cost of equity capital from the firm's perspective. By testing for an association between tenure and proxies for investors' perceived risk or uncertainty, it is possible to quantitatively test whether this hypothesis is true.

1.1 Problem Background

Trust is an essential aspect within a variety of fields and irrespective of the relationship type. For instance, trust is a facilitator for inter- and intra-organizational relations as well as for the relationship between companies and their stakeholders (Tomkins, 2001). Regarding financial accounting, one of its primary functions is to establish trust and to provide reliable, credible and useful information to its users in order for the capital markets to function. As one of the main users of financial statements, investors rely on information that assists them in the risk assessment and the resource allocation decisions. Here, managers have an important role to provide financial statements with high credibility. (Di Pietra et al., 2014)

There is currently an ongoing debate regarding the importance of trust in relation to accounting (Baldvinsdottir et al., 2011). According to Jones & Dugdale (2001), trust is essential for an accounting system to function and the power of accounting lies within its ability to offer guarantees of expertise when risk is present. Nevertheless, at some point in time, these accounting systems need to be created, implemented and monitored by persons, which highlights that, eventually, trust must be placed in people.

Recent accounting scandals have revealed that managers have an important role in the creation and maintaining of trust in accounting. Managers have resigned, either voluntarily or by force, when there is a lack of trust in them, which often is the case after an accounting scandal. In addition, a company that lacks credibility and trustworthiness regarding its financial accounting will find it more difficult to obtain external financing, both in terms of debt and equity (Di Pietra

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[1] Cost of debt is not considered in this study. Therefore, cost of capital, cost of equity and cost of equity capital will be used interchangeably in the thesis, where the former refer to the latter.

et al., 2014). This may hinder the economic development, since an increase in the cost of equity lowers the level of overall investments in an economy (Damodaran, 2009). For the firm itself, the cost of equity capital plays an important role regarding a company's decision making, since it influences corporate decisions related to both operations and capital structure. Subsequently, the cost of equity affects a company's profitability, which makes it an important aspect for companies to control and maintain at a low level. (Easley & O'Hara, 2004)

1.2 Problem Discussion and Definition

While investors have access to the accounting performance of a company through corporate disclosures, managers possess power and information regarding the economic performance of a company. This implies that managers have an information advantage and that an information asymmetry is present, since managers have access to information that investors can access only if it is disclosed to them. Consequently, there exists an information risk, i.e. that the economic performance of a company is not fully reflected in the accounting performance, on which the investors base their investment decisions. Previous research has indicated that a higher level of disclosures or a larger amount of public information lowers the information asymmetry and consequently the cost of equity capital (e.g. Diamond & Verrecchia, 1991; Botosan, 1997; Easley & O'Hara, 2004). This can be explained by a decrease in the information risk, which lowers investors' perceived risk and thereby the required return on investments. Thus, the quantity of the information reported to investors affects the equity risk premium, through its influence on the information risk component. The quality of the information reported to investors matters as well, since information of higher quality can lower a firm's cost of capital (Botosan, 1997; Easley & O'Hara, 2004; Damodaran, 2009). Quality is connected to the reliability, credibility and truthfulness of the information reported to the investors regarding a company's underlying economics (Damodaran, 2009; Di Pietra et al., 2014). Senior management is responsible for the accuracy and reliability of the financial statements and to ensure that these disclosures do not contain any untrue or misleading information (IAS 1, 2013), and they play a central role in the establishment of high quality accounting (Iatridis, 2010; Di Pietra et al., 2014).

With regard to managers' role in creating reliable, credible and truthful financial statements, it is of interest to investigate whether trust in management enhances investors' perceived quality of the information. If trust in management makes investors view the reported information as reliable, credible and truthful, then they may regard the information as being of high quality, free from manipulation and a true reflection of a company's underlying economics, which in turn might lower the information risk and, consequently, the required rate of return.

Furthermore, previous research has identified trust as a willingness to accept risk, which implies adopting a belief without having full information. In this sense, trust can be viewed as an alternative to increased information, since trust is a factor that reduces uncertainty. (Tomkins, 2001; Baldvinsdottir et al., 2011; Carlsson Hauff, 2014) In addition, trust is an important attribute when it comes to investors' investment decisions and risk assessment, which indicates that trust

plays an important role when it comes to investors' perceived risk of investing in a company. (Mitchell et al., 1995; Guiso et al., 2008; Olsen, 2012) Further, prior research has highlighted the fact that trust ultimately concerns trust in people, since systems, such as accounting, are run and represented by people (Jones & Dugdale, 2001; Tomkins, 2001; Olsen, 2012) With this in mind, could trust in management result in a lower perceived risk among investors and thereby lead to a lower cost of capital? Could trust in management reduce or even mitigate the perceived information risk that is associated with the information asymmetry between managers and investors? If trust in systems, such as the financial accounting, needs to be supported by trust in persons, it implies that credible and reliable financial reports are as important as the trustworthiness of the actors that are responsible for their creation, i.e. the senior managers, in order for the accounting to create confidence in the face of risks.

Based on previous research, this study identifies two possible ways for trust in management to affect investors' perceived risk and thereby the cost of equity capital. First, if investors have trust in management, they might regard the financial statements as being more reliable and trustworthy when it comes to reflecting the economic performance of a company, which may lead to a lower perceived risk. This is referred to as the indirect effect, since trust in managers might affect investors' perception of the information provided in the financial statements, which in turn influences their perceived risk. Second, investor trust in management could be defined as trust in the persons appointed as senior managers, such as the CEO and CFO. This is referred to as the direct effect, since trust in management alone might be enough to lower investors' perceived risk of investing in a company. This is connected to a belief in the personal performance of these managers to generate future cash flows and not to act opportunistic, which shares strong similarities with the concepts of competence and goodwill trust and their effect on risk perception (e.g. Das & Teng, 2001; Langfield-Smith, 2008; Freiburg & Grichnik, 2012).

1.3 Purpose Statement

The purpose of this study is to test whether trust in management is associated with a lower perceived risk among investors and, thus, can have any real economic consequences for the capital market. The relationship is tested on a sample of European companies with listed stocks, which operate on functioning capital markets. Trust in management is the independent variable and will be defined as tenure on the job for top management, which includes the CEO and CFO. The bid-ask spread, share price volatility, trading volume and analyst forecast dispersion are the dependent variables and serve as proxies for investors' perceived risk or uncertainty, and consequently as indicators of the effect on a firm's cost of capital. Firm size, analyst coverage, free float[2] and industry are firm characteristics identified as intervening variables and will be statistically controlled in the study.

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[2] Defined as the percentage of total shares in issue available to ordinary investors, which is the total number of shares less strategic holdings (five per cent or more).

1.4 Relevance of Study and Potential Contributions

The importance of accounting and trust in relation to capital markets and managers' role regarding trust in accounting are highly relevant subjects. The latest financial crisis and the escape from risk was to a large extent a crisis of confidence and trust (Krugman, 2009; Baldvinsdottir et al., 2011) and the increase in equity risk premiums that followed the recent accounting scandals and the market collapse were not associated by a lack of information. Instead, the risk premiums rose as a consequence of an information overload combined with a deterioration in the quality and reliability of that information. (Damodaran, 2009) The importance of managers to restore trust in the accounting system and the capital markets is visible in previous literature (Rockness H. & Rockness J., 2005; Damodaran, 2009; Di Pietra et al., 2014) and through the adoption of IFRS to lower the probability of earnings management and managerial discretion and thereby increase the quality of the financial reporting (Iatridis, 2010). If prior research state that financial crises result in increased risk levels and higher cost of capital for companies, as a consequence of a decrease in trust, it is highly relevant to test if trust can be associated with a firm's cost of equity and, thus, can have real economic consequences.

Previous literature (e.g. Tomkins, 2001; Baldvinsdottir et al., 2011) highlights the need for further research within the field of accounting and trust. First, an establishment of a measure of trust in the field of accounting is needed and suggested as one potential area for future research (Baldvinsdottir et al., 2011). Even if no general measure of trust will be presented in this master thesis, it will cover the use of management tenure as a proxy for trust in management, as defined by Gibbs et al. (2004), in order to study its effect on investors' risk perception and a firm's cost of equity capital. Second, prior studies (e.g. Mitchell et al., 1995; Guiso et al., 2008; Olsen, 2012) have defined trust as an important investment attribute for investors, which indicates that trust is a crucial component of the overall risk assessment of investors before they decide to invest in a firm's equity. More specifically, Olsen (2012) concludes his empirical study with the following questions:

"If trust is a risk attribute what are the implications of these facts for financial risk? Under what circumstances can we expect trust to significantly alter risk premiums? Is trust something that should be explicitly considered in portfolio management and market forecasts?"

(Olsen, 2012, p. 312)

In this regard, this thesis can contribute with an explanation of how trust in management may affect or influence investors' risk perception and consequently the cost of equity capital. To the researcher's knowledge, no previous studies within the field of financial accounting have used management tenure as a measure of trust in management, nor tested for an association with investors' perceived risk and the cost of equity capital. Thus, the findings of this study may provide the field of financial accounting and trust with new insights and provide knowledge regarding the potential future use of tenure as a proxy of trust in management. In addition, if trust

in management is shown to be a potentially priced risk factor, it could be of strategic importance for companies. This insight could enable firms to influence the level of cost of equity with additional measures apart from the quantity and quality of reported information, which have already been shown by prior research to be negatively associated with cost of equity (e.g. Diamond & Verrecchia, 1991; Botosan, 1997; Easley & O'Hara, 2004; Francis et al., 2005; Gray et al., 2009; Lambert et al., 2011; Setterberg, 2011). Since a company's cost of equity capital is essential to its operations and profitability and plays a fundamental role for several corporate decisions (Easley & O'Hara, 2004; Di Pietra et al., 2014), it is significant for managers to understand its components and determinants.

The notions of goodwill and competence trust are concepts that are widely used within the field of management accounting and especially in relation to strategic alliances, where the former is concerned with good intentions and reduces the risk of opportunistic behaviour and the latter has to do with expertise and the ability to perform (Das & Teng, 2001; Langfield-Smith, 2008). Previous studies indicate that these can be applied to the field of financial accounting, since the concepts have been used and discussed in relation to investors' investment decisions (Freiburg & Grichnik, 2012). However, they have been applied in a venture capital investment setting, which differs from the relationship between investors and companies on normal stock markets. Thus, this is a potential area where this master thesis might contribute with new knowledge.

1.5 Scope of Study and Delimitations

Due to the various definitions of trust that is visible in the literature regarding trust and accounting (e.g. see Baldvinsdottir et al., 2011), it is clear that the notion of trust is a highly subjective area for research. Consequently, in order to conduct this study one must agree on a definition of trust. Thus, the assumptions and interpretations of this master thesis will primarily be delimited to the definition of trust as described by Tomkins (2001):

'The adoption of a belief by one party in a relationship that the other party will not act against his or her interests, where this belief is held without undue doubt or suspicion and in the absence of detailed information about the actions of that other party.'

(Tomkins, 2001, p. 165)

The adoption of a belief without having full information reflects the willingness to accept risk. Tenure on the job will serve as a proxy for trust in management, as described by Gibbs et al. (2004) and refers to senior management and, more specifically, the CEO and CFO, mainly due to their responsibilities for and influence on a firm's financial statements and accounting practices.

This master thesis aims to investigate the relationship between trust in management and investors' perceived risk or uncertainty and its possible effect on cost of equity. The dependent variables are empirical proxies for information risk or uncertainty and therefore linked to the required rate of return. The study does not intend to give a full and detailed explanation of all

potential determinants of the cost of equity and all factors that might influence its level. Instead, the focus will be on investors' perceived risk that arises from the information asymmetry between managers and investors. Consequently, it is the primarily the information asymmetry component of cost of equity that is subject for the discussions in this study regarding potential effects on a firm's cost of capital. Other aspects than the information risk will be presented only when it is considered to provide a comprehensive view of the studied phenomenon. This study controls for firm size, analyst coverage, free float and industry, which are intervening or confounding variables that otherwise might obscure the effect between management tenure and the chosen proxies (Collis & Hussey, 2009). Apart from such firm characteristics, the dependent variables might be influenced by a several other factors (such as changes in individual risk preferences, liquidity shocks and portfolio rebalancing) that are unrelated to information asymmetry (Leuz & Verrecchia, 2000). These additional risk factors are outside the scope of this initial study. Further, the study does not control for earnings quality, which could be positively related to tenure, since experienced managers could increase the quality of earnings.

1.6 Outline of Thesis

1. INTRODUCTION	This chapter will present the problem background of this study and the problem discussion, which will result in a coherent argument for the choice of study. The purpose of the study will be presented as well as the chosen scope and its delimitations. In addition, a brief reflection of the relevance of the study will be given.
2. LITERATURE REVIEW	This chapter will present the existing information, knowledge and theories visible in prior research that relate to the studied phenomenon in order to give a comprehensive view of the research area. First, it will provide an overview of the notion of trust in relation to accounting and managers as well as the concept of management tenure as a proxy for trust in management. Second, it will describe the capital market effects with regard to uncertainty, information risk and managerial influence and the relation to the components of cost of equity.
3. HYPOTHESES DEVELOPMENT	This chapter will develop the hypotheses for the expected association of the variables in the empirical study based on the aforementioned literature review. In relation to the main hypothesis, four sub-hypotheses will be identified for each proxy and the expected direction of the association with the independent variable. These hypotheses constitute the research questions and form the basis for the empirical tests, to which a suitable methodology will be applied.
4. METHODOLOGY	This chapter aims to explain the chosen research design and research paradigm, which guides how the necessary data will be obtained as well as the methods and techniques that will be used to collect and analyse the research data. Further, the operationalization of concepts and the definition of variables are discussed and the applied methodology and the chosen proxies are motivated. Finally, potential limitations are presented with regard to the chosen research design.
5. EMPIRICAL RESULTS AND ANALYSIS	This chapter will present the empirical results of the statistical tests and an analysis with regard to the purpose and hypotheses in this study. First, the variables used in the statistical analysis will be described and the relationship between the independent variables will be investigated. Second, the Fixed-Effects regressions for each hypothesis are presented and analysed to establish whether the null hypotheses can be rejected. Finally, the analysis will result in a discussion of the empirical results and the rejection or non-rejection of the study's main hypotheses.
6. CONCLUDING REMARKS	This chapter presents the conclusion of the empirical results with regard to the purpose and the main hypothesis of this study. Further, it will present potential contributions and provide a brief reflection of the measures taken to ensure valid and robust results. Finally, it presents potential limitations of the study, which might serve as useful insights for further research.
7. SUGGESTIONS FOR FURTHER RESEARCH	This chapter presents the suggestions for further research. The suggestions are based on the potential limitations of this study as well as on interesting areas or aspects that the researcher has encountered during the research process.

2. Literature Review

This chapter will present the existing information, knowledge and theories visible in prior research that relate to the studied phenomenon in order to give a comprehensive view of the research area. First, it will provide an overview of the notion of trust in relation to accounting and managers as well as the concept of management tenure as a proxy for trust in management. Second, it will describe the capital market effects with regard to uncertainty, information risk and managerial influence and the relation to the components of cost of equity.

2.1 Introduction to the Literature Review

Given the aim of this master thesis, two central notions or areas are visible; the role of trust in financial accounting, with its relation to trust in people and, more specifically, managers and the effect of trust in management from a capital market perspective with regard to investors' risk perception and the cost of equity capital. Consequently, the literature review will focus on previous studies within these areas, which will serve as the basis for the empirical testing, analysis and concluding remarks.

2.2 The Role of Trust in Financial Accounting

The work by Baldvinsdottir et al. (2011) provides an extensive but structured overview of the literature concerning the relation between accounting and trust. Regarding the definition of trust the authors have found that previous research has identified that trust implies a willingness to accept risk and, thus, can be seen as a factor that reduces uncertainties. In relation to this definition, Tomkins (2001) discusses that trust can be seen as an alternative to increased information, since it is an uncertainty absorption mechanism. His definition of trust is the adoption of a belief without having full information since the perceived uncertainty is reduced, even if the actual uncertainty remains unchanged. Consequently, the author states that trust is the fundamental determinant of information requirements when this definition is accepted. However, even if trust is an alternative to information, the relationship between them is complex and far from a simple inverse one. Depending on the level of trust and type of business relationship, the type and amount of information that is needed will differ. On one hand, some information will always be needed in the initial phase of a relationship in order to create trust and provide some basics for decision-making. On the other hand, some information can be substituted with trust, once trust has been established. Consequently, the substitutability will increase over time, but throughout the process one will influence the other. Trust is influenced by information, which in turn affects the need for future information and so on. However, inadequate quality and reliability of the information have the potential to destroy trust. (Tomkins, 2001) This two-directional relationship between information and trust is further recognized by Baldvinsdottir et al. (2011) with regard to accounting and trust, since they find that trust can be affected by accounting at the same time as accounting practices can be affected by trust.

The relationship between trust and information is visible in the work by Mitchell et al. (1995). The authors examine the demand of accounting information from venture capitalist investors

(VCIs) in the UK from a principal-agent perspective. The principal-agent relationship analysis performed by the authors reveals that there exists an information asymmetry between the directors of the investee firms (the agent) and the VCIs (the principal). The information advantage of the agent is explained by the authors as a result of power and control over the information flow as well as better familiarity with the business operations of the company. One finding is that the early years of the investment were characterised as more risky since the VCIs were less familiar with the investees and therefore required more information. Another important finding concerns how the investors view the information asymmetry problem with regard to their investment decisions. Here, trust is mentioned as a risk-limiting factor to the information advantage possessed by the managers in the investees as well as the requirement to trust the investees before investing. These venture capital investments are characterised by small and unquoted investees that possess a potential for growth, where the investors within a few years expect to earn satisfactory returns through different exit routes. Due to the smaller size of these companies and the fact that they often have more novel products or services, the information demand of investors and the risk associated with the investment are greater compared to investments made on established stock markets. Even so, the study highlights the importance of trust when risk is present as well as the need for information in the initial phase due to a limited familiarity or trust, which is reflected in an increased perceived risk. (Mitchell et al., 1995)

The role of trust from a principal-agent perspective is further discussed by Tomkins (2001), who argues that trust is an alternative measure to the classical agency theory approach when it comes to managing relationships. According to the agency theory, the relationships are controlled through the implementation of appropriate incentives, since it is otherwise assumed that agents will act against the principal's interest. Trust is an alternative approach in order to overcome information asymmetries and moral hazards, since trusting someone enables people to act in a certain way and as if uncertainties were not present.

According to Jones & Dugdale (2001), the power of accounting lies within its ability to offer guarantees in the presence of risk. The potential breakdown of large companies, which will affect employees, pensioners and investors, is such a risk. The accounting system consists of a network of practices, which are embedded in accounting knowledge. In addition, accounting encompasses social relations in which it signals that the correct business or managerial practices have been adopted. The accounting system enables 'management by numbers' and 'acting at a distance' (Jones & Dugdale, 2001, p. 41), since its language can travel across time and space and does not require a geographical proximity. Thus, accounting can establish trust in systems through the accounting practices that generate information, which is central to the principal-agent theory, where accounting can be seen to monitor the contract between distant owners (principals) and local managers (agents).

2.2.1 Trust as an Investment Attribute

The importance of trust with regard to investors' investment decisions is highlighted by a number of studies. Apart from the studies by Mitchell et al. (1995) and Harrison et al. (1997), who find

that trust is an important investment attribute in connection to VCIs' investment decisions, Olsen (2012) argues that trust is a significant investment attribute for investors, which affects their risk perception. The investment risk of most non-professional and many professional investors is 'feeling' based and, thus, related to affection and feelings of fairness, fear, personal control and familiarity. His survey shows that trust is an important risk attribute when the investment risk is being evaluated and the importance of trust increases with the complexity of the investment analyses, where foreign investments are mentioned as examples.

Huberman (2001) provides evidence of the fact that investors have a tendency to invest in the familiar. The researcher investigates peoples' investment decisions from a home country bias perspective and finds that people prefer to invest in their home country as opposed to foreign countries, despite the potential benefits of international diversification. Familiarity affects investors' perception of risk and return and, consequently, their investment decisions. The author argues that investors are more optimistic and charitable towards the familiar or the comfortable, since that represents what they feel affinity with. This behaviour may cause them to deviate from the principles of portfolio theory, which suggests that familiarity is considered in the optimization of risk and return trade-offs regarding investment decisions. Consequently, familiar stocks might be regarded by investors as more prone to deliver higher returns at a lower risk. (Huberman, 2001) The fact that investors sometimes prefer to invest in companies with which they are familiar and thereby ignore the benefits of diversification is further discussed by Heath & Tversky (1991). They present evidence of the fact that some decision makers disregard calculated risk in favour of the familiar, which indicates a possibility of a willingness to bet on uncertain events that originates from other factors than a perceived likelihood of a certain outcome and a confidence in estimates. Kim et al. (2008) have studied consumers' e-commerce purchasing decisions and found that familiarity factors have a positive impact on trust, which in turn has a strong negative effect on perceived risk.

Carlsson Hauff (2014) discusses the relation between trust and risk-taking with regard to individuals' financial choices. According to the author, knowledge and involvement have a positive influence on risk-taking and knowledge is assumed to have an effect on the formation of trust. Guiso et al. (2008) have found that the level of knowledge, measured as individuals' education, has an influence on trust in a stock market setting for a large sample of Dutch individuals. Subsequently, the level of trust influences risk-taking and the decision not to invest in the stock market can be explained by a lack of trust.

The importance of trust for investors' investment decisions and the overall functioning of the capital market is presented by Krugman (2009). He argues that crises in many cases are not fundamentally due to the economic aspect. Instead, a crisis is largely explained by a loss in confidence from international investors, which can cause a market to collapse.

2.2.2 Trust in People

The need for trust in people is discussed by Jones & Dugdale (2001), who state that trust in systems, such as accounting, must interact with trust in persons in order to create confidence when risks are present. Thus, the power of accounting to offer guarantees in the presence of risk is temporary, fragile and partial. At some point in time, these accounting systems need to be created, implemented and monitored by individuals, which highlights that, eventually, trust must be placed in people. The credibility of the accounting, which concerns the technical performance, must be reinforced by a trustworthiness of the actors involved that represent the accounting system, which concerns the personal performance. Consequently, trust in systems is abstract and never complete without trust in persons. (Jones & Dugdale, 2001) Indeed, the definition of trust as presented by Tomkins (2001) is based on trust in people, since systems or objects have no intentions. Therefore, trust concerns trusting someone or trusting systems controlled and operated by individuals. However, objects may destroy trust when they fail to operate as planned.

The notions of goodwill and competence trust are widely discussed concepts regarding the relationship between risk, trust and control in strategic alliances (e.g. Das & Teng, 2001; Langfield-Smith, 2008). Together with management control systems, goodwill and competence trust are approaches that partner firms can use in order to reduce and manage risk in their inter-firm relationships. Goodwill trust concerns integrity, good faith and good intentions and reduces the perceived relational risk, which is the risk of opportunistic behavior connected to an individual's own interests. Competence trust, on the other hand, concerns the expectation that the other party possesses the appropriate resources and capabilities as well as the expertise to perform in line with an agreement. This type of trust reduces the performance risk, which includes lack of competence, rivalry, fluctuating demands and the threat of new entrants. (Das & Teng, 2001) In other words, goodwill trust concerns one's *intention* to perform in accordance with a contract or an agreement, while competence trust concerns one's *ability* to perform according to the established agreement (Langfield-Smith, 2008). Although interpersonal and interorganizational trust are different constructs, interfirm trust eventually involves trust in perople at the individual level. For example, to develop goodwill trust between firms, one must develop trust at the individual or team-based level as well. (Das & Teng, 2001) In addition, a study by Freiburg & Grichnik (2012) shows that personal relationships between investors and investees in a venture capitalist setting lead to an increase in goodwill trust, which in turn influences investors' investment decisions. Consequently, social ties through personal relationships build trust that establish financing relationships despite the presence of high uncertainty. With regard to the aspect of trust in persons, and more specifically trust in management, the survey conducted by Olsen (2012), which found trust to be an important investment attribute, particularly shows that trust in the investment's managers plays a significant role when the investment risk is being evaluated. In addition, a majority of the investors strongly agree on the fact that the perception of personal trust is important in the evaluation of risk information.

2.2.3 Proxy for Trust in Management

One aspect discussed in the article by Baldvinsdottir et al. (2011) is the need for a measure of trust. Gibbs et al. (2004) have identified management tenure on the job as a measure of trust in management. In their heavily cited article the authors investigate the effects of subjectivity on firm performance and pay satisfaction as well as when companies make better use of subjectivity in awarding bonuses. One of their findings is that the effect of subjective bonuses is larger when managers' tenure is greater, which indicates the importance of trust. Management tenure is motivated as a suitable proxy for trust in management with the fact that trust develops over time through the establishment of good working relationships and reputation. The fact that trust is something that develops over time is recognized by several other researchers (e.g. Mitchell et al., 1995; Tomkins, 2001; Langfield-Smith, 2008; Olsen, 2012). In addition, Setterberg (2011) recognizes the tendency of initial information uncertainty to reduce over time.

2.3 Capital Market Effects

A common view in prior research is that trust is essential for the capital market not to collapse (e.g. Krugman, 2009; Baldvinsdottir et al., 2011; Olsen, 2012). Baldvinsdottir et al. (2011) highlight the importance of trust with regard to the capital markets and state that the latest financial crisis and the escape from risk to a large extent was a crisis of confidence and trust. Krugman (2009) describes the vulnerability of the financial system with regard to a decline in confidence. Just as an increase in confidence and belief about the economy can push stock prices to remarkable levels, economic crises are characterized by disbeliefs, which can cause bank runs and panics. When banks and financial institutions face severe economic problems or even collapse, confidence is further undermined. These pre-depression panics and financial contagions are similar for all financial crises. Olsen (2012) highlights the importance of trust with regard to the perception of investment risk and the functioning of capital markets. Low transaction costs are essential for financial markets to function efficiently. Untrustworthy participants on the capital market lead to increased transaction costs, which eventually will cause the market to collapse. Higher transaction costs are a result of lack of trust, which increases the demand for more information and more accountability (Tomkins, 2001).

2.3.1 Investors' Perceived Risk, Uncertainty and Expected Return

Investors base their investment decisions on accounting information in order to assess the expected future payments of a share and the investment risk. When these aspects are evaluated, accounting earnings appear to be the most significant accounting number. (Francis et al., 2004; Setterberg, 2011) One central notion in modern finance regarding investments is the fact that riskier investments are reflected in higher expected returns in order to compensate for the extra risk that investors face compared to safe investments (Damodaran, 2009). This notion is based on the premise that investors are risk averse and that risk will be priced (Easley & O'Hara, 2004). If two assets have the same expected values, but one of them is considered riskier, an investor will pay a lower price for that asset through a higher equity risk premium, which is used to discount the expected value. Thus, riskier investments are compensated with higher risk premiums, which raise the expected return and, consequently, the cost of equity capital. The risk premium is one of

the two parts that constitute the expected return on any investment. The other part is the risk-free rate. In addition, it is essential to separate the risk into a firm-specific component and a market component. Since the former is connected to the specific investment and the latter to a large subset of investments that is not diversifiable, it is only the latter risk that should be rewarded. (Damodaran, 2009)

According to Damodaran (2009) there are several determinants of the cost of equity. Apart from the fact that investors are risk averse, catastrophic risk, economic risk, liquidity risk, the behavioral/irrational component and information risk, all serve as determinants of the equity risk premium. The catastrophic risk concerns the influence of potential catastrophic events, such as a crisis, on the equity risk premiums. The cost of equity rose dramatically during the financial crisis of 2008 due to a sharp climb of the risk premium. Thus, the risk of dramatic drops in the economy is reflected by a rise in risk premium and the overall cost of equity. Economic risk concerns the inflation, interest rate and economic growth, which are connected to the overall health of an economy. For example, if the inflation rate is higher than expected, the equity premium tends to increase. Further, liquidity risk is connected to the costs of illiquidity. If high transaction costs are associated with the liquidation of shares, investors will demand higher risk premium and thereby pay a lower price for such shares by a higher discount factor. The behavioral or irrational component is connected to the human behavior and potential deviations from rational behavior. Finally, the information risk arises from the existing differences in information about a company's underlying economics between firms and investors. Thus, the risk relates to both risk connected to changes in the underlying real economy and how this information is signaled to the market and the investors. Imprecise or less informative reported earnings create uncertainty among investors, which increases the equity risk premium.

2.3.2 Information Risk and the Role of Managers in Financial Reporting

The information asymmetry that is present between byers and sellers of company shares imposes costs on the capital market, since it gives rise to an adverse selection. This reduces the liquidity of the shares and consequently raises a firm's cost of capital, since investors want to be compensated for holding illiquid shares. (Leuz & Verrecchia, 2000) According to Damodaran (2009), it concerns both the quantity and quality of the information that is reported by the firms to the investors regarding the firm's underlying economics. For instance, the market boom in the 1990s could be characterized by an access to more information among investors, which lowered the equity risk premiums and increased the confidence in the market. The higher levels of trust in the 1990s created a common belief of trustworthiness and assurance, which made assets with inflated values seem safe and reasonable (Olsen, 2012). The increase in equity risk premiums that followed the market collapse and the accounting scandals in the 21st century, despite access to a large amount of information, showed that the quality and reliability of the information are as important as the quantity. Thus, the accounting scandals were not associated with a lack of information; instead the risk premiums rose as a consequence of an information overload

combined with a deterioration in the quality and reliability of that information. Thus, the equity risk premium should decrease when earnings quality increases. (Damodaran, 2009)

Prior theoretical research has indicated that there is a positive association between a firm's cost of equity and information uncertainty (e.g. Easley & O'Hara, 2004; Lambert et al., 2011). The empirical work by e.g. Leuz & Verrecchia (2000), Francis et al. (2005) & Peng He et al. (2013) show that the information risk is a non-diversifiable risk and a priced risk factor. According to Easley & O'Hara (2004), information differences between informed and uninformed investors affect the cost of capital, since investors will demand a higher risk premium for stocks with greater private information and less public information. The logic behind this finding lies in the disadvantage of uninformed investors, since informed investors are able to shift their portfolios based on the latest available information. Thus, the uninformed investors are always on the wrong side and require a premium to compensate for the adverse selection. In that sense, private information is a non-diversifiable and a systematic risk and increased quality or quantity of information can lower this risk. Increased quantity, through disclosures, turns private information to public and increased quality raises the precision of the information, both influencing the required rate of return. Therefore, the choice of accounting treatments matters. (Easley & O'Hara, 2004) Francis et al. (2005) have established that reporting quality matters, since accruals quality, as an earnings quality measure, is a priced risk factor. Further, Setterberg (2011) empirically shows that earnings quality is a priced risk factor and negatively associated with a firm's cost of equity. Investors use company information for their decision-making and to be able to price securities. Imprecise or uncertain information creates an information risk, since poor quality impairs the coordination between firms and investors. Consequently, firms with poor accruals quality experience higher cost of equity in comparison with firms that have good accruals quality. (Francis et al., 2004; 2005) In contrast to these findings, McInnis (2010) finds no association between earnings quality, measured as earnings smoothness, and a lower cost of equity capital.

Yee (2006) connect reported earning to two sources of risk. The first concerns fundamental risk, which is related to earnings as a fundamental attribute and the ability of a company to generate future payments. The fundamental risk concerns uncertainties regarding these payments, which remains unresolved. The second source of risk stems from the quality of the reported earnings, which highlights the role of earnings as a financial reporting attribute. The earnings quality risk arises from noisy financial reports and is linked to a company's accounting policies. Thus, an inadequate application of accounting practices and a deficient reporting environment creates an information risk. If all investors are equally informed about a firm's performance, then poor earnings quality does not indicate information asymmetry. Rather, it creates incomplete information, which in turn increases the cost of capital, given that fundamental risk is present. (Yee, 2006) The fact that reported earnings signals a firm's underlying economics and value creation explains the expected association with stock returns. Stock market reactions to earnings are a reflection of investors' perceived uncertainty of the value relevance and reliability of the

reported information. Reported earnings are value relevant to investors if they are an informative and a reliable reflection of a company's value creation. (Setterberg, 2011)

The importance of managers to ensure credible financial statements that have high quality arises from the principal-agent relationship between managers and investors. As principals, investors are not able to directly observe whether or not managers act in an ethical and "high quality" manner. Uncertainties among investors concerning the quality of a company's financial statements give rise to market inefficiencies. These uncertainties impose the need for external audits as a way to detect any misrepresentations. Consequently, if managers of a company are known to act in an ethical and high quality manner, that alone can enhance the credibility of the financial statements and thereby reduce a company's effort to achieve credibility through external audits, which lowers the total social costs and audit fees and contributes to the functioning of capital markets. (Di Pietra et al., 2014) Francis et al. (2005) show that the influence of managers on the reporting quality affects the cost of equity. Managerial discretion with regard to error, accounting choices and implementation decisions that reflect opportunistic behaviour lead to poor accounting quality and increases uncertainty and the information risk. At the same time, a managerial effort to enhance the quality of the reported information to better reflect the actual performance in a reliable way reduces the information risk.

2.3.3 Proxies for Information Risk and Uncertainty

The Bid-Ask Spread

When buying and selling shares at the stock market, investors can choose to either wait to transact at favourable prices or turn to dealers who allow investors to trade on demand to current bid and ask prices and, thus, enable immediate transactions (Amihud & Mendelson, 1986; Callahan et al., 1997). The bid-ask spread is the difference between the bid price and the ask price, which is set by dealers to compensate for their services (Stoll, 1989; Lin et al., 1995). If an investor wishes to buy shares, the dealer will offer the shares to a quoted ask price, which includes a premium for an immediate buying (Amihud & Mendelson, 1986). Differently stated, the ask price is the price at which the dealer is willing to sell shares. In the same manner, the bid price is the price at which the market maker is willing to buy shares. (Callahan et al., 1997) If an investor wishes to sell shares, the dealer will quote a bid price, which includes a concession for an immediate sale (Amihud & Mendelson, 1986).

Previous research (e.g. Amihud & Mendelson, 1986; Stoll, 1989; Lin et al., 1995; Callahan et al., 1997; Huang & Stoll, 1997; Peng He et al., 2013) suggests that the spread can be decomposed into three components – order processing costs, inventory holding costs and adverse selection costs, which are all costs that face the dealer. Order processing costs concern the costs of carrying out the transaction (Lin et al., 1995). Inventory holding costs represent the costs of the inventory that a dealer needs to hold in order to be able to buy and sell shares on demand. Finally, the adverse selection costs reflect the information asymmetry as perceived by the dealer. (Callahan et al., 1997) The adverse selection component will become larger as the dealer's perceived

information asymmetry risk increases, which results in a higher bid-ask spread. This occurs when the dealer perceives that he is dealing with traders that are better informed or have access to more precise information. Since the dealer is aware of the fact that these traders only trade when it is beneficial to them, the bid-ask spread is set to compensate for the expected loss, with regard to the potential gain from uninformed investors. (Easley & O'Hara, 1987; Callahan et al., 1997) A smaller bid-ask spread reflects less adverse selection as a consequence of less information asymmetry (Leuz & Verrecchia, 2000). Cohen (2004) uses the bid-ask spread as a proxy for information asymmetry and finds that lower spreads are associated with financial statements of higher quality and lower uncertainty. However, he finds no significant association with a firm's cost of capital, which is estimated with an implied cost of capital (ICC) model.

Financial assets with high liquidity are characterised by lower transaction or execution costs, which include both explicit transaction costs such as taxes and order processing costs, and implicit execution costs, such as inventory holding costs and adverse selection costs. Since the bid-ask spread captures these costs, it is a commonly used measure for transaction or liquidity costs. (Sarr & Lybek, 2002) Prior cross-sectional studies have shown that lower bid ask spreads are found for firms that operate on more liquid markets. Firms that are more actively traded and followed experience lowers spreads, since order processing costs and inventory holding costs are lower for these firms. (Callahan et al., 1997) Lower inventory costs can be explained by the fact that dealers can hold inventory positions under the assumption that byers and sellers will continue to emerge. Liquid assets are more attractive to investors, since they can be traded more easily and they increase an individual investor's willingness to trade and to take a risk. (Sarr & Lybek, 2002) According to Leuz & Verrecchia (2000), information asymmetry gives rise to transaction costs, which lower a stock's liquidity. Consequently, stocks with higher liquidity risk experience higher expected returns, since investors demand compensation for bearing the extra liquidity risk (Pástor & Stambaugh, 2003). Correspondingly, it has been found that assets with higher spreads are associated with higher expected returns. By adopting financial policies that increase liquidity, a firm can lower their cost of capital. (Amihud & Mendelson, 1986)

Share Price Volatility

Share price volatility has been shown to indicate market uncertainties and systematic risk and has been used in previous research as an additional proxy for information asymmetry. For example, Leuz & Verrecchia (2000) applies volatility in stock returns as a proxy for information asymmetry. However, the authors acknowledge that volatility can be an unreliable proxy, since it is related to additional risk factors that are not associated with information asymmetry. McInnis (2010) uses volatility in order to test if volatile earnings are compensated with higher returns, since smoothened earnings could be an earnings quality attribute. Stock market volatility reflects uncertainty regarding a company's future cash flows and represents the systematic risk faced by investors. Thus, stock market volatility tends to rise during periods of increased uncertainty, which leads to a higher cost of capital through an increase in the expected return, since investors demand a higher compensation for bearing the systematic risk. (Guo, 2002) The fact that

investors are compensated through higher stock returns for illiquidity and information asymmetry is further recognized by Amihud & Mendelson (1986; 1989) and Leuz & Verrecchia (2000).

Trading Volume

Trading volume is an additional proxy for information asymmetry, since it measures stock liquidity and thereby reflects investors' willingness to sell and buy shares. The willingness to trade is inversely associated with information asymmetries and therefore the adverse selection component is captured with this proxy. (Leuz & Verrecchia, 2000) This inverse relationship is further recognized by Chae (2005) before scheduled corporate announcements, when information asymmetry is assumed to be at its highest level. Prior to scheduled announcements, which include timing information, uninformed investors are aware of the information asymmetry and their disadvantage towards informed investors. By postponing the trade and awaiting the information flow as a result of the scheduled announcement, uniformed investors can optimize their trades and minimize the adverse selection costs. Consequently, they will trade less before scheduled announcements, which results in a decrease in the overall trading volume. However, prior to unscheduled announcements, which lack timing information, uniformed investors are unaware of the fact that an information asymmetry exists. Thus, they fail to recognize their disadvantage and their opportunity to postpone trades. Simultaneously, informed traders recognize their information advantage and increase their trading demands. As a result, trading volume increases before unscheduled announcements, since uninformed investors act as usual while informed investors trade on their information advantage. (Chae, 2005; Mahipala et al., 2009)

Analyst Forecast Dispersion

According to Barron & Stuerke (1998), analyst forecast dispersion is a measure of uncertainty about a firm's future performance. An increase in analyst forecast dispersion after an earnings announcement indicates a further need for information among investors and is therefore a sign of low-quality financial disclosures. If generally accepted accounting principles are violated or if financial statements receive low ratings, it has been found to lead to an increase in analyst forecast dispersion. Consequently, it is a suitalble proxy for uncertainty, since investor uncertainty triggers a need for additional information.

One specific stream of research has found evidence of a negative association between analyst forecast dispersion and returns, which might indicate that financial statements of low quality are an unpriced or diversifiable risk (e.g. Diether et al., 2002; Johnson, 2004). This possible association is further advocated by Cohen (2004), since he finds that financial statements with high quality are associated with a lower bid-ask spread (as a proxy for information asymmetry), reduced uncertainty and estimation risk due to lower dispersion of analysts' forecasts. However, the author finds no evidence that these firms experience a lower cost of equity, which he claims is due to the fact that financial reporting quality is a firm-specific risk and not priced by investors. According to Johnson (2004), information of low quality, which is reported from managers to investors about a firm's underlying economics, is being advocated to lower expected returns and consequently a firm's cost of equity in line with a general options-pricing result.

3. Hypotheses Development

This chapter will develop the hypotheses for the expected association of the variables in the empirical study based on the aforementioned literature review. In relation to the main hypothesis, four sub-hypotheses will be identified for each proxy and the expected direction of the association with the independent variable. These hypotheses constitute the research questions and form the basis for the empirical tests, to which a suitable methodology will be applied.

Prior research in the aforementioned literature review indicates that there may be a possible direction for the association between trust in management, investors' risk perception and a firm's cost of equity capital present. Therefore, directional hypotheses will be applied in this study (Collis & Hussey, 2009). The following main hypothesis has been developed in order to achieve the purpose of this master thesis:

H_1: There is a negative relationship between trust in management and investors' perceived risk or uncertainty

Since this possible direction is visible in existing literature, this is the expected association of the empirical deductive research in this study. The hypothesis indicates that trust in management, defined as management tenure, leads to a decrease in an investor's perceived risk or uncertainty of an investment. This implies that investors will demand a lower required return, which leads to a lower cost of equity capital for the company. Subsequently, the null hypothesis, which is the research question in direct contrast to H_1 and that will be subject to the actual testing in this study, implies that no negative association between management tenure and investors' perceived risk or uncertainty exists.

With regard to investors' perceived risk or uncertainty and its link to a firm's cost of capital, four proxies have been chosen to measure the effect of management tenure. The bid-ask spread, share price volatility, trading volume and analyst forecast dispersion are the chosen proxies for investors' perceived risk as a result of information asymmetry (i.e. information risk) as well as investor uncertainty. Based on the aforementioned literature review, the following directional hypotheses have been identified to achieve the purpose of this study, which supports the main hypothesis above:

H_1^A: There is a negative relationship between trust in management and the bid-ask spread

The bid-ask spread reflects the adverse selection and measures the willingness of investors to trade and to take risk (Sarr & Lybek, 2002). The adverse selection is a consequence of information asymmetries, which give rise to costs on the capital market that lower a share's liquidity (Leuz & Verrecchia, 2000) Higher transaction or liquidity costs decrease the stock's tradability and result in higher liquidity risks and higher spreads, which in turn are associated

with higher expected returns (e.g. Amihud & Mendelson, 1986; Sarr & Lybek, 2002; Pástor & Stambaugh, 2003) If trust is assumed to lower investors' perceived risk and to increase their willingness to trade, then the bid-ask spread should be negatively associated with trust in management.

H_1^B: There is a negative relationship between trust in management and share price volatility

Share price volatility has been used as a proxy for information asymmetry and reflects market uncertainties and the systematic risk that face investors (Leuz & Verrecchia, 2000; Guo, 2002). Increased uncertainty leads to higher expected returns, since investors want to be compensated for the higher risk level, which results in a higher cost of capital (Guo, 2002). If trust reduces investors' perceived risk or uncertainty, then share price volatility should be negatively associated with trust in management.

H_1^C: There is a positive relationship between trust in management and trading volume

Trading volume reflects the willingness of investors to sell and buy shares and has been applied as a proxy for information asymmetry, since the willingness to trade is inversely associated with information asymmetries (Leuz & Verrecchia, 2000). If trust increases investors' willingness to trade, then trading volume should be positively associated with trust in management.

H_1^D: There is a negative relationship between trust in management and analyst forecast dispersion

Analyst forecast dispersion has been used as a measure of uncertainty and as an indicator of low-quality financial disclosures, since uncertainty among investors result in an increased demand for further information (Barron & Stuerke, 1998). If trust lowers investors' perceived uncertainty and increases investors' perceived quality of the financial statements, then analyst forecast dispersion should be negatively associated with trust in management.

4. Methodology

This chapter aims to explain the chosen research design and research paradigm, which guides how the necessary data will be obtained as well as the methods and techniques that will be used to collect and analyse the research data. Further, the operationalization of concepts and the definition of variables are discussed and the applied methodology and the chosen proxies are motivated. Finally, potential limitations are presented with regard to the chosen research design.

4.1 The Research Design

The determination of the research paradigm is the first step in designing the research and serves as a framework for how the research is conducted. The research problem is within the positivist paradigm, since a deductive process will be applied in order to test the theoretical structure by using an empirical observation. (Collis & Hussey, 2009) Thus, previous literature suggests that trust in management will lower the investors' perceived risk and thereby the cost of equity capital. Based on the available information, the social phenomenon can be predicted and, in turn, hypotheses are developed, which can be tested empirically. Since the social phenomenon of this study is intended to be measured, a quantitative approach or methodology will be applied. Thus, the knowledge this study intends to provide is observable and measurable, which is in line with the epistemological assumptions of the positivist paradigm (Collis & Hussey, 2009).

4.2 The Sample

In order to make generalizations about the studied phenomenon for a large population, a large sample is required (Collis & Hussey, 2009). The sample of firms in the study consists of publicly traded European firms. The original data encompassed a sample of 4854 firms. A prerequisite for this study is that the sample firms exist in the Datastream database, in order to collect data for the dependent and control variables. Therefore, the sample was narrowed down to 2399 firms, which represents the firms that could be identified with a Datastream code.

In order to keep the sample consistent, only observations that have non-missing values on all variables used in the regressions are kept for the analysis. This ensures consistency in the cross-sectional comparison and prevents any wrongful assumptions to be drawn based on changes in the sample size and content. Thus, any observations that miss data on the dependent, independent and control variables are excluded from the final sample. This narrows down the sample to 15844 observations from 1239 firms. Since the purpose is to investigate the effect of trust in management with regard to the CEO and CFO, defined in this study as top management, a dummy variable has been generated to ensure that only observations related to top management are analysed. A full list of the positions classified as other than top management can be found in Appendix 1, which amounts to 5301 observations. Further, dummy variables have been generated for the CEO and CFO in order to separate the effect of trust in management with regard to top management position. Given these modifications, the final sample consists of 10 521 observations from 3007 top managers, together representing 1220 firms. The final sample is distributed over 17 countries and contains observations from 105 industries or sectors. A full list

of the industries that are included in the final sample can be found in Appendix 2. The countries in the final sample is displayed in Table 4.1 below, which reveals that the UK represents almost 50 percent of the total number of observations. Apart from the UK, France and Germany represent a large portion of the total number of observations.

TABLE 4.1: OBSERVATIONS PER COUNTRY

Country	Number of observations	%	Cumulative %
Austria	18	0.17	0.17
Belgium	4	0.04	0.21
Cyprus	25	0.24	0.45
Denmark	110	1.05	1.49
Finland	293	2.78	4.28
France	1,005	9.55	13.83
Germany	1,495	14.21	28.04
Greece	10	0.10	28.13
Ireland	62	0.59	28.72
Italy	389	3.70	32.42
Luxembourg	44	0.42	32.84
Malta	5	0.05	32.89
Netherlands	684	6.50	39.39
Norway	665	6.32	45.71
Spain	4	0.04	45.75
Sweden	514	4.89	50.63
United Kingdom	5,194	49.37	100.00
Total	**10,521**	**100.00**	

4.3 THE TIME FRAME

The data in this study will be collected from firm-specific observations between 2001 and 2011. The chosen time frame is justified by mainly two reasons. First, it incorporates the time before and during the financial crisis, which includes the latest corporate accounting scandals and provides observations that are relatively up to date. As previously stated, the notion of trust with regard to financial accounting became of increased importance after the latest corporate scandals and the financial crisis, where the quality of the reported information and the managerial influence on the reported accounting numbers were highlighted. Second, a long time-series is applied in order to minimize the effect of temporary shocks to firm specific measures and to achieve better and more objective estimates of the variables connected to firm performance, such as EPS and EBITDA.

4.4 OPERATIONALIZATION OF CONCEPTS

The notion of trust is commonly used within the field of management accounting. In order to capture previous research in the field of financial accounting and trust the terminology has been extended to include 'confidence', 'reliability' and 'credibility' as well as 'trustworthiness'. These

terms are commonly used concepts that seem to reflect the notion of trust within the area of financial accounting and the relationship between companies and their stakeholders.

4.4.1 Definition of Variables

A summary of the variables applied in this study, their sources and intended use are presented in Table 4.2. Through the purpose statement and the hypotheses trust in management (measured as tenure on the job) is defined as the independent variable and investors' perceived risk or uncertainty is defined as the dependent variable. Altogether, four variables – the bid-ask spread, share price volatility, trading volume and analyst forecast dispersion – are used in this study as proxies for the information risk and uncertainty. The study will control for firm size, analyst coverage, free float and industry, which are intervening or confounding variables that otherwise might obscure the effect between management tenure and the chosen proxies (Collis & Hussey, 2009).

Table 4.2: Summary of Variables

Data	Type	Source	Period	Proxy for (primarily)
Management tenure	Independent variable	Execucomp	Jan 2001 to Dec 2011	Trust in management
Bid-ask spread	Dependent variable	Datastream	Jan 2001 to Dec 2011	Information risk
Share price volatility	Dependent variable	Datastream	Jan 2001 to Dec 2011	Information risk
Trading volume	Dependent variable	Datastream	Jan 2001 to Dec 2011	Information risk
Analyst forecast dispersion	Dependent variable	Datastream/ I/B/E/S	Jan 2001 to Dec 2011	Uncertainty
Market Cap	Control variable	Datastream	Jan 2001 to Dec 2011	Size/Reputation
Free float	Control variable	Datastream	Jan 2001 to Dec 2011	Information enironment/ Strategic holdings
Industry	Control variable	Datastream	Jan 2001 to Dec 2011	Industry
Analyst Coverage	Control variable	Datastream/ I/B/E/S	Jan 2001 to Dec 2011	Information environment/ Number of analysts

Since prior research indicates that trust builds over time, management tenure, developed by Gibbs et al. (2004), appears to be a suitable proxy for trust in management (e.g. Mitchell et al., 1995; Harrison et al., 1997; Tomkins, 2001; Olsen, 2012). The fact that investors value familiarity in their investment decisions, which makes them bet on uncertain events and become more optimistic (Heath & Tversky, 1991; Huberman, 2001), further supports the use of tenure as a suitable proxy, since longer tenure might signal familiarity. In addition, investors learn from past experience that has developed over time in order to assess the future, which can explain why initial information uncertainty tends to resolve over time (Setteberg, 2011; Di Pietra et al., 2014).

Four proxies of investors' risk perception are used in order to improve the validity of the findings. Apart from being proxies of information risk, the bid-ask spread, volatility and trading volume are linked to market liquidity and have been used in research as proxies of liquidity (e.g. Leuz & Verrecchia, 2000; Easley et al., 2002). Its connection to the adverse selection and the cost of capital can be explained by an unwillingness of investors to hold shares in illiquid markets,

where the illiquidity is a reflection of an adverse selection. Consequently, a firm must issue its capital at a discount in order to overcome this issue, which leads to a higher cost of capital. (Leuz & Verrecchia, 2000)

Prior research has shown that the control variables applied in this study are firm characteristics that are related to information asymmetry and, thus, may intervene with the studied association (e.g. Callahan et al., 1997; Leuz & Verrecchia, 2000; Chae, 2005; Armstrong et al., 2011; Peng He et al., 2013). Free float and analyst coverage is connected to a firm's information environment (Leuz & Verrecchia, 2000), where free float is defined as the percentage of total shares in issue available to ordinary investors, which is the total number of shares less strategic holdings (five per cent or more). Analyst coverage is the number of analysts following a company and an increase in this variable is associated with lower information asymmetry, since it enhances a firm's information environment (Armstrong et el., 2011). The market value of a company's equity (the market capitalization) has been used as a proxy for firm size (e.g. Leuz & Verrecchia, 2000; Chae, 2005). In addition, size will control for firm reputation. Prior research has shown a strong connection between reputation and the projection of credibility, which is especially important for the equity market and the perception of individual investors (Bushman & Wittenberg-Moerman, 2012). These authors advocate market share as a suitable proxy for reputation. However, due to the large number of industries covered in this study, size will proxy and control for reputation for reasons of convenience.

4.4.2 Measurement and Collection of Variables

Before the collection of the data can be initiated, the establishment of how to measure the variables must be conducted (Collis & Hussey, 2009). The data collection concerns secondary data of the defined variables. In this study, the choice of yearly observations is justified with regard to the independent variable and the fact that the panel data, which encompasses data both across firms (cross-sectional) and over years (time series), will be analysed on an annual basis. All collected prices have been converted to Euro (EUR).

Management Tenure

It is the accumulated tenure on the job for the CEO and CFO that will be used to measure tenure in this study, since the assumption is that trust builds over time. The accumulated tenure accounts for the number of years that a person has been holding a position as top executive within a company.

The data on management tenure has been provided by the tutor of this thesis, since it constitutes a part of a project, in which the tutor has been participating. This data has originally been derived from Execucomp, which is a database that provides extensive data regarding executive compensations that may be linked with company performance. Essential to this study, Execucomp provides information about company executives, including top officers, regarding their job position and tenure on the job. (S&P Capital IQ, 2014)

Since several managers in the collected data have more than one commitment during a year, each manager is assigned a personal id code, which is unique for each specific commitment and firm. This prevents repeated time observations from occurring, which would otherwise impose difficulties when the data is transferred to the statistical software program Stata and formatted as panel data for analysis. Further, since the tenure data is accumulated on the basis of the personal id code, it prevents the accumulated tenure for each manager to include data from different firms.

THE BID-ASK SPREAD

In order to compute the bid-ask spread for the sample of firms, the bid price and the ask price have been derived from Datastream for the specific firms respectively. The collected prices are the quoted closing prices and have been adjusted for subsequent capital actions. Weekly quotes have been chosen in order to capture a higher level of detailed observations as opposed to collecting yearly quotes. Daily quotes would have been too extensive and time consuming, given the relatively large sample of this study.

Previous research (e.g. Stoll, 1989; Lin et al., 1995; Huang & Stoll, 1997; Armstrong et al., 2011; Peng He et al., 2013) has decomposed the bid-ask spread in order to better capture the adverse selection component and to study the effect of information asymmetry on a firm's cost of capital. This component reflects the dealer's perceived risk of trading with a better-informed investor, which is a result of the information asymmetry between informed and uninformed investors. Increased information, through increased disclosure levels, results in an actual reduction of the information asymmetries, which leads to smaller spreads (Leuz & Verrecchia, 2000). However, in the case of trust, no actual reduction in information asymmetry occurs. Instead, it is the investors' perceived risk that is reduced, even if the actual uncertainty remains unchanged due to the adverse selection. Therefore, the fact that investors become more willing to invest as a result of trust and despite the presence of an adverse selection might be reflected in smaller bid-ask spreads through lower transaction costs. Consequently, a decomposition of the bid-ask spread is not necessary in this study, since the relationship between informed and uninformed investors remains unchanged, which implies that the information asymmetry risk perceived by the market maker remains unchanged.

In this study, the bid-ask spread is defined as the relative average spread, which is an approach visible in previous work by Lin et al. (1995), Leuz & Verrecchia (2000) and Sarr & Lybek (2002).[3] First, the weekly absolute spread is calculated for each firm as

$$Absolute\ Spread_t = A_t - B_t$$

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[3] This approach is referred to as the percentage spread in the IMF working paper by Sarr & Lybek (2002) and as the quoted relative spread in the article by Lin et al. (1995). Despite differences in terminology, the calculations are consistent with the relative average spread as defined by Leuz & Verrecchia (2000).

where A_t is the ask price in time t and B_t is the bid price in time t. The difference between them results in the *Absolute Spread* in time t. Second, the relative or percentage spread is calculated as

$$Average\ Relative\ Spread_t = \frac{(A_t - B_t)}{((A_t + B_t)/2)}$$

where A_t is the ask price in time t and B_t is the bid price in time t. The *Average Relative Spread* in time t is derived from dividing the *Absolute Spread* in time t with the average of the bid and ask prices in time t. The relative spread enables easier cross-sectional comparisons to be made (e.g. Lin et al., 1995; Leuz & Verrecchia, 2000; Sarr & Lybek, 2002) In order to achieve annual bid-ask spreads, yearly averages per firms are derived from the mean of weekly relative average bid-ask spreads. The yearly averages have been calculated for each firm and year in Excel.

SHARE PRICE VOLATILITY

For this proxy, share prices have been collected from Datastream on a weekly basis. The weekly quotes have been chosen for the same reasons as for the bid-ask spread. The collected prices are the official closing prices. After the collection of share prices for each sample firm, a return series was computed in Excel, which converts the weekly prices into a series of percentage changes. Thereafter, the standard deviation of these weekly returns has been computed and used as the proxy for information asymmetry, which is an approach that has been used in previous studies (e.g. Leuz & Verrechia, 2000). In order to establish the standard deviation on an annual basis in Excel, the weekly returns for each year and firm between 2001 and 2011 are taken as range and used as input for the calculation. *STDEV.S* is the function that has been applied, since it estimates the standard deviation based on the assumption that the data represents a sample of the population. This function is based on the following formula:

$$STDEV.S = \sqrt{\frac{\sum(x_i - \bar{x})^2}{n - 1}}$$

where x is the observed value for firm i, $\bar{x}$ is the sample mean and n is the sample size. Since the standard deviation has been calculated for a weekly return series, it is necessary to multiply the standard deviation by the square root of the number of periods in the range that are within a year. This constitutes the annualized standard deviation of historic returns. Given the fact that weekly data has been used, 52 observations have been taken as a range for each year. Thus, the standard deviation is multiplied with the square root of 52.

TRADING VOLUME

Trading volume is measured by stock turnover, which is defined as the number of shares traded divided by the number of shares outstanding. This is a measure of trading activity that is widely used in research (e.g. Leuz & Verrecchia, 2000; Lo & Wang, 2000; Chae, 2005; Chan et al., 2009). An advantage with the use of this measure, as opposed to absolute volume measures,

concerns the fact that volume is put in relation to shares outstanding, which removes the overemphasis of larger companies on the results (Mahipala et al., 2009) and, in turn, enables a cleaner and sharper interpretation of the results (Lo & Wang, 2000; Chae, 2005).

In order to compute the turnover for each stock of the sample firms, the variables *Turnover by Volume* (VO) and *Number of Shares* (NOSH) are derived from Datastream. VO shows the number of shares traded for a stock on a particular day and has been adjusted for capital events, which otherwise could have impacted the results. Volumes are taken from a country's primary exchange, if a stock is traded on more than one exchange within a country. NOSH represents a firm's total number of ordinary shares and is updated whenever new tranches of stock are issued.

In contrast to the other proxies used in this study, VO is a volume measure. This implies that no averages need to be calculated to establish an average annual value. Thus, in order to establish the number of shares traded per year, one can simply collect the yearly aggregated trade volume of individual shares for the sample firms and the chosen time frame. These annual observations can be collected directly from the database. However, due to the constant updating of NOSH, further adjustments are required in order to enhance the capability of turnover to reflect the actual trading activity, which consequently improves the validity of trading volume as a proxy. To ensure that the turnover ratio is not largely impacted by shifts in the number of outstanding shares during a year, monthly observations of VO and NOSH are collected from Datastream. Thereafter, the turnover is calculated for each month and aggregated on an annual basis.

To sum turnover across dates in order to establish a time-aggregated turnover is argued by Lo & Wang (2000) to be the most suitable approach, when this type of data is used in research. One possible alternative is to simply collect annual observations of the shares traded, which is the sum of shares traded for a stock per year for each sample firm, and divide it with an annual average of shares outstanding. However, as opposed to the time-aggregated turnover approach, this alternative approach might yield a share turnover that is affected by other factors than a change in the actual trading activity, such as share splits. Thus, by adopting the time-aggregated turnover approach the share turnover is unaffected by neutral changes in the shares outstanding and, thus, only reflects the actual trading activity. (Lo & Wang, 2000) A collection of annual observations for the sample firms revealed that shares outstanding tend to fluctuate over the years. Thus, by calculating the turnover on a monthly basis this is adjusted for and the turnover becomes a more accurate measure of the actual trading activity. In order to fully exclude the effect of natural changes in the number of shares on the turnover ratio, weekly or even daily observations of the components would have been required. However, this approach was considered as too time-consuming, given the large sample, and concluded to exceed the potential benefits of such a detailed data collection.

In order to ensure that the collected monthly observations are a true reflection of the trading volume for the respective month, daily observation of VO for the first two months and the last

two months of the chosen time frame have been derived for a random sample of 20 firms. Since the sum of the daily observations for those firms were in accordance with the monthly data, it has been concluded that the monthly observations are a true reflection of the actual trading volume for that period.

ANALYST FORECAST DISPERSION

Analyst forecast dispersion has been collected from I/B/E/S in Datastream, which is a database with current and historical analyst estimates. The dispersion is captured by the standard deviation of analysts' forecasts (Barron & Stuerke, 1998). Consequently, the standard deviation of all estimates for the fiscal year that make up the consensus among analysts has been derived for EPS, EBITDA and sales. Earnings is the primary measure of performance among investors, since it contains firm-specific information (Francis et al., 2004) In addition, investors seem to regard earnings figures that are higher up in the income statement as more value relevant (Setterberg, 2011), which is the reason for the use of EBITDA.

A larger standard deviation means a larger distribution of forecasts, which indicates that the sample mean does not represent the data well (Field, 2005). Thus, it indicates a low level of consensus among analysts due to uncertainty regarding a firm's future performance. Correspondingly, a small standard deviation represents observations close to the mean and, thus, a small dispersion among analysts' forecasts, which indicates consensus. In order to facilitate a cross-sectional comparison despite drastically different means between the sample firms, the coefficient of variation is established for each observation, which is an approach used in Barron & Stuerke (1998). The coefficient of variation allows a scaling of the standard deviation and is defined as:

$$Dispersion = \frac{\sigma}{|\mu|}$$

where σ is the standard deviation of analysts' forecasts and $|\mu|$ is the absolute mean value of analysts' forecasts. The number of estimates is given for the fiscal year and has been received in I/B/E/S on a monthly basis, since forecasts are received on a monthly basis. Since the standard deviation of the dispersion of estimates for the fiscal year vary within a year based on monthly observations, the annual mean is calculated as the arithmetic average of these estimates.

CONTROL VARIABLES

Firm size, defined as market capitalization, free float, which measures strategic holdings and controls for a firm's information environment, and industry have been collected from Datastream. Analyst coverage data has been obtained from the I/B/E/S database and consists of the number of analysts that are following a firm. This data has been collected on a monthly basis and separated into two periods, before and after IFRS adoption. The annual mean is calculated as the arithmetic average of the monthly observations.

4.5 Data Analysis and Interpretation

4.5.1 Data Preparation and Initial Correlation Analysis

In an initial analysis of the variables, scatterplots and histograms have been computed in order to establish the distribution of the variables and to identify potential outliers or extreme values. The natural logarithm has been derived for variables that show extreme skewness and kurtosis, since these variables deviate from a normal distribution, which is required for the testing of the hypotheses in this study (Field, 2005). In addition, due to the presence of outliers, the dependent variables are winsorized to the 1 and 99 percentiles, which is line with previous studies (e.g. Francis et al., 2004; 2005; Hou et al., 2010). This approach does not exclude the data. Instead, the impact of outliers is minimized by replacing observations outside the extreme percentiles with values equal to those percentiles (Hou et al., 2010).

Before the main regressions are run, it is important to understand the relationship between the variables in this study. Prior research (e.g. Callahan et al., 1997; Leuz & Verrecchia, 2000; Chae, 2005) suggests that the dependent variables are related to each other. For example, these studies suggest that the bid-ask spread has a positive association with share price volatility and a negative association with trading volume. However, since the dependent variables are tested separately, there exists no risk that they will correlate with each other in the regressions, which would otherwise risk compromising the interpretation of the results. To check for any multicollinearity among the independent variables, Pearson's correlation analysis has been conducted to establish the direction and strength of the relationship between these variables (see section 5.3).

4.5.2 Regression Analysis and Interpretation of Results

The empirical tests of the hypotheses in this study can be separated into two parts. First, the association between trust in management and the dependent variables is tested using Fixed-Effects regressions in order to allow for time to be the only varying factor. Industry is kept as a control variable to secure that an eventual shift in industry does not influence the studied association. In order to increase the robustness of the findings, the Fixed-Effects regressions are run with the robust standard error, which controls for any dependencies and heteroscedasticity in the panel data. Second, since the use of logarithms and winsorization imply some modifications of the original data in the final sample, additional Fixed-Effects regressions are run with the original dependent variables. This serves as a robustness check in order to establish whether the empirical findings from the initial regressions remain.

The empirical findings are presented and analysed together in chapter five in order to achieve a comprehensive view of the results. Each hypothesis is accounted for separately, which ultimately leads up to a discussion regarding the study's main hypothesis. The significance levels are set to 1, 5 and 10 percent in order to grasp the different levels of significance of the empirical results. However, the results are regarded as significant with regard to the rejection or non-rejection of the null hypotheses at a level of 5 percent or less.

4.6 Potential Limitations and Argumentation of the Chosen Research Design

Previous research has identified shortcomings of the proxies used in this study to sufficiently explain the information risk component, since these measures are relatively noisy proxies that incorporate and are affected by other factors, such as additional risks and firm characteristics. For example, the bid-ask spread consists of three components - order processing costs, inventory holding costs and adverse selection costs (e.g. Amihud & Mendelson, 1986; Stoll, 1989; Lin et al., 1995; Callahan et al., 1997; Huang & Stoll, 1997; Peng He et al., 2013). Consequently, all factors that influence any of the three components determine the size of the spread. In addition, trading volume can be influenced by factors, such as liquidity shocks, portfolio rebalancing and changes in risk preferences, which are unrelated to information asymmetry. Volatility is described as the least reliable proxy in comparison with the bid-ask spread and trading volume, since it is influenced by several factors that are unrelated to information. (Leuz & Verrecchia, 2000) The difficulties connected to establishing the cost of equity capital is recognized by Botosan (1997). Bostock (2004) believes that historical returns and value indicators should not be used in the assessment and Fitzgerald et al. (2013) advocate the use of individual analyst target prices, rather than market prices, and earnings expectations instead of consensus estimates to achieve firm-specific estimates for the cost of capital. The traditional CAPM model and Three-Factor Model, developed by Fama & French (1992), have been criticised to be based on flawed assumptions, since they do not incorporate all risk factors that determine expected returns. In addition, the information risk is ignored in these models. (Easley & O'Hara, 2004; Setterberg, 2011; Peng He et al., 2013; Löthman & Pettersson, 2014) Alternative and more advanced implied cost of capital (ICC) models have been advocated by researchers to provide better estimates of expected returns, since they consider additional risk factors that determine returns and use current stock prices and future forecasted cash-flows as opposed to realized returns (e.g. Gebhardt et al., 2001; Setterberg, 2011) In a recent study by Löthman & Pettersson (2014), an evaluation of CAPM, the Three-Factor Model and ICC models shows that ICC models outperform and can replace CAPM and the Three-Factor Model regarding the estimation of returns.

Nevertheless, the proxies chosen for this study remain indicators of risk or uncertainty and are associated with a firm's cost of capital. Since no previous research has investigated the effect of trust in management through tenure on investor uncertainty, no empirical evidence exists regarding how or in what way trust in management might affect the cost of capital. Consequently, no distinct proxies that measure the effect of trust on investors' risk perception and a firm's cost of capital exist. As previously stated, an identification of a potential indirect and direct way in which tenure may affect a company's cost of capital has been made based on previous research. The former concerns the reliability and trustworthiness of a company's financial statements and how well the reported disclosures reflect the economic performance of a company, which is linked to the information risk component of the cost of capital. Thus, a large part of the investment risk originates from the fact that investors are either uninformed about company performance that is not disclosed to them or receive financial statements of poor earnings or

disclosure quality. Both aspects create uncertainty, which is indeed captured by the proxies applied in this study. The latter concerns trust in persons, which may reduce investors' risk perception and increase their willingness to invest in a company. The direct effect is not necessarily connected to the information risk component. Instead, it may be connected to the overall perceived riskiness of an investment and investors' overall willingness to invest or hold stocks in a company. This might be connected to as what Damodaran (2009) refers to as the behavioural or irrational component.

Thus, even if the chosen proxies are regarded as noisy measures of information risk or are connected to some well-established shortcomings, they simultaneously allow for the effect of trust to be reflected in the level of uncertainty, which has a direct link to a firm's cost of equity. Given the complexity of more advanced ICC models and the lack of previous research, they serve as suitable proxies of investors' perceived risk in this initial study. If this study indicates that there is indeed a potential association between management tenure and the used proxies for information risk, then a suggested topic for future research could be to test this association with more precise and advanced models.

Apart from the other risk factors that are connected to the proxies for information risk, one additional potential limitation of the study concerns the possible correlation between tenure and earnings quality. If earnings quality is positively related to tenure, there could be a possible correlation of omitted variables present in the study. Thus, if the study provides evidence of a negative association between trust in management and investors' perceived risk, a suggested topic for future research could be the incorporation of earnings quality as an additional control variable.

Finally, due to the large influence of the UK, France and Germany on the final sample, the empirical findings of this study will, to a relatively large extent, be based on observations from these countries. This is an important aspect to bear in mind and consider when the findings are presented and interpreted.

5. Empirical Results and Analysis

This chapter will present the empirical results of the statistical tests and an analysis with regard to the purpose and hypotheses in this study. First, the variables used in the statistical analysis will be described and the relationship between the independent variables will be investigated. Second, the Fixed-Effects regressions for each hypothesis are presented and analysed to establish whether the null hypotheses can be rejected. Finally, the analysis will result in a discussion of the empirical results and the rejection or non-rejection of the study's main hypotheses.

5.1 Introduction to the Empirical Results and Analysis

The purpose of this study is to test whether trust in management is associated with a lower perceived risk among investors and, thus, can have any real economic consequences for the capital market. To achieve this purpose, the following main hypothesis has been developed:

H_1: There is a negative relationship between trust in management and investors' perceived risk or uncertainty

The relationship is tested on a final sample of 10 521 observations from 3007 top managers, together representing 1220 European companies with listed stocks, which are operating on functioning capital markets. Since the bid-ask spread, share price volatility, trading volume and analyst forecast dispersion are the dependent variables and serve as proxies for investors' perceived risk or uncertainty, directional sub-hypotheses has been developed for the relationship between trust in management and each proxy:

H_1^A: There is a negative relationship between trust in management and the bid-ask spread

H_1^B: There is a negative relationship between trust in management and share price volatility

H_1^C: There is a positive relationship between trust in management and trading volume

H_1^D: There is a negative relationship between trust in management and analyst forecast dispersion

Consequently, each sub-hypothesis is tested and analysed separately. Firm size, analyst coverage, free float and industry are firm characteristics identified as intervening variables, which are statistically controlled in the study. The empirical results and analysis of each sub-hypothesis will result in a discussion regarding the study's main hypothesis.

5.2 Descriptive Statistics

Table 5.1: Descriptive Statistics

Test variables	Mean	Standard Deviation	Min	p25	p50	p75	Max	Skewness	Kurtosis
Dependent variables									
Bid-Ask Spread	.0138444	.0192922	-.0282709	.0024467	.0065745	.0182298	.352877	3.788852	32.68803
Volatility	.4046793	.2156819	0	.2602374	.3461024	.4905165	2.812879	2.26262	12.67454
Trading Volume	1.268987	2.090586	.000211	.2806959	.7912701	1.536899	59.91058	8.361417	131.511
EPS Dispersion	.258812	.9405791	0	.051042	.0889175	.1836274	43.38889	20.40036	656.9517
EBITDA Dispersion	.2062144	1.497638	0	.0382064	.0652488	.1264962	94.78679	35.57358	1784.475
SALES Dispersion	.0606194	.099564	0	.0186818	.0315632	.0604258	1.665034	6.112135	57.73057
Log bid-ask	-5.00252	1.256362	-11.30533	-5.99538	-5.014816	-3.997264	-1.041636	.0091512	2.344324
Log volatility	-1.015906	.457034	-2.338761	-1.346152	-1.061002	-.7122755	1.034208	.4300775	3.068523
Log trading volume	-.5937085	1.570459	-8.46353	-1.270483	-.2341159	.4297668	4.092853	-1.122195	4.684388
Log eps dispersion	-2.237756	1.088626	-6.539534	-2.9725	-2.418329	-1.693587	3.770203	.9612413	4.527046
Log ebitda dispersion	-2.59044	1.028162	-7.430365	-3.262245	-2.72878	-2.066019	4.55163	1.083884	6.435281
Log sales dispersion	-3.335524	.938951	-8.198503	-3.978323	-3.453404	-2.805569	.5098454	.5530215	3.842856
Independent variables									
Tenure (top management)	2.659633	2.327757	0	1	2	4	13	.8688426	3.181325
Control variables									
Market cap (Size)	5564.165	15969.99	1.01	199.34	738.23	2944.93	186096.6	5.671438	43.44566
Free float	.6774537	.2264051	.02	.5	.71	.87	1	-.3691518	2.139562
Analyst coverage	10.03612	7.907439	1	4	8	14	51	1.178905	4.069398
Industry	53.26423	31.51852	1	23	54	80	111	.0686435	1.732071
Log size	6.725929	1.953812	.0099503	5.295012	6.604255	7.98784	12.13402	.2693557	2.673336
Log analyst coverage	1.96904	.8721527	0	1.386294	2.079442	2.639057	3.931826	-.2849773	2.291377

The initial computation of the descriptive statistics for the test variables revealed that some variables were heavily skewed and not normally distributed, which is visible in Table 5.1. Due to the positively skewed and leptokurtic distribution of the observations regarding the dependent variables as well as for the control variables *Market Cap (Size)* and *Analyst Coverage*, the natural logarithm of those values were derived in order to get data that is normally distributed. Since scatterplots and checks for extreme values revealed that some outliers remain, which might bias the results, the logged dependent variables are further winsorized to the 1 and 99 percentiles before the Fixed-Effects regressions are conducted.

5.3 Correlations

In order to control for any correlation among the independent variables, Pearson's correlation is calculated. The correlation coefficient lies in the interval between -1 and +1 and a value above ±0,5 indicates a strong correlation between the variables (Field, 2005).

As shown in Table 5.2, *Log analyst coverage* and *Log size* are strongly and positively correlated with each other and this correlation is not due to chance. The positive relationship can be explained by the fact that larger firms tend to have greater analyst coverage, which is an

association visible in previous studies (e.g. Botosan, 1997; Leuz & Verrecchia, 2000). Since these variables are control variables, this correlation will not infer with the interpretation of the association between management tenure and the dependent variables. Apart from the relationship between analyst coverage and firm size, no other independent variables show strong correlations with each other.

Table 5.2: Pearson's Correlation Analysis

	Tenure	Log size	Free float	Log analysts coverage	Industry
Tenure	1.0000				
Log size	0.0490	1.0000			
	0.0000				
Free float	0.1645	0.1985	1.0000		
	0.0000	0.0000			
Log analysts coverage	0.1080	0.7690	0.2360	1.0000	
	0.0000	0.0000	0.0000		
Industry	-0.0196	0.1005	0.0210	0.0530	1.0000
	0.0136	0.0000	0.0083	0.0000	

5.4 Fixed-Effects Regressions

5.4.1 Management Tenure and the Bid-Ask Spread (H_1A)

Table 5.3: The Bid-Ask Spread

VARIABLES	Top Management FE	CEO FE	CFO FE
Tenure	-0.093***	-0.084***	-0.105***
	(-17.547)	(-12.429)	(-12.293)
Log size	-0.334***	-0.331***	-0.336***
	(-25.971)	(-20.698)	(-17.513)
Free float	-0.589***	-0.491***	-0.663***
	(-12.319)	(-8.069)	(-8.561)
Log analyst coverage	-0.265***	-0.229***	-0.297***
	(-12.321)	(-8.623)	(-8.773)
Industry	0.000	0.001	-0.001
	(0.085)	(0.245)	(-0.270)
Observations	10,459	6,226	4,233
R-squared	0.393	0.351	0.435
Number of persons	3,000	1,827	1,234

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The empirical findings from Table 5.3 show that there is a significant negative association between management tenure and the bid-ask spread at the 1 percent level. The results reveal that this negative association is statistically significant at the 1 percent level for all sample groups, i.e. top management, CEO and CFO. Further, all control variables, except *Industry,* have a highly significant and negative association with the bid-ask spread.

Interpretation of Results and Analysis

The statistical test confirms the anticipated negative relationship between trust in management and the bid-ask spread (H_1^A). Consequently, the null hypothesis, which implies that no negative association between the variables exists, can be rejected. With regard to the main hypothesis and the purpose of this study, the empirical results suggest that trust in management lowers investors' perceived risk, when the bid-ask spread is used as a proxy for this risk. Further, the statistical test shows a relatively high R^2. When the bid-ask spread is used as a proxy for investors' perceived risk or uncertainty, the regression model explains 35,1 to 43,5 percent of the variability in the bid-ask spread, which is accounted for by management tenure.

The bid-ask spread reflects the adverse selection as a result of information asymmetries and investors' willingness to invest and to take risk (Leuz & Verrecchia, 2000; Sarr & Lybek, 2002; Cohen, 2004). The information asymmetries create transaction costs, which lower a stock's liquidity, raise the spread and make the asset less tradable and attractive among investors. Consequently, liquid assets increase investors' willingness to invest and to take a risk. (Leuz & Verrecchia, 2000; Sarr & Lybek, 2002) The empirical findings show that management tenure is negatively associated with the bid-ask spread for the sample firms. Thereby, trust in management seems to increase the willingness of investors to trade and take risk and to lower the transaction or liquidity costs. The lower transaction costs could signal that the managers are viewed as trustworthy participants on the capital market, which lowers investors' perception of investment risk (Olsen, 2012).

Prior research suggests that higher transaction or liquidity costs result in higher liquidity risks and higher spreads, which in turn is associated with higher expected returns (e.g. Amihud & Mendelson, 1986; Sarr & Lybek, 2002; Pástor & Stambaugh, 2003) Based on this suggestion, the emprirical results might imply that trust in management could lead to a lower cost of equity for the sample firms, since lower spreads indicate lower expected returns due to a lower perceived risk. Consequently, it appears that trust in management could have real economic consequences on the capital market.

5.4.2 Management Tenure and Share Price Volatility (H₁ᴮ)

Table 5.4: Share Price Volatility

VARIABLES	Top Management FE	CEO FE	CFO FE
Tenure	0.029***	0.036***	0.020***
	(10.167)	(9.692)	(4.502)
Log size	-0.338***	-0.335***	-0.360***
	(-38.150)	(-29.600)	(-28.109)
Free float	0.095***	0.059	0.155***
	(2.937)	(1.340)	(3.317)
Log analyst coverage	0.122***	0.110***	0.130***
	(9.809)	(6.984)	(6.826)
Industry	-0.001	0.002	-0.002**
	(-0.901)	(0.780)	(-2.094)
Observations	10,520	6,279	4,241
R-squared	0.288	0.280	0.308
Number of persons	3,007	1,832	1,236

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The empirical findings from Table 5.4 show that there is a positive association between management tenure and share price volatility, which is statistically significant at the 1 percent level for top management, CEO and CFO. Further, the majority of the control variables show a highly significant correlation with share price volatility. While the coefficient shows a negative association between *Log size* and volatility, the coefficients of *Free float* and *Log analyst coverage* show a positive association with volatility.

Interpretation of Results and Analysis

The statistical test shows a directional association between trust in management and share price volatility that was not anticipated. Consequently, the empirical results do not confirm the hypothesis (H₁ᴮ), which states that there is a negative association between trust in management and share price volatility. Instead, the opposite direction is visible and the null hypothesis cannot be rejected. Thus, trust in management does not seem to lower investors' perceived risk or uncertainty, when share price volatility is used as a proxy for risk.

Share price volatility has been used as a proxy for information asymmetry and reflects market uncertainties and the systematic risk that face investors (Leuz & Verrecchia, 2000; Guo, 2002). Increased uncertainty leads to higher expected returns, since investors want to be compensated for the higher risk level, which results in a higher cost of capital (Guo, 2002). The empirical results suggest that volatility increases with management tenure, which could indicate that trust in management increases market uncertainties. However, since trust has been shown to be a risk- or uncertainty-limiting factor (e.g. Das & Teng, 2001; Tomkins, 2001; Guiso et al., 2008; Olsen, 2012) it is highly unlikely that trust would create uncertainties. Instead, there could be other explanations for the visible association. First, the empirical results could be explained by the fact that volatility is a noisy measure that fails to adequately capture the studied association.

According to Leuz & Verrecchia (2000), volatility is the least reliable proxy of information risk compared to the bid-ask spread and trading volume, since it incorporates several other risk factors that are unrelated to information asymmetry. Indeed, the statistical test shows a lower R^2 compared to the bid-ask spread, which might indicate that the regression model is somewhat incomplete and that the association is influenced by other factors, which are not captured by the model. Thus, volatility could be a less suitable proxy for investors' risk perception compared to the bid-ask spread.

Second, an additional explanation could be related to investors' announcement reaction to earnings signals. If investors trust the management, it could imply that they trust the reported information and adjust their expectations thereafter, which results in a high and immediate announcement reaction and a low drift in prices. This phenomenon is referred to as the post-earnings announcement drift (PEAD) and its existence can be explained by a visible drift in prices when new accounting information is released to the market. If investors perceive the reported signal as uncertain, it will result in a low announcement reaction and a high PEAD in prices, since they will demand compensation for this risk through higher expected returns. (Setterberg, 2011) Consequently, this explanation is related to the indirect effect of trust on investors' perceived risk, since trust in management might result in investors trusting the reported information. High immediate announcement reactions and low PEAD as a result of trust in management could indicate increased share price volatility, since prices are constantly being adjusted to the latest accounting information. Therefore, a low PEAD could indicate a lower perceived uncertainty regarding the reported information among investors, which in turn could imply a lower cost of equity through lower expected returns.

5.4.3 Management Tenure and Trading Volume (H_1^c)

Table 5.5: Trading Volume

VARIABLES	Top Management FE	CEO FE	CFO FE
Tenure	-0.100***	-0.098***	-0.105***
	(-16.599)	(-12.679)	(-10.388)
Log size	0.065***	0.082***	0.054**
	(3.977)	(3.928)	(2.049)
Free float	0.472***	0.435***	0.530***
	(8.380)	(5.763)	(6.142)
Log analyst coverage	0.019	0.012	0.029
	(0.789)	(0.377)	(0.803)
Industry	0.001	-0.010**	0.005
	(0.267)	(-2.261)	(1.239)
Observations	10,521	6,279	4,242
R-squared	0.112	0.114	0.114
Number of persons	3,007	1,832	1,236

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The empirical findings from Table 5.5 show that there is a statistically significant negative association between management tenure and trading volume at the 1 percent level for top management, CEO and CFO. Further, the control variables *Log size* and *Free float* show a highly significant and positive correlation with trading volume.

Interpretation of Results and Analysis

These findings were unexpected, since the opposite direction of the anticipated relationship is present. The results from the statistical test suggest that trading volume decreases with management tenure, which does not confirm the hypothesis (H_1^C) that states that there is a positive relationship between trust in management and trading volume. Consequently, the null hypothesis cannot be rejected. Thus, at a first glance, trust in management does not seem to lower investors' perceived risk or uncertainty, when trading volume is used as a proxy for risk.

As for the empirical results with regard to share price volatility, it is highly unlikely that trust would create uncertainty. Thus, there could be other explanations for the visible association between trust in management and trading volume. The fact that investors are risk averse and more reluctant to hold riskier or illiquid shares is one reason behind the demand of higher risk premiums and required returns (Leuz & Verrecchia, 2000: Damodaran, 2009) Trading volume reflects the willingness of some investors to buy shares at the same time as it reflects the willingness of other investors that hold firm shares to sell (Leuz & Verrecchia, 2000). With this in mind, one potential explanation for the negative association between trust in management and trading volume could be that it is a reflection of the tendency or willingness among investors to hold shares that are considered less uncertain or risky. Thus, trust in management might keep investors who hold firm shares from selling them and its effect on the overall trading volume could be the reason behind the negative association between the variables.

Further, the fact that trading volume increases with the control variable *Free float* might provide an additional explanation to the empirical findings. Free float is the percentage of total shares in issue available to ordinary investors, which is the total number of shares less strategic holdings. Thus, the negative relationship between management tenure and trading volume could be due to shares held by non-ordinary investors, i.e. strategic holdings, which are not subject to the regular trading activity, since trading volume appears to increase with a firm's number of ordinary investors.

Finally, when trading volume is used as a proxy for investors' perceived risk, the regression model accounts for 11,2 to 11,4 percent of the variability in the dependent variable. This is a lower R^2 compared to the bid-ask spread and share price volatility. Similar to share price volatility, trading volume is affected by factors that are unrelated to the information risk (Leuz & Verrecchia, 2000). Thus, it might be related to other factors that are not captured in the model, which could indicate that it is a less suitable proxy to use when the association between management tenure and investors' perceived risk is tested.

5.4.4 Management Tenure and Analyst Forecast Dispersion (H_1^D)

Table 5.6: Analyst Forecast Dispersion

VARIABLES	EPS Top Management FE	EPS CEO FE	EPS CFO FE	EBITDA Top Management FE	EBITDA CEO FE	EBITDA CFO FE	SALES Top Management FE	SALES CEO FE	SALES CFO FE
Tenure	0.026***	0.029***	0.019*	0.018***	0.019**	0.016	-0.005	-0.008	-0.002
	(3.649)	(3.227)	(1.689)	(2.711)	(2.242)	(1.613)	(-1.070)	(-1.196)	(-0.299)
Log size	-0.265***	-0.269***	-0.270***	-0.191***	-0.202***	-0.182***	-0.073***	-0.068***	-0.086***
	(-13.707)	(-10.635)	(-8.973)	(-9.976)	(-8.417)	(-5.626)	(-5.249)	(-3.866)	(-3.854)
Free float	-0.208***	-0.205**	-0.204*	-0.129*	-0.092	-0.169*	-0.120**	-0.061	-0.176**
	(-2.747)	(-2.008)	(-1.797)	(-1.945)	(-1.014)	(-1.738)	(-2.138)	(-0.818)	(-2.001)
Log analyst coverage	0.004	0.002	0.023	0.016	0.009	0.025	0.051**	0.068**	0.019
	(0.122)	(0.057)	(0.425)	(0.562)	(0.263)	(0.519)	(2.090)	(2.218)	(0.484)
Industry	-0.005**	0.005	-0.009***	-0.007**	0.001	-0.011**	-0.000	0.001	-0.001
	(-1.983)	(1.083)	(-2.905)	(-2.123)	(0.244)	(-2.421)	(-0.089)	(0.276)	(-0.251)
Observations	10,502	6,269	4,233	10,509	6,272	4,237	10,509	6,272	4,237
R-squared	0.055	0.054	0.059	0.033	0.032	0.038	0.009	0.007	0.013
Number of persons	3,000	1,828	1,233	3,004	1,830	1,235	3,005	1,831	1,235

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The empirical findings from Table 5.6 show that there is a positive association between management tenure and analyst forecast dispersion concerning *EPS* and *EBITDA*. For *EPS*, the positive association is statistically significant at a 1 percent level for top management and CEO and at a 10 percent level for CFO. For *EBITDA*, there is a statistically significant positive association at a 1 per cent level for top management and at a 5 percent level for CEO, while there is an insignificant positive association for CFO. *Sales* show an insignificant negative relationship with tenure. Concerning the control variables, only *Log size* shows a highly significant correlation with analyst forecast dispersion irrespective of forecast type and sample group.

Interpretation of Results and Analysis

The empirical results for EPS and EBITDA suggest that dispersion increases with tenure. These findings were unexpected, since the opposite direction of the anticipated relationship is present. Since the empirical results do not confirm the hypothesis (H_1^D), which states that there is a negative association between trust in management and analyst forecast dispersion, the null hypothesis cannot be rejected. Thus, initially, trust in management does not seem to lower investors' perceived risk or uncertainty, when analyst forecast dispersion is used as a proxy for uncertainty. The fact that significant results only are found for EPS and EBITDA could be explained with the tendency of investors and analysts to focus on earnings as the primary information measure regarding a firm's performance (Francis et al., 2004; Setterberg, 2011).

As previously mentioned, it is highly unlikely that trust would create uncertainties. Prior research discusses the importance of trust and familiarity with regard to individual's financial choices as well as trust as an important investment attribute for both professional and non-professional investors when the investment risk is being evaluated (e.g. Heath & Tversky, 1991; Mitchell et al., 1995; Huberman, 2001; Guiso et al., 2008; Olsen, 2012; Carlsson Hauff, 2014). In addition, it has been shown that personal trust is highly significant for investors (Olsen, 2012). Trust

ultimately concerns trust in people and the establishment of trust requires trust to be developed between persons on the individual level (e.g. Jones & Dugdale, 2001; Tomkins, 2001; Das & Teng, 2001). These aspects of trust could be one potential explanation to the positive relationship between tenure and analyst forecast dispersion, which might suggest that trust can have a direct effect on investors' perceived risk. Since analyst forecast dispersion reflects the quality of financial statements (e.g. Barron & Stuerke, 1998), the empirical findings suggest that trust in management does not increase the general perceived quality of the financial statements (the indirect effect). If it did, analyst consensus would increase and analyst forecast dispersion would decrease with trust in management. Instead, trust in management seems to influence the investment decisions of an investor at a personal level (the direct effect), which could be a potential explanation of the positive association with dispersion. If trust is related to the individual risk perception of investors, it might give rise to different beliefs, which are highly subjective, since what is considered by one investor to be familiar is unfamiliar to another. Consequently, an increase in different opinions among investors and analysts lowers consensus, which in turn might lead to a higher dispersion. If the proposition of dispersion as a proxy for unpriced information risk holds true (Johnson, 2004), then firms might benefit from increased trust in management, since that seems to increase analyst forecast dispersion, which in turn lowers the expected returns according to a traditional options-pricing result.

Finally, when analyst forecast dispersion is used as a proxy for investors' perceived risk, the statistical tests show values of R^2 that do not exceed 5,9 percent, which is far below the R^2 values of the other regression models. Thus, only a small part of the variability in analyst forecast dispersion can be explained by the regression model. This indicates that the association might be influenced by other factors that are not captured by the model, which suggests that analyst forecast dispersion is a less suitable proxy for information risk or uncertainty when the association between management tenure and investors' perceived risk is tested.

5.5 Additional Tests

In order to increase the robustness of the empirical results, the tests are repeated with the unadjusted dependent variables, i.e. the raw data. The raw values are not subject to the methodological choices, which refer to use of natural logarithms and winsorization. In that sense, the additional tests examine the sensitivity of the empirical results, which is in line with prior research (e.g. Chae, 2005; Francis et al., 2005). The results from the additional tests will be presented in brief below. A complete presentation of these tests can be found in Appendix 3.

When the Fixed-Effects regressions are run with the robust standard error, but without a winsorization to the 1 and 99 percentiles, no material changes of the findings occur and they remain significant. For the bid-ask spread, the negative association between management tenure and the bid-ask spread remains statistically significant at the 1 percent level for top management (-0,095), CEO (-0,085) and CFO (-0,107). Regarding share price volatility, the positive association between management tenure and volatility remains statistically significant at the 1

percent level for top management (0,030), CEO (0,037) and CFO (0,020). Further, the negative association between management tenure and trading volume is maintained at the 1 percent level for top management (-0,102), CEO (-0,100) and CFO (-0,107). Finally, when the test is repeated for analyst forecast dispersion, the empirical results show the same significance levels as for the original test. The positive association between management tenure and analyst forecast dispersion concerning EPS remains statistically significant at the 1 percent level for top management (0,026) and CEO (0,029). For CFO (0,020), the association is statistically significant at the 10 percent level. For EBITDA, the positive association is statistically significant at the 1 percent level for top management (0,019) and at the 5 percent level for CEO (0,021). For CFO, the results remain insignificant, which is further visible for the negative association between management tenure and analyst forecast dispersion concerning sales.

When the Fixed-Effects regressions are executed with the robust standard error on the raw data and without a winsorization to the 1 and 99 percentiles, the negative association between management tenure and the bid-ask spread remains statistically significant at the 1 percent level for all sample groups (-0,001, -0,000, -0,001). Concerning share price volatility, the positive association with management tenure is maintained at a statistically significant level of 1 percent for all sample groups (0,011, 0,014, 0,008). Further, the same significance level is found for all sample groups regarding the negative association between management tenure and trading volume (-0,109, -0,106, -0,106). Finally, the association between management tenure and analyst forecast dispersion remains positive and at the statistically significant level of 1 percent concerning EPS forecasts for top management (0,022) and CEO (0,020) and at the significance level of 5 percent for CFO (0,026). The association with regard to EBITDA remains positive and statistically significant for top management (0,017) and CEO (0,027) at the 10 percent level, which implies a drop in the significance level when the raw data of EBITDA is used. In line with the previous empirical results, the association between management tenure and analyst forecast dispersion concerning the CFO sample group of EBITDA and all sample groups regarding sales remain insignificant. The statistical tests with regard to analyst forecast dispersion achieves an R^2 around or below 0,01 when the raw data is used, which is below the R^2 in the original tests. This highlights the necessity to use the natural logarithm of the positively skewed and leptokurtic variables to get data that is normally distributed, which results in statistical tests that are better in explaining the variation in the dependent variable. This is visible for the other proxies as well, apart from share price volatility, where R^2 is close to identical for all tests.

5.6 DISCUSSION OF THE EMPIRICAL RESULTS
Given the mixed results of the statistical tests in this study, no direct answer to the study's main hypothesis exists. However, based on the possible interpretations in the analysis of each proxy's relation to management tenure, it is possible to have a brief discussion concerning potential linkages and common grounds between the results.

First, the statistical test of the association between management tenure and the bid-ask spread is the only Fixed-Effects regression that leads to a rejection of the null hypothesis and that confirms the study's main hypotheses – that trust in management is negatively associated with investors' perceived risk or uncertainty. This regression model shows the highest R^2, which suggests that the bid-ask spread is the most reliable proxy in the study, since the model explains 35,1 to 43,5 percent of the variability in the bid-ask spread, when it is used as a proxy for investors' risk perception. Thus, these empirical results imply that trust in management could have real economic consequences for the capital market, since lower spreads are related to lower expected returns. Since it is highly unlikely that trust creates risk and uncertainty, other factors might explain the mixed results from the other regression models. In addition, the lower R^2 values of these models, especially for trading volume and analyst forecast dispersion, might indicate that these measures are less suitable proxies for information risk and uncertainty and that their association with management tenure might be influenced by additional factors, which are not captured in the regression models. Consequently, more suitable proxies and an incorporation of additional control variables, such as earnings quality, might result in regression models that better explain the variability in investors' risk perception and the effect on the cost of equity capital.

Second, concerning the bid-ask spread and analyst forecast dispersion, the empirical results give evidence of a possible direct effect of trust on investors' risk perception. Trust in management is not negatively associated with analyst forecast dispersion but is indeed with the bid-ask spread. Differently stated, the findings indicate that trust in management does not increase the perceived quality of the financial statements and the reported earnings but it is associated with lower spreads, which indicates that investors' willingness to invest and to take a risk increases with trust in management. These findings support the aspect of trust to affect investors' risk perception in the direct way by making them invest despite the presence of information asymmetry. In other words, investors act as if the information risk was reduced (i.e. their perceived risk is lowered) even if no actual reduction in the information risk has occurred and the relation between informed and uninformed investors remains (Tomkins, 2001; Easley & O'Hara, 2004). In addition, if trust ultimately concerns trust in people (Jones & Dugdale, 2001; Tomkins, 2001) and affects the risk perception of investors at a personal level (e.g. Das & Teng, 2001; Ohlsen, 2012), which is highly subjective, that could serve as a potential explanation for the increase in analyst forecast dispersion, since trust could indicate a lower level of consensus among investors due to personal beliefs. In addition to the possible effect on a firm's cost of capital through lower bid-ask spreads, trust in management has the potential to lower a firm's cost of equity through the traditional options-pricing approach, if analyst forecast dispersion reflects an unpriced risk (Johnson, 2004).

Third, one aspect of investors' willingness to trade includes the willingness of investors, who hold firm shares, to sell and due to the fact that investors are risk averse, they are reluctant to hold illiquid or risky shares (Leuz &Verrecchia, 2000; Damodaran, 2009). Thus, one potential explanation to the negative association between trust in management and trading volume might be that investors who hold firm shares choose not to sell, since they trust the management. The

investors might believe in the personal performance of these managers, that they have good intentions and that they will not act opportunistic, which lowers their perceived risk and is connected to the notions of goodwill and competence trust (e.g. Das & Teng, 2001; Langfield-Smith, 2008). Ultimately, trust in management could keep investors from selling their shares, since trust is related to affection and such shares might be regarded as more prone to deliver higher returns at a lower risk (Huberman, 2001; Olsen, 2012). Consequently, feelings of trust, affinity or familiarity can cause investors to deviate from the principles of portfolio theory and ignore the benefits of diversification (Heath & Tversky, 1991; Huberman, 2001).

Fourth, an additional explanation to the negative association between trust in management and trading volume could be the number of shares held by non-ordinary investors, i.e. strategic holdings, which are not subject to the regular trading activity. Such holdings could have a negative effect on trading volume. Thus, together with the fact that trading volume seems to increase with a firm's number of ordinary investors, the empirical results might be an effect of strategic holdings.

Finally, the positive association between management tenure and share price volatility could be explained by the fact that the regression model is influenced by factors not captured by the model. Indeed, volatility has been described as the least reliable proxy compared to the bid-ask spread and trading volume, since it is related to other risk factors than the information risk (Leuz & Verrecchia, 2000). Therefore, the empirical results must be interpreted with care. Despite the relatively low R^2, the values are higher than the R^2 of the regression models regarding trading volume and analyst forecast dispersion. Thus, one additional explanation for the positive association between management tenure and share price volatility could be related to the concept of PEAD, which is described by Setterberg (2011). Trust in management could result in an immediate announcement reaction that leads to a low drift in prices, since investors' view the earnings signal as less uncertain. Consequently, the empirical results show evidence of a potential indirect effect of trust on investors' risk perception, since the findings suggest that trust lowers the perceived uncertainty of the reported information, which implies a lower perceived risk among investors.

6. Concluding Remarks

This chapter presents the conclusion of the empirical results with regard to the purpose and the main hypothesis of this study. Further, it will present potential contributions and provide a brief reflection of the measures taken to ensure valid and robust results. Finally, it presents potential limitations of the study, which might serve as useful insights for further research.

The purpose of this study was to test whether trust in management is associated with a lower perceived risk among investors and, thus, can have any real economic consequences for the capital market. Indeed, when the bid-ask spread is used as a proxy for investors' perceived risk, the empirical results confirm the main hypothesis of this study; there is a negative relationship between trust in management and investors' perceived risk or uncertainty. In addition, the bid-ask spread appears to be the most suitable proxy for investors' risk perception, since the regression model accounts for the highest R^2 values among the proxies. Since higher bid-ask spreads are associated with higher expected returns, the findings suggest that trust in management could be negatively associated with a firm's cost of capital.

The empirical results show evidence of the fact that trust has a potential to affect investors' perceived risk and uncertainty in both the indirect and direct way. Consequently, trust in management might result in the fact that investors trust the reported information and thereby experience a lower perceived risk. In addition, trust in management shows the potential to influence investors' perceived uncertainty on an individual and subjective level. This could make investors invest despite the presence of risk and uncertainty, since they have trust in the people appointed as managers and in their intentions and abilities.

Taken together, the empirical results show that trust in management has statistically significant associations with the proxies for information risk and uncertainty. Given these proxies' relation to a firm's cost of equity, the study contributes with the fact that trust in management can indeed have real economic consequences for the capital market, even if the direction of the association for some proxies deviates from what was first anticipated. Based on the empirical results, it has been possible to establish some initial and potential indications and explanations for the effect of trust in management on investors' risk perception and consequently a firm's cost of equity. However, the empirical results are somewhat straggly and incoherent. Thus, despite these initial potential indications, the way in which trust in management affects a firm's cost of capital is far from clear and further research is needed in order to be able to draw any general conclusions.

In a time period where trust has become a highly relevant and widely discussed subject, this study contributes with new insights to the field of financial accounting and trust. First, it uses management tenure as a measure for trust in management and provides evidence of this measure's applicability within the field of financial accounting. Second, the study contributes with potential explanations of how trust in management might influence investors' risk

perception and consequently the cost of equity capital. This confirms the findings of prior studies of trust as an important investment attribute for investors and further suggests that it could have real economic consequences. In addition, the empirical results could be of potential strategic use for companies, since trust in management seems to be an additional measure, apart from the quantity and quality of reported information, for companies to use in order to influence investors' risk perception and potentially their own cost of capital. Third, the study contributes with the insight that the notions of goodwill and competence trust could be visible and of great importance in the relationship between managers and investors. The potential of trust in management to have a direct effect on investors' risk perception is connected to the personal trust in a company's managers and their good intentions and competence to perform in accordance with the contract between the company and the investor. A personal belief in their performance and in their behaviour to not act opportunistic in a principal-agent setting has the potential to lower the perceived risk and make investors hold shares based on familiarity and trust, which could deviate from the traditional portfolio theory and the advantages of diversification.

The empirical results are further supported by additional tests for robustness and sensitivity, which show similar results and contain no material changes with regard to the significance levels and the directional relationship between the variables. Nevertheless, given the mixed results between the dependent variables and the fact that they are regarded as relatively noisy proxies of the information risk, the results of the empirical study must be interpreted with great caution. Rather, this initial study can serve as an indicator of the relationship between trust in management and investors' risk perception, with the potential to influence the cost of equity. The relatively low values of R^2 for especially trading volume and analyst forecast dispersion indicate that a large portion of the variability in the dependent variables cannot be explained by the regression models. Consequently, one potential limitation of the study concerns the incompleteness of some regression models and the fact that other factors could influence the association, which are not captured by the models. In addition, this study does not control for earnings quality, which could be positively associated with tenure.

Finally, an important limitation of the empirical results concerns the distribution of the sample. Since the UK, France and Germany have a large influence of on the final sample, the empirical results and interpretations are, to a relatively large extent, based on observations from these countries. Thus, in order to make generalizations for countries in the European Union, one might need to include observations from additional countries and avoid an overemphasis of some countries in the sample.

7. Suggestions for Further Research

This chapter presents the suggestions for further research. The suggestions are based on the potential limitations of this study as well as on interesting areas or aspects that the researcher has encountered during the research process.

Since this study indicates that there is a potential association between management tenure and the used proxies for information risk and uncertainty, a suggested area for future research could be to test this association with more precise and advanced models. First, the empirical results show a negative association between trust in management and the bid ask spread, which consists of order processing costs, inventory holding costs and adverse selection costs. Thus, the association between trust in management and the bid-ask spread could be performed on a decomposed bid-ask spread. This would allow researchers to study the effect of trust in management with regard to each component of the spread, in order to better understand the relation between the two variables and to establish in what way trust affects the components that make up the spread. Second, given the relatively noisy measures applied in this empirical study and inability of some regression models to explain a large part of the variability in the dependent variable, one potential area for further research is to repeat the study with more advanced ICC models that better incorporate the information risk and investor uncertainty. These models would allow the information risk to play a greater role and serve as better and more effective estimates of the effect on a firm's cost of equity. Third, the potential influence of earnings quality on the studied association gives rise to the need for a repeated study that includes earnings quality as an additional control variable. This would ensure that the empirical result is not an outcome of correlated omitted variables.

The proposition developed by Tomkins (2001), who theoretically and analytically shows that trust could serve as an alternative to increased information, gives rise to an additional area for further research, namely to incorporate the level of disclosures in the analysis as well, in order to study whether this propositions is true. If trust can serve as an alternative to more information, then the fact that a company with a lower level of disclosures has a similar cost of equity as a company with a higher level of disclosures could be explained by higher management tenure at the former company. Thus, the incorporation of the disclosure level to the relation between trust and a firm's cost of capital could be an interesting area for future research.

An additional suggestion for further research concerns trust in management and post-earnings announcement drift (PEAD). When this study was initiated, the concept of PEAD and its relation to information risk was encountered, first and foremost through the work by Setterberg (2011). In addition, the empirical results with regard to share price volatility could be connected to this phenomenon. According to Setterberg (2011), PEAD is high when investors perceive that the

GAAP[4] earnings signal contains more uncertainty than the core earnings signal. The information risk connected to the reported earnings results in a low announcement reaction, which creates PEAD in prices. If trust is assumed to lower investors' perceived risk or uncertainty, it could be argued that trust should be negatively associated with PEAD. Thus, by testing for an association between trust in management and PEAD it is possible to establish whether this hypothesis is true.

Further, with regard to the distribution of the observations and the representation of countries in this study's final sample, one suggested area for future research concerns the opportunity to repeat the statistical tests on a wider and more evenly distributed sample of countries in the European Union. In addition, it is possible to collect the same type of observations for companies from other countries that are operating on functioning capital markets, such as the US, Canada, Japan, China and Australasia and thereby test the hypotheses of this study on these countries.

Finally, during the research process, thoughts of good and bad trust have emerged. If trust in management can make investors invest despite the presence of uncertainty and risk, it could be questioned whether such trust always constitutes good trust. Rather, if trust in management makes investors ignore important risk factors and advantages of diversification, it is possible to discuss an aspect of blind trust. The effects of blind trust might show deviations from the widely held belief of trust as an essential aspect in order for capital markets not to collapse. Thus, one possible area for further research concerns an investigation of the existence of good and bad trust in investment decisions and the potential consequences for investors and the capital market.

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[4] Generally Accepted Accounting Principles

8. References

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9. Appendix

Appendix 1: Positions Other than Top Management

Position	Number of observations	Percent	Cumulative %
Chairman of the Board	16	0.30	0.30
Chief Accounting Officer	10	0.19	0.49
Chief Administrative Officer	19	0.36	0.85
Chief Investment Officer	26	0.49	1.34
Chief Legal Officer	47	0.89	2.23
Chief Operating Officer	677	12.77	15.00
Chief Scientific Officer	4	0.08	15.07
Chief Technology Officer	92	1.74	16.81
Co-Chief Executive Officer	77	1.45	18.26
Co-President	3	0.06	18.32
Consultant	1	0.02	18.34
Controller	4	0.08	18.41
Corporate Development Professional	5	0.09	18.51
Head of Corporate Communications	9	0.17	18.68
Head of Corporate Development	101	1.91	20.58
Head of Corporate Finance	3	0.06	20.64
Head of Human Resources	31	0.58	21.22
Head of Investor Relations	11	0.21	21.43
Head of Sales and Marketing	99	1.87	23.30
Member of Compensation Committee	4	0.08	23.37
Member of Executive Committee	4	0.08	23.45
Member of Management Board	378	7.13	30.58
Member of Nominating Committee	6	0.11	30.69
Member of Supervisory Board	1	0.02	30.71
Member of Technology/Science/R&D Committee	1	0.02	30.73
Member of the Board of Directors	107	2.02	32.75
Operations Professional	22	0.42	33.16
Other Key Executive	478	9.02	42.18
Other Professional	13	0.25	42.43
President	83	1.57	43.99
Secretary	59	1.11	45.10
Senior Key Executive	1,746	32.94	78.04
Technology Professional	3	0.06	78.10
Top Key Executive	472	8.90	87.00
Unit CEO	539	10.17	97.17
Unit Chairman	17	0.32	97.49
Unit President	121	2.28	99.77
Unit Vice Chairman	2	0.04	99.81
Vice Chairman	10	0.19	100.00
Total	5,301	100.00	

Appendix 2: Sample Industries

Industry	Number of observations	Percent	Cumulative %
Aerospace	115	1.09	1.09
Airlines	69	0.66	1.75
Alt. Electricity	39	0.37	2.12
Alternative Fuels	15	0.14	2.26
Aluminium	14	0.13	2.40
Apparel Retailers	129	1.23	3.62
Asset Managers	135	1.28	4.90
Auto Parts	100	0.95	5.85
Automobiles	52	0.49	6.35
Banks	194	1.84	8.19
Biotechnology	172	1.63	9.83
Brewers	34	0.32	10.15
Broadcast & Entertain	172	1.63	11.79
Broad line Retailers	84	0.80	12.58
Building Mat. & Fix.	101	0.96	13.54
Bus, Train & Employment	156	1.48	15.03
Business Support Svs.	690	6.56	21.59
Clothing & Accessory	88	0.84	22.42
Coal	9	0.09	22.51
Comm. Vehicles, Trucks	76	0.72	23.23
Commodity Chemicals	36	0.34	23.57
Computer Hardware	28	0.27	23.84
Computer Services	315	2.99	26.83
Con. Electricity	81	0.77	27.60
Consumer Electronics	11	0.10	27.71
Consumer Finance	47	0.45	28.15
Containers & Package	110	1.05	29.20
Defence	101	0.96	30.16
Delivery Services	39	0.37	30.53
Diamonds & Gemstones	4	0.04	30.57
Distillers & Vintners	38	0.36	30.93
Divers. Industrials	114	1.08	32.01
Diversified REITs	10	0.10	32.11
Dur. Household Prod.	65	0.62	32.73
Elec. Office Equip.	10	0.10	32.82
Electrical Equipment	245	2.33	35.15
Electronic Equipment	226	2.15	37.30
Exploration & Prod.	161	1.53	38.83
Farm Fish Plantation	93	0.88	39.71
Financial Admin.	23	0.22	39.93

Fixed Line Telecom.	112	1.06	40.99
Food Products	211	2.01	43.00
Food Retail, Wholesale	129	1.23	44.23
Footwear	28	0.27	44.49
Full Line Insurance	41	0.39	44.88
Furnishings	39	0.37	45.25
Gambling	102	0.97	46.22
Gas Distribution	18	0.17	46.39
General Mining	97	0.92	47.31
Gold Mining	11	0.10	47.42
Healthcare Providers	58	0.55	47.97
Heavy Construction	268	2.55	50.52
Home Construction	124	1.18	51.70
Home Improvement Ret.	81	0.77	52.47
Hotels	62	0.59	53.06
Ind. & Office REITs	84	0.80	53.85
Industrial Machinery	426	4.05	57.90
Industrial Suppliers	169	1.61	59.51
Insurance Brokers	21	0.20	59.71
Integrated Oil & Gas	79	0.75	60.46
Internet	67	0.64	61.10
Investment Services	113	1.07	62.17
Iron & Steel	61	0.58	62.75
Life Insurance	58	0.55	63.30
Marine Transportation	111	1.06	64.36
Media Agencies	204	1.94	66.30
Medical Equipment	72	0.68	66.98
Medical Supplies	55	0.52	67.50
Mobile Telecom.	100	0.95	68.45
Multi-utilities	52	0.49	68.95
Nondur. Household Prod	50	0.48	69.42
Nonferrous Metals	18	0.17	69.59
Oil Equip. & Services	225	2.14	71.73
Paper	62	0.59	72.32
Personal Products	40	0.38	72.70
Pharmaceuticals	288	2.74	75.44
Plat.& Precious Metal	21	0.20	75.64
Prop. & Casualty Ins.	23	0.22	75.86
Publishing	292	2.78	78.63
Railroads	1	0.01	78.64
Real Estate Hold, Dev.	201	1.91	80.55
Real Estate Services	21	0.20	80.75
Recreational Products	11	0.10	80.86
Recreational Services	29	0.28	81.13
Reinsurance	15	0.14	81.28
Renewable Energy Eq.	113	1.07	82.35

Restaurants & Bars	166	1.58	83.93
Retail REITs	128	1.22	85.14
Semiconductors	110	1.05	86.19
Soft Drinks	33	0.31	86.50
Software	327	3.11	89.61
Spec. Consumer Service	23	0.22	89.83
Specialty Chemicals	234	2.22	92.05
Specialty Finance	104	0.99	93.04
Specialty REITs	10	0.10	93.14
Specialty Retailers	149	1.42	94.55
Telecom. Equipment	174	1.65	96.21
Tires	32	0.30	96.51
Tobacco	40	0.38	96.89
Toys	31	0.29	97.19
Transport Services	145	1.38	98.56
Travel & Tourism	73	0.69	99.26
Trucking	12	0.11	99.37
Waste, Disposal Svs.	31	0.29	99.67
Water	35	0.33	100.00
Total	10,521	100.00	

Appendix 3: Additional Tests

The following statistical tests have been performed to check the robustness and sensitivity of the empirical results.

Regressions without Winsorization

Panel A: The Bid-Ask Spread

VARIABLES	Top Management FE	CEO FE	CFO FE
Tenure	-0.095***	-0.085***	-0.107***
	(-17.602)	(-12.357)	(-12.428)
Log size	-0.338***	-0.335***	-0.339***
	(-25.815)	(-20.539)	(-17.451)
Free float	-0.580***	-0.486***	-0.649***
	(-11.992)	(-7.876)	(-8.303)
Log analyst coverage	-0.265***	-0.231***	-0.295***
	(-12.253)	(-8.599)	(-8.698)
Industry	0.000	0.000	-0.001
	(0.055)	(0.105)	(-0.255)
Observations	10,459	6,226	4,233
R-squared	0.383	0.336	0.432
Number of persons	3,000	1,827	1,234

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Panel B: Share Price Volatility

VARIABLES	Top Management FE	CEO FE	CFO FE
Tenure	0.030***	0.037***	0.020***
	(10.260)	(9.786)	(4.538)
Log size	-0.343***	-0.341***	-0.363***
	(-37.698)	(-29.361)	(-27.519)
Free float	0.095***	0.056	0.157***
	(2.881)	(1.262)	(3.316)
Log analyst coverage	0.123***	0.111***	0.132***
	(9.789)	(6.928)	(6.858)
Industry	-0.001	0.002	-0.002**
	(-0.902)	(0.794)	(-2.113)
Observations	10,520	6,279	4,241
R-squared	0.287	0.280	0.306
Number of persons	3,007	1,832	1,236

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

PANEL C: TRADING VOLUME

VARIABLES	Top Management FE	CEO FE	CFO FE
Tenure	-0.102***	-0.100***	-0.107***
	(-16.750)	(-12.741)	(-10.516)
Log size	0.065***	0.084***	0.055**
	(3.893)	(3.975)	(2.058)
Free float	0.482***	0.440***	0.541***
	(8.428)	(5.763)	(6.171)
Log analyst coverage	0.019	0.010	0.027
	(0.760)	(0.315)	(0.735)
Industry	0.001	-0.010**	0.005
	(0.270)	(-2.272)	(1.244)
Observations	10,521	6,279	4,242
R-squared	0.112	0.114	0.114
Number of persons	3,007	1,832	1,236

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

PANEL D: ANALYST FORECAST DISPERSION

	EPS			EBITDA			SALES		
VARIABLES	Top Management FE	CEO FE	CFO FE	Top Management FE	CEO FE	CFO FE	Top Management FE	CEO FE	CFO FE
Tenure	0.026***	0.029***	0.020*	0.019***	0.021**	0.017	-0.004	-0.007	-0.001
	(3.595)	(3.158)	(1.700)	(2.740)	(2.308)	(1.584)	(-0.801)	(-1.036)	(-0.075)
Log size	-0.267***	-0.272***	-0.271***	-0.199***	-0.210***	-0.189***	-0.075***	-0.070***	-0.086***
	(-13.503)	(-10.529)	(-8.750)	(-9.675)	(-8.078)	(-5.500)	(-5.244)	(-3.848)	(-3.765)
Free float	-0.207***	-0.201*	-0.209*	-0.134*	-0.080	-0.192*	-0.128**	-0.064	-0.191**
	(-2.676)	(-1.935)	(-1.782)	(-1.917)	(-0.823)	(-1.907)	(-2.193)	(-0.837)	(-2.091)
Log analyst coverage	0.016	0.012	0.038	0.026	0.015	0.039	0.059**	0.080**	0.022
	(0.456)	(0.285)	(0.671)	(0.812)	(0.395)	(0.767)	(2.317)	(2.460)	(0.541)
Industry	-0.005**	0.005	-0.009***	-0.008**	0.001	-0.012**	-0.000	0.001	-0.001
	(-1.980)	(1.096)	(-2.805)	(-2.081)	(0.270)	(-2.338)	(-0.097)	(0.294)	(-0.264)
Observations	10,502	6,269	4,233	10,509	6,272	4,237	10,509	6,272	4,237
R-squared	0.052	0.051	0.057	0.032	0.030	0.039	0.009	0.007	0.012
Number of persons	3,000	1,828	1,233	3,004	1,830	1,235	3,005	1,831	1,235

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

RAW DATA REGRESSIONS
(Regressions without the natural logarithm and winsorization)

PANEL A: THE BID-ASK SPREAD

VARIABLES	Top Management FE	CEO FE	CFO FE
Tenure	-0.001***	-0.000***	-0.001***
	(-4.921)	(-3.144)	(-3.806)
Log size	-0.005***	-0.005***	-0.005***
	(-14.132)	(-11.269)	(-9.812)
Free float	-0.005***	-0.005***	-0.004*
	(-3.622)	(-2.883)	(-1.909)
Log analyst coverage	-0.003***	-0.003***	-0.003***
	(-6.972)	(-4.952)	(-4.514)
Industry	-0.000	-0.000	-0.000
	(-0.334)	(-0.671)	(-0.176)
Observations	10,521	6,279	4,242
R-squared	0.113	0.106	0.119
Number of persons	3,007	1,832	1,236

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

PANEL B: SHARE PRICE VOLATILITY

VARIABLES	Top Management FE	CEO FE	CFO FE
Tenure	0.011***	0.014***	0.008***
	(8.433)	(8.278)	(3.588)
Log size	-0.169***	-0.167***	-0.179***
	(-32.561)	(-24.924)	(-23.660)
Free float	0.055***	0.038*	0.082***
	(3.524)	(1.828)	(3.574)
Log analyst coverage	0.052***	0.047***	0.055***
	(8.717)	(6.192)	(6.005)
Industry	-0.000	0.001	-0.001***
	(-0.973)	(1.092)	(-2.655)
Observations	10,521	6,279	4,242
R-squared	0.287	0.283	0.301
Number of persons	3,007	1,832	1,236

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Panel C: Trading Volume

VARIABLES	Top management FE	CEO FE	CFO FE
Tenure	-0.109***	-0.106***	-0.106***
	(-8.925)	(-6.197)	(-6.857)
Log size	0.058	0.068	0.052
	(1.562)	(1.307)	(0.963)
Free float	0.296***	0.259*	0.375**
	(2.772)	(1.779)	(2.499)
Log analyst coverage	-0.027	-0.057	0.013
	(-0.515)	(-0.723)	(0.201)
Industry	0.007	-0.010**	0.012
	(1.158)	(-2.290)	(1.581)
Observations	10,521	6,279	4,242
R-squared	0.028	0.026	0.031
Number of persons	3,007	1,832	1,236

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Panel D: Analyst Forecast Dispersion

	EPS			EBITDA			SALES		
VARIABLES	Top Management FE	CEO FE	CFO FE	Top management FE	CEO FE	CFO FE	Top Management FE	CEO FE	CFO FE
Tenure	0.022***	0.020***	0.026**	0.017*	0.027*	0.003	0.000	-0.000	0.001
	(4.154)	(3.271)	(2.532)	(1.784)	(1.725)	(0.367)	(0.461)	(-0.105)	(0.687)
Log size	-0.088***	-0.105***	-0.068**	-0.046	-0.036	-0.064**	-0.004**	-0.003**	-0.003
	(-5.113)	(-4.515)	(-2.560)	(-1.211)	(-0.563)	(-2.281)	(-2.530)	(-2.004)	(-1.340)
Free float	-0.089	-0.060	-0.142	-0.152	-0.126	-0.151	-0.006	-0.001	-0.013
	(-1.390)	(-0.722)	(-1.292)	(-1.291)	(-0.663)	(-1.302)	(-0.995)	(-0.097)	(-1.305)
Log analyst coverage	-0.072**	-0.084	-0.051	-0.095*	-0.147*	-0.020	-0.008***	-0.007	-0.012**
	(-2.223)	(-1.634)	(-1.554)	(-1.934)	(-1.810)	(-0.490)	(-2.601)	(-1.492)	(-2.397)
Industry	-0.005	0.002	-0.008	-0.006	-0.001	-0.010	-0.000	-0.000	-0.000
	(-1.299)	(1.278)	(-1.412)	(-1.366)	(-1.351)	(-1.377)	(-0.382)	(-0.732)	(-0.250)
Observations	10,521	6,279	4,242	10,521	6,279	4,242	10,521	6,279	4,242
R-squared	0.007	0.006	0.014	0.002	0.001	0.007	0.005	0.003	0.008
Number of persons	3,007	1,832	1,236	3,007	1,832	1,236	3,007	1,832	1,236

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1