

Can Women take on Corporate Short-Termism?

An Empirical Study of Executive Gender among Other Determinants of Corporate Short-Termism measured through Earnings Manipulation

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Abstract:

Executives face intense public scrutiny for excessive risk taking connected to large near-term pay-offs as well as receiving extremely high compensation, even in times of poor performance. This stands in stark contrast to a lack of conclusive findings on *corporate short-termism* in the academic literature. The review of past research further reveals limited knowledge of the role of executive characteristics as determinants of *corporate short-termism*. Moreover, gender has previously been related to differences regarding risk aversion, information processing and ethical values and thus has particular explanatory potential for executive behaviour. Accordingly, the thesis aims to examine the effect of executive gender among other determinants of *corporate short-termism* such as capital market pressure and compensation structure. In our study, *corporate short-termism* is measured through earnings manipulation. The causes of the phenomenon in general and the effect of executive gender in particular, are investigated using a cross-sectional panel of S&P 1500 firms over the time period from 2000 to 2010. Our study shows that both capital market pressure, measured as the number of analyst forecasts, as well as the amount and structure of executive compensation, are important determinants of *corporate short-termism*. In contrast to previous findings in the accounting literature, we find no clear evidence that the gender of the executive has a significant influence on earnings manipulation. This questions the idea that gender differences manifest in divergent behaviour of executives and supports the structural approach to gender differences, which states that occupational role requirements override gender norms. We conclude that legislators seeking to curb *corporate short-termism* should consider regulations concerning analyst coverage and executive compensation above gender diversity considerations.

Keywords: short-termism, gender, executives, earnings management, earnings fraud

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DEFINITIONS

Big 4

Refers to the four largest auditing firms Deloitte, EY, KPMG and PriceWaterhouseCoopers.

Corporate short-termism

Building on Laverty's (1996: 826) definition of *short-termism* we define *corporate short-termism* as a situation when the executives of a company "[...] pursue a course of action that is best for the short term but suboptimal over the long run".

Earnings fraud

For the purpose of this study, earnings fraud is defined as accounting misconduct pertaining to financial misstatement investigated by the U.S. Security and Exchange Commission and subject of an Accounting and Auditing Enforcement Release.

Earnings management

The intentional adjustment of a company's financial reports based on the decision of the manager in order to either meet expectations of external stakeholders like investors, or to increase personal gain (Healy & Wahlen, 1999; Schipper, 1989).

Earnings manipulation

For the purpose of our study, we define earnings manipulation to encompass both earnings fraud and earnings management.

Earnings quality

"[...] Higher quality earnings provide more information about the features of a firm's financial performance that are relevant to a specific decision made by a specific decision-maker" (Dechow, Ge, & Schrand, 2010: 344).

Executive

Member of the highest management team of a company. Manager is used synonymously to our definition of executive.

Fraud year

For the purpose of our study a fraud year is defined as a year in which a company has engaged in earnings fraud.

Option compensation

Stock options given to executives as part of their compensation packages. A stock option grants the right to buy and/or sell stocks at a set price (strike price) within a set period of time.

Short-termism

For the purpose of our study short-termism refers to any actor preferring "[...] decisions and outcomes that pursue a course of action that is best for the short term but suboptimal over the long run" (Laverty, 1996: 826). For the purpose of our study, *short-termism* refers to the entirety of the phenomenon.

1. INTRODUCTION

“What would have happened if Lehman Brothers had been Lehman Sisters?”

- Christine Lagarde, Managing Director International Monetary Fund

The topic of *short-termism* has long been of interest to academics, politicians and the public. Not least since the financial crisis in 2007 and the subsequent recession, the public discourse on it is shaped by a scrutinization of bankers and managers for putting personal gains above those of the firm and the customer (Biden, 2016). Excessive risk-taking in light of large near-term pay-offs as well as extremely high executive compensation, even in times of poor performance, are the most commonly cited examples of the existence of *short-termism*. These arguments are met by assertions about the existence of efficient markets, where stock prices correctly reflect all available information and investors cannot beat market indices. Currently, the term *short-termism* has a negative connotation since, in the public debate, it is most often associated with the argument of self-serving executives and claims about suboptimal long-term outcomes (Denning, 2014). Although most definitions of *short-termism* in academic literature center around a distinct focus on near term results, which might be suboptimal in the long term, the arguments common to the public debate stand in stark contrast to the general lack of conclusive findings in academic literature.

According to Haldane (2011), research on *short-termism* has a long history, starting with the interest of classical economists in excessive discounting of future result. Since then, theoretical studies have attempted to capture the phenomenon in its entirety. Nevertheless, empirical evidence on *short-termism* remains scarce. The lack of empirical evidence is entrenched in the intertemporal nature of the issue. It is simply impossible to recreate a decision in a control setting in order to measure which alternative would lead to more positive results in the long term. Adding to the challenge, each organisation operates within its underlying circumstances and thus the optimal balance of short- and long-term outcomes is unique. Combined, these factors make it difficult to determine when the focus of a company on the short term becomes excessive and consequently harmful. Since there is no direct measure of *corporate short-termism*, research frequently draws on a set of different established proxies. Low or decreasing research and development (R&D) spending for instance is seen as a choice to underinvest in the future, while share buybacks can be considered as distributing money to shareholders instead of reinvesting it (Jackson & Petraki, 2011; Lazonick & O'Sullivan, 2000). Along the same lines, earnings manipulation can also demonstrate a focus on near-term gains instead of long-term value creation (Jackson & Petraki, 2011). However, none of the measures have been spared criticism because as proxies, they are not able to capture *short-termism* in its entirety.

Despite the difficulty to demonstrate systematic detrimental consequences, researcher have linked *corporate short-termism* to harmful practices. Based on a case study on Citigroup, for instance, Salter (2013) links an excessive short-term focus to corrupt behaviour. According to the General Accounting Office (GAO) earnings manipulation, which arguably reveals a short-term focus, has caused losses of USD 100 bn in market capitalization between 1997 and 2002 (General Accounting Office, 2002). Although this is only a small percentage of the total market capitalization, the GAO finds that the negative effects are intensified through reduced public confidence and investor trust.

In addition to the challenges of quantifying *short-termism*, the phenomenon is associated with a high level of complexity due to the interaction of various stakeholders like executives,

directors, investors and legislators. Each of these groups has its own goals and pertinent time horizons. In fact, the pressure myopic investors exert on executives to meet short-term targets is one of the most frequently stated causes of *corporate short-termism*. As a response to this pressure, managers are said to focus too much on keeping the share price up by cutting cost and investing in projects with fast pay-offs (Lazonick & O'Sullivan, 2000). Besides, setting external earning targets, investors can incentivize managers to focus on the share price through for instance tying compensation to stock performance. Collectively, these incentives and pressures can manifest in organizational decision metrics, which emphasize the short term through for example setting very high hurdle rates for investment projects (Jackson & Petraki, 2011).

Overall, *short-termism* can be said to constitute a complex interplay of several causes. These can be grouped into three categories (i) the capital market, (ii) organizational factors and (iii) executives (Lavery, 1996). Of these determinants, the executive is the least researched. "Few attempts have been made to link individual temporal orientation and the individual's preference within organizational settings" (Lavery, 1996: 847). The lack of research focusing on manager specific determinants of *corporate short-termism* is surprising since executives play a large role in shaping a company's overall orientation (Hambrick & Mason, 1984) and are thus a key aspect in the discussion on *corporate short-termism*.

A full understanding of the phenomenon requires insights into how the time horizon of managers is constituted and what behaviour it translates into while considering given pressures and incentives. This lack of research stands in stark contrast to the considerable amount of managerial literature on the effect of characteristics of the manager on for instance company performance. Building on findings from psychology and behavioural economics, one distinctive strand of this literature is dedicated to the differences between female and male executives. In a comprehensive review, Eagly (1995) concludes that there is a general agreement about distinct behaviour, cognitive abilities, decision making and personality traits of men and women. There is particularly strong evidence for differences in risk aversion and information processing whereas findings on ethical behaviour are more study dependent. These traits are important determinants of decisions under uncertainty. They also influence the response to incentives and pressures. Even Christine Lagarde, Managing Director of the International Monetary Fund, cannot help but wonder whether events such as the bankruptcy of Lehman Brothers would have happened in the same manner if more women had been in charge. Since there is a rather limited number of female executives in large listed companies, there is also little empirical evidence on whether and how gender differences manifest in executive behaviour. Combined with findings on gender diverse boards of directors, the few existing studies however, support the claim that female executives act differently from their male counterparts.

1.1. Aim and Contribution

This thesis applies previous findings on gender differences to the context of *short-termism* with the purpose of understanding manager-specific determinants. More specifically, it attempts to provide insights into the effect of executive gender on *corporate short-termism*. The idea to focus on gender stems from the previously found differences between men and women regarding risk aversion, information processing and ethical behaviour. To address the need for enhancing the knowledge of manager-specific explanations of *corporate short-termism*, this thesis will examine the following research question:

What effect does the executive gender have, among other determinants, on corporate short-termism?

An accurate assessment of the role of the executive gender, requires it to be analysed within the context of other determinants of *corporate short-termism*. This adds a second dimension to the aim since the inclusion of other determinants also enables us to complement previous research by assessing their effect. Therefore, our research was guided by two sub-topics:

- i) The investigation of previously studied causes of *corporate short-termism*
- ii) The effect of executive gender on *corporate short-termism*

Hence, the contribution to the discourse on *short-termism* is twofold as well. First, we complement previous evidence on determinants and by including several causes in one model, we provide new insights into the comparative strength of their respective impact on our measure of *corporate short-termism*. Second, we introduce gender as potential novel determinant.

Since the study combines previous findings from management and accounting research, its results are a contribution to both fields. By applying findings from research on executive gender to a new context, this study intends to contribute theoretically to the field of managerial literature focusing on the characteristics of the top-level management. It also contributes to a richer understanding of gender differences in a business context. The contribution to accounting research is twofold. First, we refine the findings on the influence of executive gender on earnings management by including further determinants of earnings management in our model. Second, to the best of our knowledge, we conduct the first study to investigate the impact of the executive gender on fraudulent earnings manipulation.

A refined understanding of the origin of earnings manipulation facilitates the prevention of low earnings quality and fraud. We thus aim to make a meaningful contribution for legislators as well as executives, shareholders and directors.

1.2. Delimitations

The analysis of manager-specific determinants represents an underdeveloped branch of research within the field of *short-termism*. A variety of characteristics that influence the decisions and actions of an executive would thus present appealing directions for further research. The current study, however, is delimited to the analysis of the effect of executive gender. Differences between men and women in risk aversion, information processing and ethical orientation have been shown to manifest in distinct behaviour and hence possibly organizational outcomes. In addition to influencing managerial behaviour, these traits are also key factors concerning the temporal orientation of the executive. More holistic information processing for instance can reduce cognitive biases. Therefore, in the context of *short-termism*, gender is deemed an appropriate and relevant start.

The second delimitation of the study concerns the measurement of *corporate short-termism*. As mentioned previously, it has yet to be shown at which exact point, the focus on the short term becomes suboptimal and thus excessive. The challenge of quantifying *corporate short-termism* has led to the usage of a variety of proxies. We base the choice to delimit our study to earnings manipulation on a twofold reasoning. First, manipulating earnings in a legal or illegal way reveals a strong focus on stock performance, which is one of the main features of *short-termism*. Following Becker's (1968) theory of crime, which argues that an individual

commits a crime if the expected utility of the payoff outweighs the disutility of being prosecuted, it can be assumed that the decision to engage in fraud is impacted by the executives' evaluation of expected gains and losses (Efendi, Srivastava, & Swanson, 2007). This makes earnings fraud a suitable measure of *corporate short-termism* for a study, which analyses executive-specific determinants. Secondly, contrary to the ambiguous nature of the consequences of *short-termism* in general, engaging in earnings manipulation has been shown to lead to unfavourable outcomes such as a loss of investors' trust, reputational damage and increased costs of capital. However, delimiting the study to earnings manipulation entails that some cases of *corporate short-termism* are likely to be missed.

This thesis is geographically delimited to the United States (U.S.) and therein to the constituents of the Standard and Poor's (S&P) 1500 index¹ anchored to the year 2005. We chose to study a single country because the legislative, cultural and societal differences to other countries would require further generalizations and assumptions making findings less precise. We assume the U.S. to be a rather uniform location with the Generally Accepted Accounting Principles (GAAP) applying to all businesses alike. The focus on the U.S. is further supported by the claim that *short-termism* is supposedly more prevalent in the U.S. than in other western countries (Coates, Davis, & Stacey, 1995; Segelod, 2000). The data sample is moreover limited to observations for the time period from 2000 to 2010. Before 2000, both the number of Accounting and Auditing Enforcement Releases (AAER), which are used to classify fraud firms, as well as the number of female executives was not high enough to ensure valid estimations. We did not include data for the years after 2010 because AAERs are issued after the conclusion of an investigation. Since an investigation can take several years, the publications thereof have a considerable time lag. Based on the average number of cases identified per year, we determined 2010 to be the most recent year for which the issuance of further AAERs is unlikely.

1.3. Research Outline

The effect of executive gender on *corporate short-termism* is examined in a panel study. A deductive approach is used to generate hypotheses derived from the application of findings on gender differences to the field of *short-termism*. They are grouped thematically with a focus on earnings management and earnings fraud respectively and are tested in two separate regression models. After describing our methodology, the results for each hypothesis are presented. The subsequent discussion of possible interpretations has two main parts: the first one focuses on causes of corporate short-termism in general while the second one is concerned with the role of executive gender in particular. Overall, the thesis follows a six-part structure comprised of: (i) Introduction, (ii) Literature Review and Theoretical Framework, (iii) Methodology, (iv) Results (v) Discussion, and (vi) Conclusions.

¹ The S&P 1500 is a U.S. stock market index (NYSE or NASDAQ) created by the financial services firm Standard&Poor's.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

The following section is divided into two parts. The first presents the current state of research on short-termism and executive gender. The second part elaborates on the theoretical framework for this study and concludes with our hypothesis generation.

2.1. Introduction to Corporate Short-Termism

Executives constantly face the challenge of finding a balance between short-term results needed for the survival of a company and long-term value creation (Porter, 1992). A comprehensive body of research examines the claim that managers sacrifice long-term value for returns in the near future. This phenomenon is often called *corporate short-termism* and can be defined as a situation when the executives of a company “[...] pursue a course of action that is best for the short term but suboptimal over the long run” (Laverty, 1996: 826). Despite the mature state of research, *short-termism* remains a controversial field, characterized by disagreements on measurement, prevalence and consequences (Brochet, Loumiot, & Serafeim, 2015; Jackson & Petraki, 2011). Therefore, even after more than four decades of research, qualitative studies still complement empirical research on the topic.

One of the first attempts to give a comprehensive overview of the field has been undertaken by Laverty (1996). He identified three main aspects of *corporate short-termism*: (i) the capital market (ii) the organization and (iii) the executive. This distinction is still used to categorize the causes of *short-termism* (Jackson & Petraki, 2011; Salter, 2013). Agency theory provides the theoretical framework for the explanation of these causes.

- i. The capital market - builds on the assumption that *corporate short-termism* is closely connected to pressures exerted by myopic investors. It is rooted in the application of a principal-agent relationship where the shareholders are the principals and the managers the agents hired to act in their interest.
- ii. The organization - refers to company internal mechanisms like hiring practices and compensation structures as well as decision metrics for investments and projects. Certain compensation structures can be used to align the interest of the executives and shareholders.
- iii. The executive - is concerned with the characteristics of the individual executive and how these manifest in his or her reaction to the extrinsic pressures and incentives the manager faces as an agent of the shareholders.

Despite the various theoretical attempts to fully capture *corporate short-termism*, clear empirical evidence remains scarce (Haldane, 2011). This is likely due to the difficulty for researchers to determine the outcome of the alternative decision on the long-run. Subsequently, it is hard to determine the point when the focus on the short-term becomes suboptimal. Since there is no clear measure of *corporate short-termism*, research frequently draws on a set of different established surrogate measures like R&D spending, share buybacks or earnings management that try to capture the phenomenon indirectly.

2.1.1. Theoretical Foundation: Agency Theory

Based on the criticism of perfect markets, new institutional economics emerged with agency theory as one of its sub-theories. In general it considers markets to be inefficient in the sense that not all actors are equally informed. However, the resource allocation of the market is still considered to be more efficient than that of the individual that is, if not offset by large transaction costs (Coase, 1937).

Agency theory analyses the consequences of separating the ownership and control of a firm. In a corporation, the decision making power is delegated to the corporate management, whose legal responsibility it is to protect and enhance the investment of the shareholder (White, 2006). According to agency theory this creates a principal-agent relationship, that is “[...] a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent” (Jensen & Meckling, 1976: 5). When transferring decision making power to managers, shareholders enter a position of information disadvantage since they can only evaluate the manager’s efforts through the firm’s performance. If the utility of the manager and shareholders diverge, the manager can use this advantage to pursue goals that come at the expense of the owner's goals (Jensen, 1986). The divergence can occur because for each person, utility is an individual function of monetary and non-monetary benefits (Jensen & Meckling, 1976). Corporate governance structures are put into place to ensure the protection of the shareholder’s interests (Man & Wong, 2013). Since the problems associated with principal agent relationships are largely due to the information asymmetry between the owner and executive, the reliability and availability of information play a crucial role. Earnings reports are one example of information used by the agent to signal compliance and by the principal to monitor the agent’s behaviour. Additionally, governance mechanisms can be established to align the interest of the manager with that of the shareholder. One example of this is stock option compensation which incentivizes the manager to act as to maximize the value of the stock and hence of that of the shareholder as well. The coercion of the manager to act optimally (from the principal's' perspective) is always affiliated with costs. In general, the governance structures that balance these costs with the benefits of the separation and specialisation of decision making prevail (Fama & Jensen, 1980). However, it has long been acknowledged that a firm’s executives may have incentives to use governance structures to their benefit by manipulating earnings in order to maximize their own wealth at the expense of the shareholder’s (Beneish, 2001; Christie & Zimmerman, 1994; Holthausen, 1990).

2.1.2. Determinants of Corporate Short-Termism

The causes of *corporate short-termism* can be divided into the three categories: the capital market, the organization itself and the individual executive. Figure 1 visualizes the determinants of *corporate short-termism*, which are explained in the next sections.

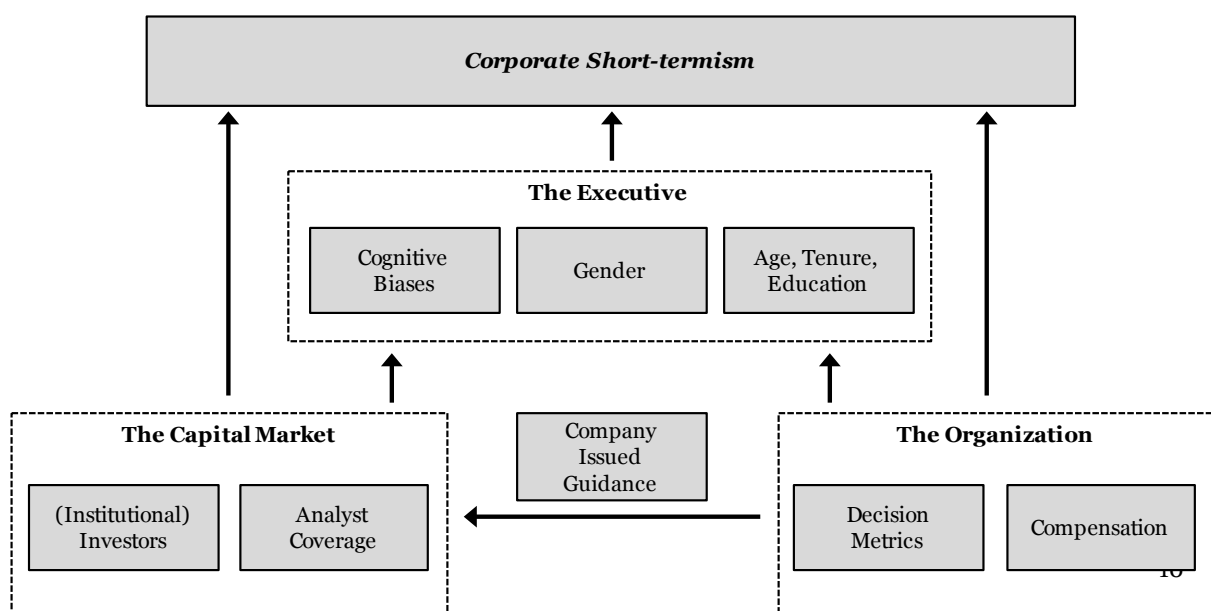


Figure 1: Determinants of Corporate Short-termism

The Capital Market

The claim of a myopic capital market and the pressure it can exert on the top-level management of a company is central to the debate on *corporate short-termism*. Proponents of *short-termism* argue that excessive discounting of future cash flows (Haldane, 2011) and speculative investors who base investment decisions on the anticipation of short-term trends in stock performances (Biais & Bossaerts, 1998; Keynes, 1936) are constitutive to a myopic capital market.

Lazonick and O'Sullivan (2000) give a detailed historic account of how agency theory and financial deregulation enabled the capital market to exert substantial pressure on managers to focus on short-term stock performance. They argue that agency theory provides the theoretical framework for capital market pressure by stating that managers if undisciplined by the market would opportunistically allocate resources for personal utility gains. In practice, financial deregulation and the emergence of institutional investors enabled the creation of a takeover market. The concentration of stocks with organisations rather than individuals shifted power to shareholders. Through holding a large number of shares, investors are able to exert more pressure on companies by decreasing the price of stocks, which makes a firm vulnerable to takeovers (Lazonick & O'Sullivan, 2000). Institutional ownership has tripled between 1980 and 2010 (Jackson & Petraki, 2011). The pressure from the capital market has further exponentially increased through a rise in trading volume from 30 to around 100 percent of the market capitalization within a given period (Windolf, 2009). For executives the pressure manifests in external benchmarks, often announced quarterly by analysts. Managers are incentivised to meet short-term targets as they might face punishment by investors in case of missing them (Aspara, Pajunen, Tikkanen, & Tainio, 2014; Brochet et al., 2015). A survey of 400 executives by Graham, Harvey, & Rajgopal (2005) find that nearly 80 percent of them would be willing to sacrifice economic value in order to meet earnings expectations.

Additionally, the capital market pressure is said to have self-reinforcing features (Aspara et al., 2014). As managers expect investors to base their decisions on short-term returns, they will adjust accordingly. One way of doing so is to issue regular (quarterly) earnings guidance. This in turn would incentivizes more investors to include the short-term forecast in their analysis. It is important to note that already the perception of a myopic capital market could be sufficient to influence the behaviour of the executive (Aspara et al., 2014): a fact that is often not acknowledged by studies.

Empirical investigations of capital market pressure mostly focus on the effect of institutional ownership or analyst coverage. Of institutional investors in general, only transient investors, that is those with a high turnover rate, are connected to overweighing of near term earnings and a high likelihood of cutting R&D investment (Bushee & Noe, 2000; Bushee, 1998; Liu, 2006). Brochet et al. (2015) find that an increasing number of analysts covering a firm leads to a shorter time horizon of the Chief Executive Officer (CEO). The empirical evidence for the argument that company issued guidance intensifies the pressure is mixed. Cheng, Subramanyam, and Zhang (2014) find that frequent guidance can be associated with low R&D spending whereas Call, Chen and Miao (2014) link it to lower levels of earnings management.

Organizational factors

The organizational factors said to influence *corporate short-termism* are executive turnover, compensation structures and internal decision metrics. Our study focuses solely on compensation since it is partly tied to stock performance and is thus closely connected to earnings manipulation.

Previous research shows that the amount - but even more so, the structure - of executive compensation has an effect on *corporate short-termism*. Executive compensation tends to be comprised of several components such as fixed salary, bonuses and stock options (Meek, Rao, & Skousen, 2007). Interestingly, tax changes in the 1950s made performance-based compensation like bonuses and stock options especially attractive for firms and executives alike. To this day, it is fully deductible for firms while salary has a 1 m cap² (Balsam, 2012). The subsequent growth of the capital market exponentially increased the importance of stock options in the overall amount of compensation (Lazonick & O'Sullivan, 2000). However, it remains questionable whether executives alone have a determining influence on the outcomes like the stock price used as performance measures (Lorsch & Khurana, 2010; Tosi, Werner, Katz, & Gomez-Meija, 2000). Empirical evidence shows that the comparative emphasis placed on each of the components provides different incentives to managers. Performance-based compensation like bonuses or stock options, is often used to align the interest of the manager with that of the shareholder (see 2.1.1). Assuming a myopic capital market, the stock performance is dependent on short-term results. Since the value of stock option compensation depends on the stock performance, managers might overvalue this metric when making a decision. In contrast, an increasing amount of fixed salary would not incentivise a preference for the short term since it is not connected to any type of performance measure.

According to Denis, Hanouna and Sarin (2006), option compensation can lead to a focus on short-term performance metrics, thus in a way offsetting the mechanism that pay is supposed to have in guiding a manager's decision towards the most optimal outcome for the firm. Examining the effect of compensation items on earnings misstatements, Burns and Kedia (2006) and Efendi et al. (2007) find that a high sensitivity of options to the stock price increases the likelihood of earnings fraud. The existing empirical evidence for bonus is inconclusive. Gao and Shrieves (2002) find that bonuses have a significantly positive relationship with earnings management while Efendi et al. (2007) find that firms that misstate earnings do not have significantly higher bonuses.

The Executive

The decisions of executives are not only impacted by the previously discussed influences from the capital market and the organization, but also by his or her cognitive abilities. Drawing on behavioural economics, studies suggest that the time horizon of the executive can be linked to biases when it comes to intertemporal choice (Jackson & Petraki, 2011; Lavery, 1996). The biases toward favouring the short term are caused by cognitive limitations when it comes to evaluating options with uncertain outcomes as well as a human preference for near-term payoffs (Miller, 2002). Surveying CEOs of Fortune 1000 firms, Poterba and Summers (1995) found that the discount rates applied by managers were around 12 percent, which is significantly higher than the average rate of return. This emphasises the importance of experience and information to counteract the biases. Lavery (2004) finds empirical evidence

² Section 162(m) of the Internal Revenue Code.

suggesting that better information leads to a superior assessment of short- and long-term consequences. Along the same line of argumentation, Narayanan (1985) suggests that more experienced executives evaluate the consequences of short- or long-term decisions more appropriately. Barker and Mueller (2002) extend the argument that the characteristics of executives, for instance age, tenure and education influence *corporate short-termism*. They find that R&D spending, as a measure of a long-term focus, is higher when the CEO is younger, has a science related degree and has been with the company for a long time.

A deeper understanding of what influences executives to make more short- or long term decisions is desirable because the strategy and orientation of a company can be seen as a reflection of the values and cognitive biases of managers (Hambrick & Mason, 1984). However, the prevalence of agency theory has translated into the assumptions that facing certain incentives like option compensation, managers would act opportunistically (Beneish, 2001; Lazonick & O'Sullivan, 2000). In general, empirical studies on capital market and organizational factors of *corporate short-termism* assume a homogenous group of executives, with similar reactions to pressures and incentives. Therefore, more sophisticated evidence, particularly of empirical nature, on the effect of specific features of executives remains scarce.

2.1.3. Measuring Corporate Short-Termism

Although there is a large body of research on *corporate short-termism*, there is little agreement on how to adequately measure the phenomenon (Jackson & Petraki, 2011; Martin, 2015; Rajgopal, 2017; Salter, 2013). Due to the difficulty of determining when the focus of a company on the short term becomes too excessive, proxies for *corporate short-termism* are used. This alleviates the problem of quantifying *short-termism* in months or years. We present three commonly used proxies that have been utilized to measure the phenomenon: (i) R&D spending, (ii) share buybacks and (iii) earnings management.

(i) One of the most widely used ones is the recent change in R&D spending (Jackson & Petraki, 2011). However, the evidence of empirical studies using this proxy remains inconclusive and it can be argued that since it is in the focus of investors, firms are consciously pushing R&D spending even if they are short-term oriented (Martin, 2015). Moreover, it remains controversial how to measure the long-term value produced by R&D (Laverty, 1996).

(ii) Share buyback are another commonly used measure of *corporate short-termism*. They arguable represent a short-term focus since shares are bought with money that could be reinvested in the company instead (Lazonick & O'Sullivan, 2000). However, studies criticizing share buybacks often fail to differentiate between economically sensible and excessive buybacks.

(iii) Earnings manipulation is a third commonly used measure. This measure is popular because it claims to identify a short-term focus by exposing decisions favouring the pretence to meet external expectations over giving the real state of the accounts. Earnings manipulation can be defined as the adjustment of a company's financial reports based on the decision of the manager in order to either meet expectations of external stakeholders like investors, or to increase personal gain (Healy & Wahlen, 1999; Schipper, 1989). Executives can reap personal gains from overstating earnings since their compensation is partly dependent on the stock price.

Earnings manipulation can be divided into legal earnings management and earnings fraud. Earnings management is often measured by discretionary accruals while earnings fraud is measured based on restatements and official investigations (Dechow, Ge, Larson, & Sloan, 2011; Efendi et al., 2007; Johnson, Ryan, & Tian, 2009). Figure 2 shows how earnings manipulation relates to *corporate short-termism*. Previous studies investigating earnings manipulation usually choose one determinant of *corporate short-termism*, most often compensation. Meek et al. (2007) as well as Burns and Kedia (2006) for example link CEO stock option compensation to earnings management and Richardson, Tuna, and Wu (2003) find that capital market pressure can lead to earnings restatements.

It is important to be aware that all of the measures discussed above are merely proxies for *corporate short-termism*. Hence, the empirical studies which employ them are likely to miss some cases of *corporate short-termism* not captured by the chosen proxy as well as register decisions as excessively focused on the short term, that were not made with that intent.

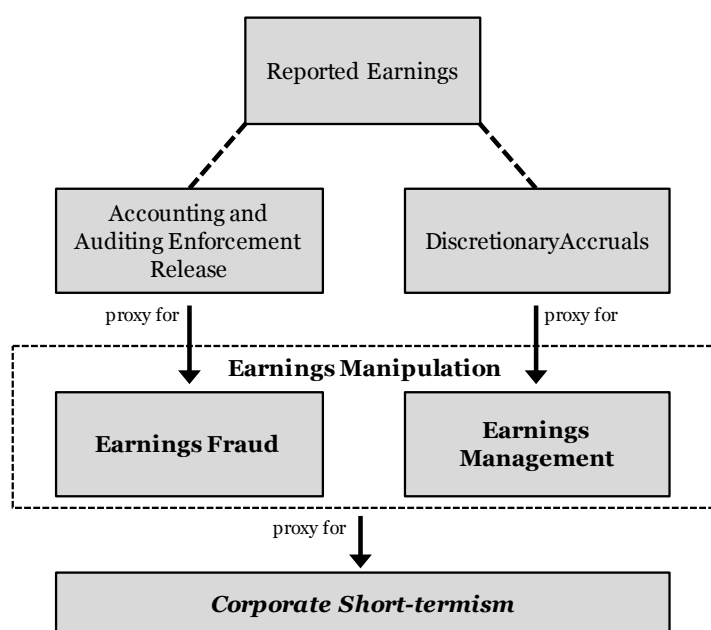


Figure 2: The Relationship of Earnings Manipulation and *Corporate Short-termism*

2.2. Gender as a Determinant of Executive Behaviour

To explain the effect of executive gender in a firm, the following section will first describe findings from psychology on general gender differences and then go on to present research on how these manifest in female managers.

2.2.1. Gender Differences

Gender differences have been the subject of many experimental studies. In his extensive review of these, Eagly (1995) concludes that there is general agreement about the existence of differences between gender with respect to social behaviour, attitudes, cognitive abilities, decision making and personality traits.

A higher risk aversion among females is one of the traits for which studies have provided conclusive evidence (Jianakoplos & Bernasek, 1998; J. E. Johnson & Powell, 1994; Levin, Snyder, & Chapman, 1988; Sexton & Bowman-Upton, 1990; Wong & Carducci, 1991). In

gambling tasks, females exhibited higher risk aversion since they did not raise their bet upon an increase in the probability to win as often as men did (Deakin, Atiken, Robbins, & Shakian, 2004; van den Bos, Homberg, & de Visser, 2013). Another gender difference affecting decision making is the processing of information. Experiments show that males tend to process information selectively whereas women are more likely to include all information available (Andreano & Cahill, 2009; Byrne & Worthy, 2015; Meyers-Levy & Maheswaran, 1991). Regarding ethical behaviour, some experimental studies imply that females display more cooperative behaviour (Cadsby & Maynes, 1998; Eckel & Grossman, 1998; Frank, Gilovich, & Regan, 1993; Ortmann & Tichy, 1999) and are less tolerant towards opportunism (Ambrose & Schminke, 1999; Bernardi & Arnold, 1997; Krishnan & Parsons, 2008; Robinson, Lewicki, & Donahue, 2000). The findings about ethical and cooperative behaviour often depend on the setting of the experiment though.

2.2.2. Executive Gender

Since the number of female executive officers in large U.S. companies is rather low, research on their behaviour and impact is still in its infancy. Therefore, we also include studies about women on the board of directors in this review, to get an indication on the effect of gender differences in a business context.

The gender socialization and the structural approach are two commonly used explanations for how gender differences translate into values and preferences at work. Empirical support can be found for both approaches. According to the gender socialization approach, the actions and decisions of male and female executives will differ because they are shaped by different values and character traits (Lueptow, 1981; Veroff, 1977). The structural approach on the other hand, argues that men and women will exhibit the same response to incentives and pressures because the expectations that come with the occupational role override the gender expectations (Blauner, 1964; Feldberg & Glenn, 1979; Kanter, 1977; Markham, South, Bonjean, & Corder, 1985). Although women are on average paid less than men before reaching an executive position, within executive teams the incentives for men and women are on average equal (Adams, Gupta, Haughton, & Leeth, 2007; Bugeja, Matolcsy, & Spiropoulos, 2012).

In support of the structural approach, Orlitzky, Swanson and Quartermaine (2006) find that female and male executives exhibit equal levels of normative myopia, which they define as the tendency to neglect values at stake in a decision. Contrary to Orlitzky et al.'s (2006) findings and in line with the gender socialization approach, Bernardi and Arnold (1997) argue that the moral standards of female executives might be higher than those of male managers. Additionally, studies on gender diversity in the board of directors find that the presence of females improves both the monitoring process (Adams, Gray, & Nowland, 2011) and the communication with investors (Joy, 2008).

Accounting literature indicates that female directors can be associated with higher reporting quality (Erhardt, Werbel, & Shrader, 2003; Fondas & Salsalos, 2000; Srinidhi, Gul, & Tsui, 2011). Comparing U.S. companies with a male and female CEO from 1992 to 2013, Na and Hong (2017) find that firms with male CEOs exhibit significantly higher discretionary accruals while Peni and Vähämaa (2010) find a significant relation only for the gender of the Chief Financial Officer (CFO) not the CEO. Similarly, Barua, Davidson, Rama, and Thiruvadi (2010) find that firms with female CFOs reported lower levels of absolute discretionary accruals and estimation errors. In the only recent empirical study on gender and fraud,

Steffensmeier, Schwartz, and Roche (2013) find that corporate crimes tend to be committed by male executives and that female involvement, if present at all, is limited to minor roles.

Despite the contradicting evidence on effects of differences between men and women at the executive level, there is sufficient evidence to suggest that the gender of the executive influences his or her behaviour and consequently has an impact on *corporate short-termism*.

2.3. Theoretical Research Gap

The literature review indicates that the research around *short-termism* has matured, and provides some indication on the role of the capital market as well as organizational factors. Focusing on pressures from institutional investors and executive compensation has left insights into the influence of character traits and features of the executive underdeveloped. On the one hand, the importance of addressing this deficiency is further emphasized by the evidence that managers are not a homogeneous group and that differences in their characteristics can substantially impact their behaviour. On the other hand, men and women have been shown to differ in traits like risk aversion, information processing and arguably ethical behaviour, all of which influence executive behaviour. As shown in figure 3 our study aims to address this gap by examining the effect of the executive gender, among other determinants, on *corporate short-termism* measured as earnings manipulation. To the best of our knowledge there have been no previous studies analysing the effect of executive gender on earnings fraud. Existing studies on gender and earnings management are usually found within accounting literature meaning that they do not include factors like capital market pressure or compensation structures. This limits the applicability of their findings in the context of *short-termism*.

The literature on *short-termism* can be divided into two categories. First, there are theoretical studies which attempt to capture the whole phenomenon. Second, there are empirical studies which usually focus on one cause of *short-termism* (see 2.1). Due to the lack of empirical research, which combines several explanatory factors, the comparative strength of the impact of each has not been determined. Our study attempts to include several causes and can thus provide first insights on their importance.

2.4. Theoretical Framework and Hypothesis Generation

While research in the field of *short-termism* abounds, there is a call for a deeper understanding of the influences of executive traits on *corporate short-termism*. This study will investigate the effect of executive gender as one of these traits. Following the experimental evidence described in 2.2.1 we assume that women tend to be more risk averse than men. These findings suggest that the utility function of men and women, and subsequently the reaction to incentives and pressures, differs. Moreover, since they process

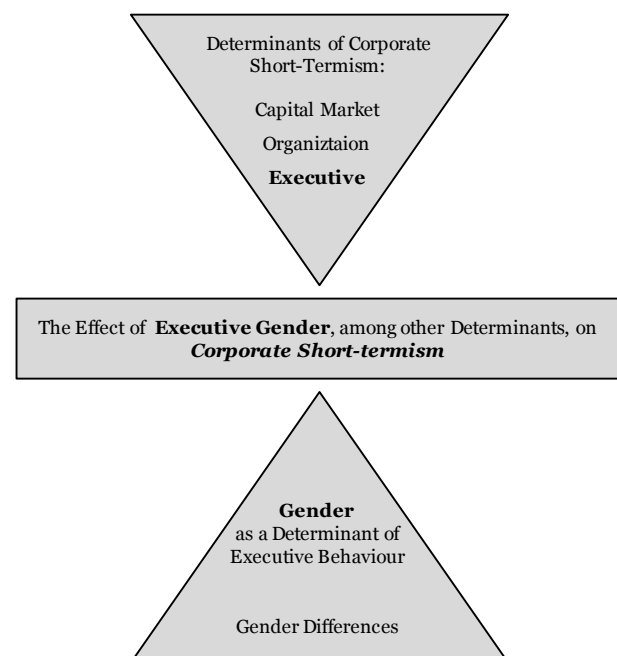


Figure 3: Visualization of Research Gap

information less selectively than men (Andreano & Cahill, 2009; Byrne & Worthy, 2015; Meyers-Levy & Maheswaran, 1991), women should be able to better integrate all the information available and hence evaluate short- and long term outcomes more appropriately (Narayanan, 1985). The literature in section 2.2.2 demonstrates that these differences can manifest in changes in the monitoring process, accounting methods and communication with investors. We therefore hypothesise that despite receiving equal monetary incentives through compensation and facing the same pressure from the capital market, female executives will focus less on the short term. The hypotheses are divided into two groups, one regarding earnings management and the other one regarding earnings fraud. Table 1 provides an overview of our hypotheses.

2.4.1. Executive Gender and Earnings Management

Evidence from psychology showing a higher risk aversion among women indicates that women prefer more conservative accounting methods compared to their male counterparts. Previous studies have already made a connection between female directors and higher earnings quality (Srinidhi et al., 2011). The effect of the executive gender however only recently became a subject of earnings management research. Studies examining the connection between female CEOs and discretionary accruals have rendered contradicting findings (Na & Hong, 2017; Peni & Vähämaa, 2010). The position of the CEO typically has most power, responsibility and highest compensation assigned to it. To enable a clearer understanding of the role of the gender of the CEO our first hypothesis examines this relationship again.

H1: Firms with a female CEO are associated with lower levels of earnings management.

The second hypothesis focuses on the position of the CFO because it holds most responsibility for the preparation of financial statements. Both Barua et al. (2010) and Peni and Vähämaa (2010) found evidence of firms with female CFOs to have higher accruals quality. With the second hypothesis we aim to test whether these findings hold up when including other sources of *corporate short-termism*.

H2: Firms with a female CFO are associated with lower levels of earnings management.

More heterogeneous groups have found to be more effective and the presence of women, for example on the board of directors, has an overall positive effect by bringing different perspectives and opinions into discussions (Erhardt et al., 2003; Fondas & Sassalos, 2000). Additionally, Krishnan and Parsons (2008) find that gender diversity at the executive level in Fortune 500 companies is associated with higher earnings quality. Our model will therefore also test for the effect of either the CEO, CFO or both being female.

H3: Firms with a female CEO and/or CFO are associated with lower levels of earnings management.

2.4.2. Executive Gender and Earnings Fraud

The second group of hypotheses is focused on earnings fraud. A weakness of earnings management is that, despite being dependent on the managers' discretion, it cannot be determined whether the accruals were high due to accounting errors or wilful deception. Fraud on the other hand, can be considered to be preceded by a conscious decision to deceive someone else. According to Dechow et al. (2011) misstatements carry very high costs for the auditors in case of lawsuits, for investors in terms of negative stock returns and other

companies due to reduced investor confidence and liquidity. Therefore, although the number of fraud cases being officially investigated is quite low, it is highly relevant to understand the characteristics of managers involved in them.

Considering the higher risk aversion of women, following Becker's (1968) theory of crime, female executives should be less likely to engage in earnings fraud. Steffensmeier et al. (2013) support this hypothesis in their study on gender and corporate crime (see 2.2.2). As it is the case with earnings management, insights into the roles of the CEO and CFO are specifically relevant. In listed U.S. companies they are the ones required to personally account for certain aspects of the statements filed with the Security Exchange Commission (SEC) (U.S. House of Representatives Committee on Financial Services, 2002) and are involved in about 80 percent of financial statement frauds in U.S. publicly traded companies (Beasley, Carcello, & Hermanson, 1999). Due to the high power and responsibility, the CEO can drive fraudulent activities (Johnson et al., 2009). Hence the fourth hypothesis focuses on the CEO.

H4: Firms with a female CEO are less likely to engage in earnings fraud.

CFOs are especially interesting to study in the fraud context as they monitor the process of preparing financial reports and can be considered watchdogs for financial reporting quality (Feng, Ge, Luo, & Shevlin, 2011). In relation to other executives, CFOs are thus in a special position to conduct earnings manipulation.

H5: Firms with a female CFO are less likely to engage in earnings fraud.

For the sixth hypothesis, we again draw on previous findings that women might bring different perspectives and opinions into executive teams (Fondas & Sassalos, 2000). Therefore, we deem it relevant to include female CEOs and CFOs when testing for effects on earnings fraud.

H6: Firms with a female CEO and/or CFO are less likely to engage in earnings fraud.

Table 1: Summary of hypotheses

Proxy	Hypothesis
Earnings Management	H1: Firms with a female CEO are associated with lower levels of earnings management.
Earnings Management	H2: Firms with a female CFO are associated with lower levels of earnings management.
Earnings Management	H3: Firms with a female CEO and/or CFO are associated with lower levels of earnings management.
Earnings Fraud	H4: Firms with a female CEO are less likely to engage in earnings fraud.
Earnings Fraud	H5: Firms with a female CFO are less likely to engage in earnings fraud.
Earnings Fraud	H6: Firms with a female CEO and/or CFO are less likely to engage in earnings fraud

3. METHODOLOGY

This section will guide the reader through the methodological choices and research design. After illustrating our research approach, the regression models are described through the

variables and estimation strategy. Finally, the data collection, data sample as well as the data quality are discussed.

3.1. Research Approach

Considering the maturity of the research field of *short-termism*, this paper employs a deductive approach, which is executed in a quantitative study (Edmondson & McManus, 2007). In a deductive approach, hypotheses are constructed based on existing theory and subsequently tested. This is in line with the epistemological viewpoint of positivism, which states that the purpose of theory is to provide a basis for hypotheses to be derived and tested. The confirmation or falsification allows the assessment of explanations and revising of present theory and hence the creation of knowledge (Bryman & Bell, 2007).

The hypotheses were formulated with the aim of understanding the impact of gender as one of the determinants of executive behaviour. Since we are investigating a possible determinant of *corporate short-termism*, a quantitative study is most suitable (Bryman & Bell, 2007). Although we acknowledge that a qualitative study would have likely provided more insights into the individual manager's motivation and behaviour patterns (Flick, 2009), we judge a quantitative study to be most fitting for the following three reasons:

- i. **Maturity of research field** – As the literature on *short-termism* is already at a mature level, but still lacks a detailed understanding of the causes, we deem the most suitable study to be one which refines current theory (Edmondson & McManus, 2007). Existing research already provides insights into the key issues of *short-termism* but lacks empirical evidence. Managerial literature gives some evidence suggesting male and female executives differ in ways relevant to *corporate short-termism*. Therefore, although the concept of gender differences is novel to the debate of *short-termism*, an explorative study was dismissed.
- ii. **Systemic dimension of topic** - *Short-termism* is a systemic phenomenon (Jackson & Petraki, 2011). Hence, it is important to generate results that can be generalized for a broader population. To capture the variations of a broader population, a cross-sectional design with quantifiable measures is needed for a standardized way of comparison (Bryman & Bell, 2007). The choice of the sample of this study has been made so that the result can be generalized to other listed U.S. companies.
- iii. **Biases of executives** - Respondents of surveys often overstate desirable behaviour and vice versa (Randall & Fernandes, 1991). This is particularly strong among female respondents (Schoderbek & Deshpande, 1996). Executives might further have a vested interest in asserting the overstated performance of the company. By using externally observable accounting data to determine *corporate short-termism*, we avoid these biases.

After settling on a quantitative approach, we constructed regression models for both of our measures of *corporate short-termism* (earnings management and fraud) based on previous research. To check the assumptions underlying our models, we contacted faculty from the Center of Economic Statistics as well as the Department of Accounting at the Stockholm School of Economics³. Building on the discussed improvements and the results from preliminary robustness checks, we iteratively refined our models.

³Per-Olof Edlund, Associate Professor at Center for Economic Statistics; Florian Eugster, Assistant Professor at the Department of Accounting.

3.2. Regression Models

The impact of the executive gender on *corporate short-termism* is analysed in two cross-sectional panel regression models for the period from 2000 to 2010. The effect on earnings management is tested in a linear regression with discretionary accruals as the dependent variable. The impact on earnings fraud is tested in a logistic regression with a binary dependent variable denoting whether a company has been found to have engaged in earnings fraud. To match the executive with the according monetary incentives, both models are estimated separately for CEOs (hereafter CEO regression) and CFOs (hereafter CFO regression) as well as both executives jointly (hereafter EXEC regression). When the gender of both executives is considered, the compensation variables are averaged. Both models include the main explanatory variable gender as well as measures of other short-term pressures like compensation and capital market pressure. The models further include proxies for the financial state of the firm, growth as well as auditor type and size, since although they are not directly associated with *short-termism*, they affect earnings manipulation. In model 2 we add the signed value of the discretionary accruals as a control variable. The absolute value of these accruals is the dependent variable in model 1. To control for industry and year specific effects, both models are estimated with fixed effects.

3.2.1. Variable Description

The following section will describe the variables in more detail. Table 2 provides an overview of the variables.

Table 2: Definition of variables

Variable	Definition
Corporate Short-termism	
$DACC_{j,t}$	Absolute value of discretionary accruals in year t derived from the modified Dechow Dichev Model in USD m
$FRAUD_{j,t}$	Binary variable that equals one if firm j has engaged in earnings fraud in year t and zero otherwise
Executive Trait	
$GENDER_{j,t}$	Binary variable that equals one if the executive of firm j in year t is female and zero otherwise
Short-term pressures	
$SALARY_{j,t}$	Amount of fixed salary paid to executive of firm j divided by total compensation in year t in USD 100k
$BONUS_{j,t}$	Hyperbolic sine transformation of the bonus paid to executive of firm j in year t
$OPTCOMP_{j,t}$	Hyperbolic sine transformation of the dollar value of in-the-money options divided by the fixed salary of executive of firm j in year t
$ACOV_{j,t}$	Natural logarithm of number of analyst forecasts issued for firm j in year t deflated by natural logarithm of total assets
$CIG_{j,t}$	Number earning guidance issued by firm j within year t
Control variables	
$sDACC_{j,t}^*$	Signed discretionary accruals of firm j in year t derived from the modified Dechow Dichev Model in USD m
$LOSS_{j,t}$	Binary variable that equals one if the net income of firm j during year t is negative and zero otherwise
$LEV_{j,t}$	Financial leverage of firm j in year t calculated as the total liabilities divided by total assets
$SGROWTH_{j,t}$	One-year sales growth rate of firm j calculated as change in sales from $t-1$ to t divided by the total sales in $t-1$
$MB_{j,t}$	Market-to-book ratio of firm j in year t , calculated as the market value divided by the book value of equity
$ROA_{j,t}$	Return on assets for firm j in year t , calculated as the earnings before extraordinary items divided by total assets.
$AUDIT_{j,t}$	Binary variable that equals one if the firm j is audited by one of the big 4 auditors in year t and zero otherwise
$SIZE_{j,t}$	Natural logarithm of the total assets of firm j in year t
$IND\ FE$	Fixed effects for each industry groups
$TIME\ FE$	Fixed effects for each year

*only used in Model 2

Discretionary Accruals

In the first model, the short-term orientation of the executives is measured through the extent of earnings management present in the firm. Estimating discretionary accruals is the most common way of measuring earnings management (Dechow et al., 2010) and has been used in a variety of studies (Davidson, Xie, Xu, & Ning, 2007; Francis, LaFond, Olsson, & Schipper, 2005; Geiger & North, 2006; Meek et al., 2007; Xie, Davidson, & DaDalt, 2003).

Accruals are a measure to counteract the fact that cash flows sometimes occur in a period different from that in which expenses or revenues should be accounted for. They assure accounting quality by assigning cash flows to the right period. Whereas non-discretionary accruals refer to accruals made in a firm's actual operations, discretionary accruals reflect management decisions, like the choice for a specific depreciation method and/or accounting errors. They are an attractive option for managing a firm's earnings since they are rather easy to conduct but difficult to detect (Young, 1999). Discretionary accruals are calculated by matching firms' estimates of accruals with what really happened in terms of reported cash flows (the actual total accruals). This reveals the difference between estimated and actual accruals, which did not result in a cash flow. There are however different ways of modelling accruals and cash flows⁴. We employ the modified Dechow and Dichev model proposed by McNichols (2002) due to its high explanatory power (Dechow et al., 2010). It defines discretionary accruals as the error term $\varepsilon_{j,t}$ of the following function:

$$ACC_{j,t} = \alpha + \beta_1 CF_{j,t-1} + \beta_2 CF_{j,t} + \beta_3 CF_{j,t+1} + \beta_4 \Delta Sales_{j,t} + \beta_5 PPE_{j,t} + \varepsilon_{j,t} \quad (1)$$

where $ACC_{j,t}$ denotes the total current accruals of a firm j in year t and is calculated as $ACC = \Delta current\ assets - \Delta current\ liabilities - \Delta cash + \Delta debt\ in\ current\ liabilities$.

$CF_{j,t}$ denotes the operating cash flow of firm j in year t and is calculated as the net income before extraordinary items minus total accruals where total accruals is equal to total current accruals minus depreciation and amortization expenses. $\Delta Sales$ stands for the change in sales from year $t-1$ to year t and PPE is the gross value of property, plant and equipment at the end of year t . To account for the impact of the firm's size, all variables are scaled by the lagged total assets. Since the amount of accruals differs largely across industries, it is common in financial accounting research to estimate discretionary accruals individually for each industry to arrive at more exact estimates (Dechow et al., 2011). We estimated the discretionary accruals per industry group given in table 3.

Absolute, therefore unsigned accruals are the most suitable measure to estimate to which extent companies use accruals to manage their earnings (Reynolds & Francis, 2000). Absolute discretionary accruals include both values for income increasing and income decreasing accruals. Although understating earnings initially seems counterintuitive considering performance-based compensation and capital market pressure, there are two reasons to consider negative accruals in our study. First, they do not necessarily denote a focus on the long term. Second, missing targets by a lot in one period but making them in the next can be more beneficial for the manager than missing targets in both periods (Dechow et al., 2010). Therefore, we believe that the size of the accruals holds information on *corporate short-termism* and chose to use the absolute value in model 1. In the second model the signed value of the discretionary accruals was included as an explanatory variable. The

⁴The Jones Model (Jones, 1991), Kothari Model (Kothari, Leone, & Wasley, 2005), Dechow and Dichev (Dechow & Dichev, 2002) and the modified Dechow and Dichev model (McNichols, 2002) are among the most common models used to estimate accruals. A short description of these can be found in appendix 1.

signed value was used because once the legal means of overstating earnings are reached; a company is more likely to resort to earnings fraud (Dechow et al., 2011). This logic does not apply for understatement of earnings.

Table 3: Industry Groups

SIC Code	Industry Group	Number of Firms
100 - 999	Agriculture, Forestry and Fishing	3
1000 - 1799	Mining and Construction*	83
2000 - 3999	Manufacturing	640
4000 - 4999	Transportation, Communications, Electric, Gas and Sanitary Services	155
5000 - 5999	Trade**	171
6000 - 6999	Finance Insurance and Real Estate ***	238
7000 - 8999	Services	225
9100-9729	Public Administration	0

*We combined Mining (1000-1499) and Construction (1500-1799) due to the low number of firms in both groups. The codes 1800-1999 are not used.

** We combined Wholesale Trade (5000-5199) and Retail Trade (5200-5999) due to the low number of firms in both groups.

*** Companies with SIC codes 6000 – 6999 will be excluded as explained in section 1.3

Earnings Fraud

Since discretionary accruals only represent earnings management within the legal sphere, a second dependent variable for model 2 was developed to capture the engagement in earnings fraud ($FRAUD_{j,t}$). It takes the value one if company j has been found to have engaged in earnings fraud in year t and zero otherwise. The companies were categorized based on the Accounting and Enforcement Releases of the SEC, which are issued in case of an investigation concerning alleged accounting and/or auditing misconduct. AAERs were used for the classification of firms for three reasons: (i) Since the SEC is resource-constrained, it prioritizes the investigation of cases with a high economic significance (Johnson et al., 2009). (ii) In most cases the fraud firms have already restated their earnings and thus the likelihood of identified firms to be fraudulent is very high. (iii) The collection of AAERs is most suitable when the cases need to be further categorized depending on the type of violation (Karpoff, Koester, Lee, & Martin, 2017) and outperforms other sources like the Government Accountability Office or Audit Analytics⁵ with regards to scope. Nevertheless, the accuracy of the variable continues to be a concern since a considerable number of fraud cases remain undetected. The underreporting of fraud could lead to biases in our results. Another concern with any type of classification either by an external source or individual researcher is the presence of a selection bias. As recommended in Karpoff et al. (2016) we tried to limit the selection bias by combining the methodology of Dechow et al. (2011) with a classification fitted to our research model.

Gender

Our models tested for the impact of the gender of the CEO and CFO and both jointly. For each role the gender was conceptualized as a binary variable denoted by $GENDER_{j,t}$ which takes the value one if the respective executive of a firm j is female in year t . In the EXEC regression, the variable takes the value one if either the CEO or CFO or both are women.

⁵ The Government Accountability Office has issued three reports with data on restatement announcements between 1997 and 2006. Audit Analytics is a commercial database that contains restatements and non-reliance filings made by all SEC registrants since January 2000.

Capital Market Pressure

The pressure exerted by the capital market is measured through two variables: the number of analyst forecasts published for a company j within year t ($ACOV_{j,t}$) and the number of earnings guidance issued by company j in year t ($CIG_{j,t}$). The variable $ACOV_{j,t}$ is log transformed to more closely resemble a normal distribution and scaled by the natural logarithm of the total assets to mitigate the possibility that the number could be driven by the size of the firm. We are not using institutional ownership as a proxy since it can yield both short- and long term pressures depending on the institution's time horizon (see 2.1.2).

Monetary incentives

We included measures for bonus and stock option compensation as types of performance-based compensation in our model. The variable $BONUS_{j,t}$ denotes the absolute value of the bonus paid to the executive of firm j in year t . Due to the inconclusive empirical evidence on the effect of the bonus (see 2.1.2), we cannot predict its effect. We used the dollar value of in-the-money options⁶ to salary to operationalize stock option compensation ($OPTCOMP_{j,t}$). In-the-money options entail that a decline in the stock price leads to a direct reduction of the value of the options and thus the executive's wealth. To capture the comparative emphasis placed on stock options, we divide the in-the-money options by the amount of salary. Both variables follow a skewed distribution but a logarithmic transformation is not viable because for a considerable number of observations they take the value zero. Since the natural logarithm of zero is not defined these observations would not have been included in our sample. The observations should however remain in the regression as not receiving any performance-based compensation can hold explanatory information. To alleviate the skewness, we applied an inverse hyperbolic sine transformation⁷. In addition to the performance-based compensation we also included the ratio of fixed salary to the total amount of compensation denoted $SALARY_{j,t}$. As the amount of salary is not tied to stock performance, we expected it to have a negative effect on earnings manipulation.

Control Variables

Both models further included several control variables that have been found to influence the earnings quality and the likelihood of fraud.

The occurrence of a loss as well as the need for external financing have an impact on the quality of reported earnings (Ashbaugh, LaFond, & Mayhew, 2003; Burns & Kedia, 2006; Menon & Williams, 2004; Reynolds & Francis, 2000). $LOSS_{j,t}$ is a binary variable which equals one if the income of company j in year t is negative and zero otherwise and was expected to be positively related to earnings manipulation. The measure for the need of external financing, denoted $LEV_{j,t}$, is defined as total liabilities divided by total assets. The direction of the impact is ambiguous with indication for a positive (Barua et al., 2010; Brochet et al., 2015) as well as a negative (Dechow et al., 2011; Beneish, 2001) relation. Dechow and Dichev (2002) find that a low performance is positively associated with high discretionary accruals and earnings fraud. The performance, denoted $ROA_{j,t}$ was measured as the earnings before extraordinary items divided by total assets and was expected to have a negative coefficient. High-growth opportunities provide ample room for earnings management (Brochet et al., 2015) because they give more reasons to account for future

⁶ In the money means that the strike price for an option is below the market price.

⁷ The inverse hyperbolic sine transformation of x is defined as $\ln(x+(x^2+1)^{1/2})$. It is nearly equal to $\ln(2x)$ but unlike the natural logarithm, the inverse hyperbolic sine is defined for 0.

unsure revenues. The growth opportunities for firm j were measured as the market to book ratio ($MB_{j,t}$). Firms with high growth rates often have less transparent governance practices (Vähämaa, 2014). The growth rate, named $SGROWTH_{j,t}$, was calculated as the change in sales from year $t-1$ to year t divided by the sales in year $t-1$. The latter two variables were expected to be positively correlated to earnings manipulation (Barua et al., 2010; Dechow et al., 2011; Geiger & North, 2006). Existing research has shown that companies which employ a Big 4 audit firm are likely to have earning reports of higher quality (Barua et al., 2010; L. Becker, DeFond, Jiambalvo, & Subramanyam, 1998; DeAngelo, 1981; Farber, 2005). In our models, the binary variable $AUDIT_{j,t}$ equals one if company j was audited by either EY, Deloitte & Touche, KPMG or PricewaterhouseCoopers and zero otherwise. We expected a negative effect on earnings manipulation. Previous studies have indicated that large firms are less prone to earnings management since they typically have established and strong governance mechanisms and are in the focus of auditors and financial analysts (Meek et al., 2007). According to Dechow et al. (2011) the effect is reverse for earnings fraud because a higher attention of the SEC means that misstatements are more likely to be identified among large firms. We thus expected a positive effect on earnings fraud. The variable $SIZE_{j,t}$ is the natural logarithm of the total assets of firm j . Since separate estimations per industry group revealed moderate differences between the groups and the level of *corporate short-termism* (Brochet et al., 2015; Dechow et al., 2010), the models were estimated with fixed industry effects. The change in earnings manipulation over time was controlled for by including yearly fixed effects.

3.2.2. Estimation Strategy Model 1

Following previous studies on gender and earnings management, model 1 was estimated using an Ordinary Least Square (OLS) regression. For panel data the default standard errors estimated in an OLS regression are not suitable since the standard errors for observations of the same firm are not independent (Wooldridge, 2009). Hence, the model was estimated using White standard errors, which are robust to the correlation within a specified group, in our case the correlation between observations for the same company. To account for industry effects as well as the differences between the years, a two-way fixed effect specification was used. This prevents biases resulting from effects that are unique to one year or industry.

The regression for model 1 reads as follows:

$$\begin{aligned} DAC_{j,t} = & \alpha + \beta_1 GENDER_{j,t} + \beta_2 SALARY_{j,t} + \beta_3 BONUS_{j,t} + \beta_4 OPTCOMP_{j,t} \\ & + \beta_5 ACOV_{j,t} + \beta_6 CIG_{j,t} + \beta_7 LOSS_{j,t} + \beta_8 LEV_{j,t} + \beta_9 ROA_{j,t} \\ & + \beta_{10} MB_{j,t} + \beta_{11} SGROWTH_{j,t} + \beta_{12} AUDIT_{j,t} + \beta_{13} SIZE_{j,t} \\ & + \beta_{14} IND_{j,t} + \beta_{15} YEAR_{j,t} + \varepsilon_{j,t} \end{aligned} \quad (2)$$

3.2.3. Estimation Strategy Model 2

Model 2 estimated the impact of a female executive on the likelihood of earnings fraud through a logistic regression. It is important to note that in a binary outcome model, a change in an independent variable does not correspond to a constant change in the probability function because the underlying function is logistic and not linear. Using a logistic function means that the marginal effects will vary continuously rather than discretely with each change in the independent variable. This keeps the predicted probabilities inside the interval of 0 and 1 (Baum, 2006), which makes it suitable for our purposes but also means that the coefficients cannot be compared to the coefficients of a linear model. As in the first model,

fixed year and industry effects were employed. According to Andersen (1980) fixed effects can be accounted for by a logistic model, this however limits the interpretation to the sign of the coefficients and does not allow for interpretation of the marginal effects.

The probability of a firm to have engaged in earnings management in a certain year (π) is:

$$\pi = \frac{e^y}{1 + e^y} \quad (3)$$

where

$$\begin{aligned} y = & \alpha + \beta_1 GENDER_{j,t} + \beta_2 SALARY_{j,t} + \beta_3 BONUS_{j,t} + \beta_4 OPTCOMP_{j,t} + \beta_5 ACOV_{j,t} \\ & + \beta_6 CIG_{j,t} + \beta_7 dacc_{j,t} + \beta_8 LOSS_{j,t} + \beta_9 LEV_{j,t} + \beta_{10} ROA_{j,t} + \beta_{11} MB_{j,t} \\ & + \beta_{12} SGROWTH_{j,t} + \beta_{13} AUDIT_{j,t} + \beta_{14} SIZE_{j,t} + \beta_{15} IND_{j,t} \\ & + \beta_{16} YEAR_{j,t} + \varepsilon_{j,t} \end{aligned} \quad (4)$$

3.3. Data

Our sample consisted of the companies listed in the S&P 1500 index at the end of 2005. Anchoring the list of constituencies enabled us to track the same group of firms throughout the defined period. As seen above in table 3, financial institutions were excluded based on their SIC codes (6000-6999) due to their special reporting requirements. The sample was taken from a population of all listed U.S. companies.

3.3.1. Data Collection

We retrieved data points for these companies for the period from 2000 to 2010⁸. The financial data for the estimation of discretionary accruals and our control variables were obtained from Compustat. This data set was then enriched with information on the gender and monetary incentives of executives from Execucomp. Since Execucomp does not indicate the CFO for years prior to 2006, we manually identified the CFOs from 10k forms⁹. In a third step, we added data for analyst coverage and company issued guidance, which has been retrieved from I/B/E/S. To determine whether a company has been engaged in earnings fraud, we manually catalogued the 2649 Accounting and Auditing Enforcement Releases issued between January 2000 and the end of the first quarter of 2017¹⁰ using the following steps: first, we identified all firms alleged to violate the GAAP and the periods in which the misstatement occurred. Second, to determine the relevance of a case to our study, we added a short description of the misconduct. To simplify the exclusion of cases not related to financial misstatements, like bribes, embezzlement, disclosure failures or auditor independence we scored each AAER with a zero or one in different categories like audit, bribe or disclosure. Third, we excluded any case not pertaining to the period from 2000 to 2010. The resulting list that specified the names of the fraudulent companies as well as the years of the fraud was hand matched to the corresponding company/year combination in our sample. This excluded any case relating to a company not in our data sample. Each year in which a company has been engaged in fraud was considered separately as we assume that the decision to commit

⁸ To estimate the discretionary accruals for the years 2000 and 2010, we used data from the years 1999 and 2011.

⁹ U.S. companies have to submit the 10k form to the SEC on a yearly basis. It includes general information on the business and the financial condition of a company.

¹⁰ AAERs are only issued after an investigation has been concluded which can take up to several years. This means that there might be a considerable time lag between the actual fraud years and the issuing of the release.

fraud is not made at one point in time, but is re-evaluated by the individuals involved, especially the high-level executives who are ultimately responsible for issuing financial statements.

3.3.2. Insights from the Data Sample

After excluding financial institutions and any observations with insufficient data, our final sample consisted of 6,403 observations. It is not surprising that the amount of female executives in our sample is relatively low. For 110 observations, the CEO is female and for 509 observations the CFO is female. Additionally, there are only seven observations for which both the CEO and CFO position are held by a woman. The most extreme values of discretionary accruals were found in companies with no females in the CEO or CFO role. The mean of the discretionary accruals is around USD 40,900 for all companies regardless of the gender of the executives. Similarly, the mean of analyst forecasts and company issued guidance does not differ between companies with male and female executives.

Other interesting observations become apparent when comparing the compensation of male and female managers in our sample. Table 4 compares the mean and standard deviation, as well as the minimum and maximum for female and male CEOs and CFOs respectively. With nearly USD 141 m, the highest amount of total compensation received by a male CEO is about four times higher than that of a female CEO. Overall, the CEO receives considerably more compensation than other high level executives like the CFO and the compensation for male and female CFOs is also distributed slightly more evenly than that of CEOs. The highest total compensation for CFOs is similar for men and women and the mean of the total compensation and the option compensation is just little higher for female CFOs as opposed to their male counterparts. The maximum of the value for in-the-money options to salary is much higher for male CFOs at USD 7.6 m as opposed to USD 1.6 m for female CFOs.

Table 4: Comparison of Executive Compensation by Gender

	Male CEO				Female CEO			
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
Total	53.20	77.00	0.01	1407.20	56.90	55.10	5.18	370.90
BONUS	5.34	17.39	0.00	708.09	4.34	7.74	0.00	35.50
OPTCOMP	576.70	30,261.40	0.00	2,248,274	0.18	1.02	0.00	10.53
Number of Observations: 6,293					Number of Observations: 110			
	Male CFO				Female CFO			
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
Total	17.06	18.10	0.62	335.40	21.05	32.57	1.50	340.98
BONUS	1.70	3.47	0.00	112.28	1.99	5.60	0.00	105.01
OPTCOMP	0.06	0.16	0.00	7.59	0.07	0.17	0.00	1.64
Number of Observations: 5,894					Number of Observations: 509			

All values in USD 100k

Comparing fraudulent with non-fraudulent companies also yields interesting insights. Of the 6403 observations, 94 refer to a year in which a company has been involved in misconduct. In our sample 41 different companies have been the subject of an AAER with the fraud event lasting 2.35 years on average and a maximum of 6 years. Dividing the fraudulent companies by industry group reveals that the majority is either in the manufacturing (17 companies) or

service industry (16 companies).¹¹ Furthermore, it should be noted that the mean for performance-based compensation (bonus and option compensation) is consistently higher in fraud years with the exception of the option compensation for CEO. This abnormality is caused by five extreme values where CEOs of non-fraudulent firms receive a symbolic one dollar salary¹². Considering that the variable is calculated as the value of the in-the-money options to salary, it is intuitive that the values for cases with a one dollar salary is very high. As it can be seen in figure 4, when excluding these observations from the sample, the mean drops below the one for the fraud group. The average number of analyst forecasts made per company and year is slightly higher for fraud firms (140 compared to 119) while the discretionary accruals based on the modified Dechow and Dichev model are on average of a similar size for fraud and non-fraud years with USD 42,000 and USD 40,000 respectively.

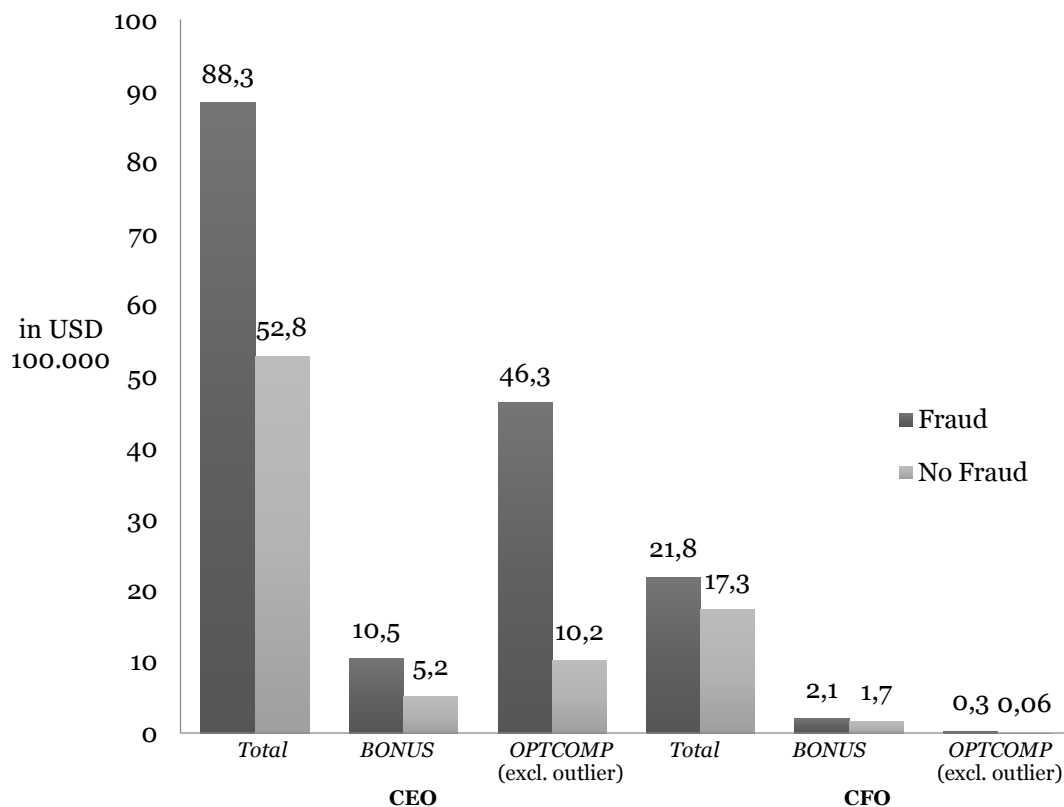


Figure 4: Mean of compensation compared for observations with and without fraud

3.3.3. Data Quality

Measurement validity, reliability and transferability are common concerns of quantitative research (Bryman & Bell, 2007; Fisher, 2007). The following section will describe the steps we took to ensure the quality of the data and therefore also of our findings. The results of the robustness tests mentioned below are discussed in the sections 4.3 and 4.4.

¹¹Agriculture Forestry and Fishing: 1, Mining and Construction: 2, Manufacturing: 17, Transportation, communications, electric, gas and sanitary services: 3, Trade: 3, Services: 16.

¹²The five largest values are USD 8.54 bn (Apple 2006), USD 21.34 bn (Yahoo 2007), USD 24.29 bn (Lilly (Eli&Co)), USD 77.08 bn and USD 224.8 bn (Cisco 2004 and 2002). These are all cases with a symbolic salary of USD 1.

Measurement Validity

Measurement validity is concerned with the degree to which the proxy for a concept truly reflects the concept (Bryman & Bell, 2007). We acknowledge that earnings manipulation does not capture all aspects of *corporate short-termism*. However, as explained in 2.1.3 it was deemed appropriate for this study. We further recognize that the estimation of accruals utilized in this thesis may not perfectly represent earnings management. To ensure our results are not model dependent, we re-estimated the first model with discretionary accruals derived from the Kothari model as the dependent variable. The Kothari model is explained in more detail in appendix 1. To ensure that the impact of the pressures and incentives from the capital market and compensation structure are captured accurately, we included proxies for the different components. However, the variable bonus remained a concern, since it does not account for the different performance measures used to determine the bonus.

Reliability

The stability and consistency of the measures ensures that the results of a study are replicable. This is referred to as the reliability of a study (Bryman & Bell, 2007). Despite a steady increase within the past years, the number of female executives in large listed companies remains small. In particular, in our second model the explanatory power of the regression suffered from the limited number of observations for companies with female executives that have been investigated owing to misconduct. Future studies with a larger sample of female executives hence might lead to different results. Yet, within these boundaries, we have aimed to maximize the reliability of our study.

According to Kohlberg (1984) gender can be considered to be a stable and consistent trait. However, similarly to other studies examining the impact of gender, our results are vulnerable to endogeneity. Since firms with specific characteristics may be more likely to hire a female executive, it is possible that our results are distorted by a self-selection bias (Vähämaa, 2014). The classification in fraud and non-fraud years may also be subject to selection bias since the SEC has limited resources to conduct investigations and misconducts may remain undetected. Considering the difficulty of detecting fraud, we find that AAER releases offer a good enough measure for earnings fraud (see 2.1.3). Moreover, a different classification of restatements would be upon the researcher's discretion and thus more prone to selection bias. The reliability of the measure for earnings fraud was further ensured by using an audit trail (Lincoln & Guba, 1985). This means we catalogued all AAERs and continuously discussed differences in our coding. It is possible that despite controlling for industry and size, the models omit some correlated variables which could subject our results to omitted-variable-bias. To ensure that our results are not biased because of the fixed effect specification, we conducted a robustness check without controlling for any effects.

Transferability

Transferability is concerned with the extent to which findings can be transferred to contexts beyond that of the original study. We acknowledge that the transferability is restricted by our sample selection as well as data availability. Our data was derived from various sources amongst them three different databases. If the data for an observation was not complete in just one of the sources, we had to drop the observation from our sample. Additionally, the restriction of the study to U.S. companies makes the transferability less strong. Due to cultural differences regarding executive behaviour and gender, a study focusing on one country was nevertheless deemed to be most appropriate. Although our study is restricted to a set of sample companies and a time period of 10 years, we aimed to enhance transferability

in two ways. (i) The S&P 1500 index combines small, mid-size and large cap indexes. With about 90 percent of the market capitalization included (S&P Dow Jones Indices LLC, 2017), the S&P 1500 thus provides a broad overview of the market, making our results generalizable to other listed U.S. companies. To support this claim we have divided the sample into large and small companies and re-estimated both models individually for the subsamples. (ii) To make our results independent of the economic cycle of the U.S. we have used time fixed effects and picked a time period which includes both growth and recession years.

4. RESULTS

The following section is divided into two parts. First, the results of model 1 and 2 will be discussed. Second, the presence of multicollinearity is examined and the results of the robustness checks for both models are presented.

4.1. Results Model 1 – Executive Gender and Earnings Management

Model 1 tests the influence of the gender of the CEO, CFO and both executives jointly on the absolute value of discretionary accruals (H1-H3). Table 5 displays the results for each of the three regressions. The adjusted R²s, indicating the percent of variance in the discretionary accruals, which can be explained by the independent variables, is around 26 percent for all three regressions. It should be noted that this is considerably higher than the typical R²s for this type of accruals regression in the accounting literature, which is 8-15 percent (Davidson et al., 2007; Hribar, Jenkins, & Johnson, 2006; Peni & Vähämaa, 2010; Xie et al., 2003).

Contrary to our predictions, the results show that for the group of companies with female CEOs the discretionary accruals are on average higher, albeit only USD 9000, than for those with a male CEO. These results are significant at the 5 percent level. Hence we reject the first hypothesis. As predicted, if a higher percentage of the compensation of the CEO is paid in fixed salary, the level of earnings management is significantly reduced whereas an increasing option compensation has the contrary effect. The coefficient of the variable *BONUS* is of very small magnitude, has a counterintuitive sign and is not significant.

H1: Firms with a female CEO are associated with lower levels of earnings management.
REJECTED

The results of the CFO regression present a similar picture, however, the gender of the CFO does not have a significant influence on earnings management. The magnitude and significance of the option compensation decreased relative to the CEO regression, which could be an effect of the lower values the variable takes on for CFOs.

H2: Firms with a female CFO are associated with lower levels of earnings management.
NOT SUPPORTED

Considering both the CEO and CFO, the variable *GENDER* remains insignificant. The estimates for the other variables are in line with those from the previous two regressions.

H3: Firms with a female CEO and/or CFO are associated with lower levels of earnings management.
NOT SUPPORTED

For all three regressions, the results show a positive and significant relation between the number of analyst forecasts (*ACOV*) and earnings management. Contrary to our prediction,

the company issued guidance (*CIG*) is negatively related to earnings management, which may indicate that the interplay between analyst coverage, company issued guidance and *corporate short-termism* is different than anticipated. Our results indicate, with a significance at the one percent level, that high growth companies have higher discretionary accruals. All other things equal, an increase in the sales growth rate by one percentage point would lead to an increase in discretionary accruals by USD 0.05 m. Our model estimates a negative association between leverage and discretionary accruals. As predicted, the company performance measured by the return on assets, as well as the size of the company, are negatively associated with earnings management. These findings are all significant at the one percent level. The positive effect of being audited by one of the Big 4 companies on reporting quality is not supported by our findings.

Summarizing, we reject our first hypothesis, since the gender of the CEO, other than expected, is significantly, positively related to discretionary accruals. The regressions for CFO and both CEO and CFO yield no statistically significant insights to the impact of gender on earnings management. Hence, we find no support for hypotheses H2 and H3 either.

Table 5: Results Model 1 - Earnings Management

VARIABLES	Expected Sign	(H1) CEO	(H2) CFO	(H3) EXEC
<i>GENDER</i>	-	0.0088** (0.0041)	0.0011 (0.0025)	0.0029 (0.0022)
<i>SALARY</i>	-	-0.0076** (0.0039)	-0.0090** (0.0040)	-0.0100** (0.0043)
<i>BONUS</i>	?	-1.13e-05 (0.0002)	0.0004 (0.0002)	0.0002 (0.0002)
<i>OPTCOMP</i>	+	0.00155*** (0.0005)	0.0012* (0.0006)	0.0017*** (0.0005)
<i>ACOV</i>	+	0.0565*** (0.0089)	0.0570*** (0.0089)	0.0555*** (0.0089)
<i>CIG</i>	+	-0.0003** (0.0002)	-0.0003* (0.0002)	-0.0003** (0.0002)
<i>LOSS</i>	+	0.0182*** (0.0028)	0.0181*** (0.0028)	0.0184*** (0.0028)
<i>LEV</i>	?	-0.0305*** (0.0058)	-0.0308*** (0.0058)	-0.0299*** (0.0058)
<i>SGROWTH</i>	+	0.0453*** (0.0065)	0.0449*** (0.0066)	0.0446*** (0.0065)
<i>MB</i>	+	0.0030*** (0.0005)	0.0031*** (0.0005)	0.0030*** (0.0005)
<i>ROA</i>	-	-0.154*** (0.0181)	-0.153*** (0.0183)	-0.154*** (0.0183)
<i>AUDIT</i>	-	-0.0006 (0.0030)	-0.0007 (0.0031)	-0.0006 (0.0031)
<i>SIZE</i>	-	-0.0031*** (0.0007)	-0.0030*** (0.0006)	-0.0033*** (0.0007)
Observations		6.403	6.403	6.403
R-squared		0.263	0.262	0.264
Industry FE		YES	YES	YES
Time FE		YES	YES	YES

Notes: The dependent variable is the absolute value of the discretionary accruals derived from the modified Dechow and Dichev Model in million USD. The results were estimated with an OLS regression. Robust standard errors are reported in parentheses (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The panel covers the time period from 2000 to 2010.

4.2. Results Model 2 – Executive Gender and Earnings Fraud

Model 2 analyses the relationship between gender and earnings fraud through a logistic regression. Table 6 summarizes the results. The model was estimated based on 4,713 observations. It should be noted that due to the automatic omission of observations from the same year and industry group where the dependent variable was constant the number of observations is lower than for model 1. The $\text{prob} > \chi^2$ for all three regressions is zero, which indicates a good fit of the model. However, the pseudo R^2 s of 0.0604, 0.0603 and 0.0653 for the three regressions are rather low. The pseudo R^2 is a measure on a scale from 0 to 1 with 0 indicating that the explanatory variables failed to increase the likelihood of the dependent variable and 1 indicating that the model perfectly predicts each observation. The Wald test albeit showed that the inclusion of each variable increases the explanatory power of the model. It tests whether the inclusion of a specific variable creates a statistically significantly improved model by setting variables to zero. Due to the high corresponding significance for all variables we can reject the null hypothesis that the inclusion of them does not increase the explanatory power of the model. As explained before (see 5.1), the coefficients in a logistic regression only denote the direction of the effect of the independent variable and do not allow for a direct interpretation of the magnitude (Woolridge 2009). The magnitude is normally calculated through marginal effects, these however cannot be deducted in a logistic regression with fixed effects.

Similar to the results of the first model, the coefficient for the gender of the CEO has a positive sign but in contrast to model 1 it is not significant. We thus do not find any support for our hypothesis that a female CEO decreases the likelihood of earnings fraud. Moreover, the variables measuring the monetary incentives are all insignificant.

H4: Firms with a female CEO are less likely to engage in earnings fraud.

NOT SUPPORTED

The coefficient for the gender of the CFO is insignificant which means we do not find support for the fifth hypothesis either. Regarding compensation only the bonus paid to the CFO has a significant impact on fraud. A higher bonus paid to the CFO decreases the likelihood of fraud.

H5: Firms with a female CFO are less likely to engage in earnings fraud.

NOT SUPPORTED

As in model 1, considering both the CEO and CFO, the influence of the gender of the executives is insignificant. Despite the negative sign of the coefficient we do not find evidence to support hypothesis six. The amount of compensation paid as a fixed salary has the predicted effect on the likelihood of fraud whereas the bonus has a negative impact on the likelihood. The variable *OPTCOMP* is insignificant.

H6: Firms with a female CEO and/or CFO are less likely to engage in earnings fraud.

NOT SUPPORTED

The number of analyst forecasts for a certain year significantly increases the likelihood of earnings fraud in the CEO and CFO regressions. As in model 1, the coefficients for company issued guidance have a counterintuitive sign but are insignificant. In all three regressions the results indicate that firms overstating earnings are also more likely to resort to earnings fraud. As predicted, sales growth has a positive effect on the occurrence of fraud while the return on assets has a negative influence. Interestingly, we find a significant negative

association between the market to book ratio and fraud. Companies which are audited by a Big 4 company are significantly less likely to be engaged in fraud. We do not find support for a connection between the financial state of the firm and earnings fraud. Finally, as anticipated the results indicate that large companies are more likely to engage in fraud.

Table 6: Results Model 2 - Earnings Fraud

VARIABLES	Expected Sign	(H4) CEO	(H5) CFO	(H6) EXEC
<i>GENDER</i>	-	1.065 (0.730)	-0.510 (0.532)	-0.0863 (0.470)
<i>SALARY</i>	-	-0.906 (0.706)	-0.921 (0.781)	-1.888** (0.962)
<i>BONUS</i>	?	-0.0589 (0.0381)	-0.105** (0.0475)	-0.0756* (0.0408)
<i>OPTCOMP</i>	+	0.0496 (0.0710)	0.0432 (0.0643)	0.0917 (0.0576)
<i>ACOV</i>	+	1.728* (0.943)	1.922* -1.116	1.360 (0.919)
<i>CIG</i>	+	-0.0240 (0.0149)	-0.0221 (0.0150)	-0.0230 (0.0151)
<i>sDACC</i>	+	1.661** (0.828)	1.860** (0.832)	1.773** (0.850)
<i>LOSS</i>	+	0.0881 (0.350)	0.0911 (0.340)	0.155 (0.329)
<i>LEV</i>	?	-0.833 (0.528)	-0.770* (0.466)	-0.555 (0.500)
<i>SGROWTH</i>	+	0.573*** (0.180)	0.576*** (0.206)	0.523** (0.216)
<i>MB</i>	+	-0.105** (0.0505)	-0.114** (0.0475)	-0.132** (0.0525)
<i>ROA</i>	-	-1.933*** (0.609)	-1.820*** (0.569)	-1.813*** (0.568)
<i>AUDIT</i>	-	-0.870* (0.495)	-0.881* (0.472)	-0.890* (0.483)
<i>SIZE</i>	+	0.413*** (0.0906)	0.445*** (0.116)	0.340*** (0.0982)
Observations		4,713	4,713	4,713
Pseudo R-squared		0.0604	0.0603	0.0653
Industry FE		YES	YES	YES
Time FE		YES	YES	YES

Notes: The dependent variable is binary and takes the value one if a company has engaged in earnings fraud in year *t* and zero otherwise. The results were estimated with a conditional logistic regression. Robust standard errors are reported in parentheses (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$). The panel covers the time period from 2000 to 2010.

4.3. Data Quality Checks

As discussed in section 3.3.3, several tests were conducted to ensure the quality of our data and findings. The following section discusses the results of these. Further details on the results of the correlation testing as well as robustness checks for model 1 and for model 2 are provided in appendix 2, appendix 3 and appendix 4 respectively.

4.3.1. Correlation Testing

To investigate whether the results are driven by multicollinearity between the variables, a pairwise correlation analysis was performed. Each independent variable showed at least a slight correlation with the dependent variables *DACC* and *FRAUD*. The analysis detected no

significant linear relationships between the independent variables that would considerably influence the results. To further control for multicollinearity the Variance Inflation Factor (VIF) was analysed after each regression. All variables had a VIF below 2.5 and a tolerance value close to 1. Overall, multicollinearity was thus deemed to not substantially affect the results (Wooldridge, 2009).

4.3.2. Robustness Checks Model 1

When re-estimating model 1 with different discretionary accruals, the coefficient of the variable *GENDER* still has a positive sign and is now significant in the CEO and EXEC regression but remains insignificant in the CFO regression. Some control variables lose their significance, however the only notable change is the significant impact the bonus paid to the executive has on earnings management across all three regressions. Yet, the magnitude of the coefficients remains small. Despite the differences between the estimated model and the re-estimated model used for the robustness check, the test showed that overall our results do not depend upon the estimation strategy for discretionary accruals.

The model was also re-estimated with all variables winsorized at the 1 and 99 percent level¹³ to ensure the results are not biased through outliers. The sign and magnitude as well as the significance for all variables are very close to those estimated in the original model specifications. In addition to the gender of the CEO, the variable *GENDER* became significant at the five percent level in the EXEC regression while the coefficients remained positive. When re-estimating the model without fixed effects for industry or time the results solely change in the magnitude of the coefficient compared to the original specifications. Only the coefficient for bonus becomes negative and significant at the ten percent level, which is in line with our predictions but contradicts our original findings. This shows that the results we obtained were not dependent on the estimation specifications. To ensure transferability, we divided the sample in small and large firms and re-estimated the model for each separately. The findings largely overlap with those from the original specification. The only differences are that (i) the variable gender loses significance in large companies for the CEO regression and (ii) option compensation is statistically significant in the sample of small but not large firms.

Summarizing, the results we obtain are largely independent of the estimation specification, outliers and the method of estimation used to determine the discretionary accruals. The effects of the bonus paid to the executive and the number of earnings guidance issued by a company within a year should be interpreted carefully since their signs and coefficients change throughout the different robustness checks.

4.3.3. Robustness Checks Model 2

The results of a re-estimation of model 2 with winsorized variables are very close to those from the original estimation. Hence, extreme values have not affected our findings. When re-estimating the logistic model without fixed effects, we find a significant positive effect of female CEOs on earnings fraud. The signed discretionary accruals as well as the bonus paid to the executive lose significance. Despite these changes, the results confirm the robustness of our findings. Re-estimating the model separately for large and small firms reveals that in large companies, female CEOs significantly decrease the likelihood of fraud whereas in small

¹³ Winsorizing replaces values smaller than the 1st and larger than the 99th percentile set to the 1st and 99th percentile respectively instead of dropping them.

companies they significantly increase it. These findings are significant at the one percent level. As with the original specification, the effect of monetary incentives differs across the regressions. Moreover, the effect of analyst coverage and the signed discretionary accruals loses significance. The results for the control variables are mostly in line with those from the original specification.

Apart from the negative influence of female CEOs on the likelihood of fraud in large companies, the robustness checks show that the estimates for the variable *GENDER* are robust. The results for the other variables vary slightly depending on the specification.

5. DISCUSSION

This part draws on previous chapters' literature as well as our results and analyses them. We also critically discuss the method used in our models. It starts off with the analysis of the determinants of corporate short-termism followed by a brief discussion of the results relating to the other control variables. Finally, the role of the executive gender is discussed.

The purpose of this study is to develop insights into the effects of specific characteristics of the manager. More specifically the aim is to find out what effect executive gender has among other determinants of *corporate short-termism*. To answer this question, our research was guided by two topics: the causes of *corporate short-termism* in general and the role of gender in particular. We have found the most important determinants of *corporate short-termism*, to be capital market pressure measured as analyst forecasts as well as the compensation structure. The role of executive gender is less important than hypothesised. Considering the determined measurement validity and quality checked data, overall our findings are arguably usable and transferable to other listed companies in the U.S.

Corporate short-termism is measured as earnings manipulation in our study. This entails that the models included financial ratios and company characteristics which affect earnings manipulation but are not necessarily short-term pressures. Therefore, this section also includes a discussion of the results for these variables.

5.1. Determinants of Corporate Short-Termism

In this section, we discuss causes of *corporate short-termism* related to the capital market and to compensation which have been previously identified in the literature.

We find a significant positive relationship between the number of analyst forecasts issued per year and earnings manipulation. Thus, our study supports the claim that pressure exerted by the capital market to meet earnings expectations is one of the causes of *corporate short-termism*. This is in line with previous empirical evidence (Brochet et al., 2015) and the predominant view that external targets pressure executives to focus on short-term results (Aspara et al., 2014, Graham et al., 2005). We believe that it could have improved the measurements of the intensity of pressure induced by analyst coverage, if we had been able to score the importance of individual analysts.

Aspara et al. (2014) argue that in response to investors and analysts focusing on the short-term, companies will issue quarterly guidance and thus reinforce the pressure and increase *corporate short-termism*. In our study, the results for company issued guidance are ambiguous. Surprisingly, the findings from model 1 show that company issued guidance can be associated with lower levels of earnings management. In model 2 the coefficient for *CIG* is

not significant. Previous empirical evidence showed either a positive or no impact (Call et al., 2014; Cheng et al., 2014). The mixed empirical findings question the theoretical argument made by Aspara et al. (2014) that company issued guidance increases *corporate short-termism*. Based on our study it is not possible to provide a more precise assessment of the reinforcing mechanism since methodological limitations prevent further insights into the interplay of analyst forecasts and company issued guidance. As discussed in 3.2.1., we used the number of analyst forecasts and company issued guidance per year, similarly to Brochet et al. (2015). Since we use the yearly amount of forecasts but earnings guidance is issued quarterly, it is not possible to precisely determine whether there is an adjustment of company issued guidance in response to the number of analyst forecasts. Furthermore, the results are likely to be influenced by the definition of short-term forecasts and guidance employed by researchers as well as executives and investors. Despite ambiguities, the findings on company issued guidance are particularly interesting in light of companies reducing their earnings guidance to curb *corporate short-termism*. The efforts are often very prominently indicated within CSR communication. A famous example of a company that stopped issuing quarterly earnings guidance to evade pressure from the capital market is Unilever. Our findings question whether these efforts have the desired impact of achieving a more long-term focus.

Regarding the effect of different compensation components, we find that the ratio of fixed salary to total compensation as well as the comparative emphasis placed on option compensation have a significant positive effect on earnings management. For earnings fraud however, the effect is insignificant. These results are in line with the existing literature, which suggests that option compensation has a positive influence on earnings manipulation (Denis et al., 2006; Meek et al., 2007). We find no evidence for the association of the bonus paid to the executive and the level of discretionary accruals previously found by Gao and Shrieves (2002). The discrepancy might be due to methodological differences since the variable *BONUS* does not account for possible differences in determination of the final amount of bonus paid to the executive. Firms might differ in the outcomes and time period they use to determine the amount. Therefore, the variable might capture both short- and long-term incentives, which may differ substantially between firms. This could be a possible explanation as to why the results for model 2 show a significantly negative influence of bonus on earnings fraud in two of three regressions.

Embedding the findings on compensation into the agency framework provides interesting insights. As agency theory states, information such as earning reports is crucial for the executive to signal that his or her behaviour is in line with the expectations of the shareholders. For shareholders, who are at a position of information disadvantage, it is important to supervise the management. The manipulation of earnings entails a falsification of information presented to shareholders by executives. The findings for salary and option compensation reveal a paradox inherent to agency theory and option compensation. On the one hand, option compensation is a mechanism to incentivize the manager to focus on the share price and thus align his or her interest with that of the shareholders. On the other hand, option compensation incentivizes managers to manipulate earnings, which can potentially be costly for the investors.

To sum up, among the determinants of *corporate short-termism* identified in existing literature, our study shows that capital market pressure measured as the number of analyst forecasts is an important determinant. We further find that salary and option compensation

affect the level of earnings manipulation. Due to ambiguous results, we question the role of company issued guidance as hypothesized in existing literature.

5.2. Other Determinants of Earnings Manipulation

As *corporate short-termism* was measured through earnings manipulation, our model included financial ratios and firm characteristics beyond the identified causes of *short-termism*. This is necessary to avoid omitted-variable-bias. Since they are not the focus of this study, we will discuss those variables that contradict previous findings and mention the others only briefly. The results for the control variables are mostly in line with existing accounting literature, with only three exceptions.

(i) The need for external financing (*LEV*) has a negative effect in model 1 and is insignificant in model 2. Previous studies suggest a positive relation between earnings management and financial leverage (Burns & Kedia, 2006; Peni & Vähämaa, 2010) because firms with debt constraints need to meet certain financial ratios, also referred to as debt covenants. When in financial distress, companies have incentives to overstate earnings in order to meet the debt covenants. However, a high level of leverage is not necessarily equal to financial distress (Brochet et al., 2015). Healthy companies can increase the leverage for other reasons beyond financial distress, such as making large-scale investments, which do not incentivize the overstatement of earnings. This could be a possible explanation for the significantly negative effect that we find in model 1. The insignificance of the variable *LEV* in model 2 is in line with the findings from Dechow et al. (2011) and Beneish (2001).

(ii) In model 1 the coefficient for the market-to-book ratio is significant and positive while in model 2 it is significant and negative. The market-to-book ratio captures the growth opportunities of a firm which have been linked to less transparent governance practices and possibilities to manipulate earnings. The positive relation found in model 1 is in line with existing studies (Peni & Vähämaa, 2010; Barua et al., 2010). However, the results from model 2 contradict existing studies, which find that the ratio is unusually high in fraud years (Dechow et al., 2011). A possible explanation for the discrepancy could be the inclusion of option compensation in our study, which has previously not been specified. A high market-to-book ratio implies a high value of the stock options paid to executives as part of their compensation and a positive outlook for the next period. According to Becker's theory of crime (1968) this might decrease the incentive to engage in fraud since the additional utility gained from earnings fraud becomes smaller.

(iii) The coefficient for audit is significant and negative in model 2 but insignificant in model 1. This implies that employing one of the Big 4 auditors can be used to decrease the likelihood of fraud. The insignificance in model 1 contradicts previous findings by Farber (2005) and Barua et al. (2010). The reputational damage for the auditing company when fraud is uncovered could be an explanation for the different results for model 1 and model 2.

In line with existing accounting literature the signed discretionary accruals, return-on-assets, sales growth, auditor type and size impact the likelihood of fraud. Regarding *corporate short-termism*, the findings about the signed discretionary accruals are worth noting. The association of high positive discretionary accruals with a higher likelihood of fraud indicates that excessive legal earnings management through for example overstating returns often goes hand in hand with earnings fraud and can thus be used as a predictor.

5.3. Executive Gender and *Corporate Short-Termism*

The discussion hitherto has already shown that the pressure exerted from analyst forecasts as well as the compensation composition are important determinants of *corporate short-termism*. We will now proceed to discuss the effect of the executive gender. Table 7 summarizes the results of the hypothesis testing.

Table 7: Summary of hypotheses testing

Proxy	Hypothesis	
Earnings Management	H1: Firms with a female CEO are associated with lower levels of earnings management.	Rejected*
Earnings Management	H2: Firms with a female CFO are associated with lower levels of earnings management.	Not supported**
Earnings Management	H3: Firms with a female CEO and/or CFO are associated with lower levels of earnings management.	Not supported**
Earnings Fraud	H4: Firms with a female CEO are less likely to engage in earnings fraud.	Not supported**
Earnings Fraud	H5: Firms with a female CFO are less likely to engage in earnings fraud.	Not supported**
Earnings Fraud	H6: Firms with a female CEO and/or CFO are less likely to engage in earnings fraud	Not supported**

*due to opposite sign of coefficient (significant at 5 per cent level)

**due to insignificance of coefficient

The executive is central to the debate on *short-termism* since organizational outcomes can be considered to reflect the values and biases of the executives (Hambrick & Mason 1984). Based on experimental evidence from psychology as well as studies in the field of management and accounting, we hypothesized that the gender of the executive will impact his or her behaviour and consequently *corporate short-termism*. Our results indicate however that the gender of the executive cannot clearly be associated with different levels of earnings management or earnings fraud in general.

Going into more detail, the coefficient of gender for the CEO regression is significant only in model 1. Unexpectedly though, the relationship we find is positive, which implies that the discretionary accruals of firms with a female CEO are on average USD 9,000 higher than those of firms with a male CEO. Whether this is a meaningful variation in practice remains ambiguous as it is difficult to put the value of the difference into perspective. The mean of the discretionary accruals in our data set is USD 40,000 for the whole sample but also for the subsamples of firms with female and firms with male CEOs. USD 9,000 is thus nearly a quarter of the mean value of discretionary accruals but less than one-tenth of the maximum value of discretionary accruals. Moreover, half of the companies with female CEOs (60 out of 110) have discretionary accruals below the mean.

The insignificance of the variable *GENDER* in the EXEC regression shows that the presence of a female in either position does not affect earnings management. This again questions the meaningfulness of the difference we found in the CEO regression. Even though there is ambiguity about the impact of the gender of the CEO in our findings, it is clear that the results contradict previous studies testing the influence of gender on earnings quality. Na and Hong (2017) find lower absolute discretionary accruals in firms with female CEOs, while the results of Peni and Vähämaa (2010) and Barua et al. (2010) indicate no significant association between female CEOs and lower absolute values of discretionary accruals. Since

the coefficient for the gender of the CFO in model 1 is insignificant, we cannot associate the gender of the CFO with higher earnings quality.

In the second model neither the gender of the CEO, the CFO nor of both jointly have a significant impact on the likelihood of fraud. Regarding earnings fraud and gender differences, previous research is scarce. To the best of our knowledge, the study conducted by Steffensmeier et al. (2013) is the only empirical investigation thereof. They find that female executives are seldom involved in corporate crimes in general. Although they do not differentiate between different types of crime and include cases beyond earnings frauds, their findings indicate that female executives might be less likely to engage in fraud. Our results on the other hand do not find no evidence for an effect of gender on earnings fraud.

Overall, the results from both models contradict previous studies from for instance accounting that have looked at gender and earnings manipulation. Two main differences between our study and previous ones provide possible explanations for the diverging findings. Firstly, previous studies were based on smaller sample sizes. Secondly, we embedded our study in the context of *short-termism*. Concerning the sample size, Peni and Vähämaa (2010) only analysed 1955 observations on S&P 500 companies over 5 years. The percentage of female CEOs and CFOs is roughly equal to that in our sample.¹⁴ As opposed to our study, they do not include monetary incentives and capital market pressure, which is the second probable cause for the different results. Both factors have been connected to *short-termism* in previous studies, some of which have also used earnings management (Meek et al., 2007) and fraud (Johnson et al., 2009) as proxies. Our results show that the compensation structure as well as the number of analyst forecasts have a significant impact on the level of earnings manipulation. This suggests that without including the context of *short-termism*, studies on gender and earnings quality might be biased. Considering that our model defines additional significant determinants for earnings manipulation, we likely avoid the omitted-variable-bias and thus increase the validity of our results.

Existing research provides two possible explanations for the similarities between firms with male and female executives: (i) expectations tied to the executive role supersede gender differences and (ii) the strong influence of the network the female executive is part of.

(i) In the “socialization approach”, the difference in gender translates into different values, which prevail in the work environment (Lueptow, 1981; Veroff, 1977) while according to the “structural approach”, the expectations that come with an occupational role can override gender expectations (Blauner, 1964; Collins, 1975; Feldberg & Glenn, 1979; Kanter, 1977; Markham et al., 1985). Although the previously discussed studies on the relationship of gender and earnings management indicate support for the gender socialization approach (see section 2.2.1), embedding our study into *short-termism* yields contradicting findings. Our results point more towards the effect of the structural approach, than the socialization approach. As seen in section 3.3.2 the incentives and pressures faced by the executive are on average equal for both genders with the mean of the total compensation, bonus and option compensation being similar for men and women. There are no significant differences in the number of analyst and company issued forecasts either. Considering the insignificance of the

¹⁴ The percentage of female CEOs is at 1,7 percent in our sample and at 3 percent in the sample used by Peni and Vähämaa (2010). For female CFOs the percentage is 7,9 percent in our sample and 8,3 percent in the Peni and Vähämaa sample.

variable *GENDER* in all but one regression and the similarity of the incentives and pressures, our results could indicate that gender norms are not actually that impactful with regards to executive behaviour.

(ii) The second explanation for the similar results for male and female managers might be the focus of female executives on relationships. Gilligan (1982) suggests that compared to their male counterparts, women tend to place more emphasis on their relations and networks. Schoderbek and Deshpande (1996) furthermore find that female managers were more prone to overclaim results in order to consciously create a favourable impression. For female executives, underperforming would thus constitute a failure to fulfil expectations of for instance investors. Following this line of argumentation, to maintain favourable relationships within the network, female CEOs would not shy away from engaging in earnings management any more than their male counterparts. The importance of relationships in the context of *corporate short-termism* is also emphasized in the theoretical literature thereof. It has been argued that *corporate short-termism* cannot be captured in one-way causal relationships, but is rather caused by (self-)reinforcing behaviour (Aspara et al., 2014; Jackson and Petraki 2011). The executives are situated in a network consisting of other managers but also shareholders and analysts. The time horizon of all these actors would thus have an influence on the CEO and CFO and if women placed a higher value on relationships than men, they could be influenced more by their network.

To sum up, despite ample indications in previous research, this study finds no clear evidence that female executives can be associated with better earnings quality, more conservative accruals or a lower likelihood of fraud. Overall, we therefore conclude that regarding *corporate short-termism*, gender does not have a substantial influence on executive behaviour.

6. CONCLUSION

This part provides a summary of the key findings and relates them back to the purpose of the study. Theoretical contributions and practical implications follow. Finally, we will conclude with the limitations of our study and suggest possible avenues for future research.

The fundamental motive for this study was derived from the discrepancy between the public debate and academic research on *short-termism*. In the public debate investors and managers alike are accused of an excessive short-term focus which destroys long-term firm value. Yet, academic research has not reached conclusive findings on the existence, causes or suboptimality of *short-termism*. The inconclusive findings point to a need for a deeper understanding of the phenomenon. Combined with the scarce research focusing on the role of executive characteristics, this inspired an investigation into the effect of executive gender on *corporate short-termism*. A precise estimation of the effect required an analysis within the context of other, previously defined, determinants of *corporate short-termism*. Hence, our findings are twofold. On the one hand, we provide further evidence on causes of *corporate short-termism* in general. On the other hand, we investigate the influence of the executive gender on *corporate short-termism*, which was measured through earnings management and fraud.

With respect to the determinants of *corporate short-termism* in general, the results of our empirical analyses provide four key insights. First, our analyses provide support for the

previously established relation between capital market pressure and *corporate short-termism*: the number of analyst forecasts significantly impacts the level of earnings management as well as the likelihood of fraud. Second, since our results for company issued guidance remain ambiguous, we question the argument that managers intensify capital market pressure by issuing earnings guidance. This means that the efforts of companies to reduce guidance in order to achieve a more long-term focus might not have the desired effect. Third, we contribute to evidence pointing to an association between option compensation and cases of *corporate short-termism*. A high emphasis placed on option compensation significantly increases the level of earnings management. Fourth, including several causes of *corporate short-termism* in one model revealed that the number of analyst forecasts and the structure of the executive compensation are the most important determinants.

Concerning executive-specific determinants, our study shows no clear link between executive gender and earnings management. The hypotheses that female executives achieve better earnings quality and a lower likelihood of fraud have been rejected. These findings imply that gender differences do not manifest in distinct behaviour of executives concerning *corporate short-termism* and question previous support for the socialization theory. A possible explanation for the discrepancy of our results to previous findings from accounting literature is that they did not include other determinants of *corporate short-termism* and thus may suffer from omitted-variable-bias.

In conclusion, this study enhances the understanding of executive-specific determinants of *corporate short-termism* and provides further insights on previously tested causes. In relation to the research question, our study found no clear evidence that the executive gender has a significant influence on *corporate short-termism*, whereas capital market pressure as well as the structure of executive compensation have been confirmed to be important determinants.

6.1. Theoretical Contribution

The thesis contributes to the literature on *short-termism* as the main theoretical field of research as well as to management and accounting literature, to which we refer when deriving our hypotheses. The contributions can be divided into five distinct points.

First, the literature review identifies a clear research gap within the field of *short-termism*. Despite its central role in *corporate short-termism*, the behaviour of the executive is understudied. Building on the research gap, one contribution of this thesis is to investigate executive gender as a novel determinant of *corporate short-termism*. Second, since the effect can only be estimated precisely when considering other determinants as well, our thesis also contributes to the existing literature on determinants of *corporate short-termism* in general. Our study complements previous evidence on the causes of *corporate short-termism* by adding empirical findings on the influence of capital market pressure and different parts of executive compensation. Third, it makes a theoretical contribution to the accounting literature by refining the determinants of earnings management and fraud. We show that analyst coverage, the share of total compensation paid as fixed salary, as well as option compensation have a significant impact and should hence be included in studies on earnings management. Fourth, we extend the previous literature by including several determinants of *corporate short-termism* into one model. On the one hand, this counteracts omitted-variable-bias and hence enables more precise estimation results. On the other hand, it allows us to identify analyst coverage as the most important determinant of *corporate short-*

termism. Fifth, concerning the executive traits, our theoretical contribution lies in the finding that gender, which in managerial literature is said to result in different executive behaviour, may not be associated with different levels of *corporate short-termism*. These results support the structural approach to how gender differences translate into values and preferences at work. By enhancing the understanding of executive behaviour, the thesis also contributes to managerial literature. Despite the insignificance of our findings, we extend the literature on earnings fraud by conducting the first test of the influence of executive gender.

6.2. Practical Implications

Earnings manipulation, as one form of *corporate short-termism*, is costly for firms (Dechow et al., 2011; Johnson et al., 2009) and shareholders alike (Efendi et al., 2007). Thus, it is important for executives, directors, shareholders, and legislators to understand the underlying causes of *corporate short-termism*.

Our study shows that analyst forecasts exert substantial pressure on firms to meet certain targets. Executives should be aware of this pressure to be able to consciously factor it into their decisions. The ambiguity of the effect of company issued guidance is also interesting to note for executives. The reduction of company issued guidance is often marketed as a CSR effort to focus more on long-term value creation. Our findings question whether less company issued guidance may actually help to attain the desired effect. Executives should thus investigate carefully how the reduction of issued guidance affects a company. Another practical implication executives can draw from this study is that employing auditors from one of the Big 4 companies can be used as an instrument to reduce the likelihood of fraud.

Our study shows that besides the intended effect of aligning manager and shareholder interests, incentive compensation can also lead to higher levels of earnings management. This implication is important for directors involved in determining the composition of compensation of executives. Analyst forecasts have a similar paradoxical effect. On the one hand, forecasts provide crucial information to investors, but on the other hand they exert pressure on executives, which potentially leads to earnings manipulation. Shareholders should be aware of these double-edged incentives and aim to monitor those adverse effects closely. The ambivalence emphasizes the importance of reliable information, which in turn has implications for legislators. They should ensure that the legal requirements for financial reporting set high standards with regards to quality and reliability. The connection between high positive discretionary accruals and earnings fraud indicate that earnings quality in fraud companies is low. Our findings that positive discretionary accruals are an indication of earnings fraud can further be helpful in identifying fraudulent companies and effectively preventing misconduct.

Our results also show that pushing for more female top level leadership might not be the most effective instrument to combat *corporate short-termism* as, according to our results, gender alone does not lead to a longer-term focus. If legislators want to curb the short-term focus of managers and ensure high earnings quality, we suggest that they consider regulations concerning analyst coverage and executive compensation, which have been found to have a significant influence in our study. One possibility in this realm could be to restrict the frequency and extend the time horizon of analyst forecasts. With regards to compensation, our study shows that option compensation is an important driver of earnings management. We hence suggest an amendment of section 162m of the Internal Revenue

Code, which currently allows stock option compensation that qualifies as “performance-based” to be fully deducted from tax for the firm. Allowing companies to deduct option compensation from tax decreases the governmental income, which is counterintuitive considering the cost governments incur when enforcing accounting rules. Legislation should thus favour higher percentages of fixed salary over performance-based compensation schemes.

6.3.Limitations and Further Research

The limitations of our study can broadly be divided into two categories. One is pertaining to the scope of our study whereas the other concerns the methodology. The limitations of our study however provide opportunities for future research.

The fact that our study is limited to the U.S. does not allow us to extend our contributions to other countries unreservedly. We would expect there to be considerable cultural differences with regards to gender norms. Additionally, regulations, corporate governance mechanisms and company cultures cannot be assumed to be alike across countries either. We further restricted our study to constituents of the S&P 1500 index. Although our results are generalizable to other listed U.S. companies, for unlisted firms the findings can serve as an indication at best. The restrictions in scope point to two areas for further research. First, analysing unlisted firms would allow additional insights within the U.S. Second, studies in different countries would be useful to understand the role of social and cultural differences in the manifestation of gender differences in a business context.

Methodologically, one limitation lies in the quantification of *corporate short-termism*. Despite earnings manipulation being deemed the most suitable measure for our study, it remains a proxy. Therefore, our conclusions are limited to the cases of *corporate short-termism* captured by earnings manipulation. Using an externally observable measure of *corporate short-termism* allowed us to avoid biases from subjective reporting of personal behaviour and performance through executives. However, it limits our study to the investigation of one way causal relations. There are likely interdependencies and interaction effects that are not captured in our study. Since networks and social mechanisms are difficult to quantify they were not included in the study. To ensure a suitable sample size we used gender as a proxy for certain executive traits like risk-aversion. Even though there is strong empirical evidence for differences in gender with regards to these traits, it would have been more accurate to incorporate the traits directly. Therefore, we encourage further research to investigate executive traits in order to complement previous empirical findings with insights derived from surveys or interviews. This would also enable the researcher to examine the determinants of *corporate short-termism* that arise from the relationships and networks of the executive.

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8. APPENDICES

8.1. Appendix 1 – Common Models of Accrual Estimation

Jones Model

In the Jones model total accruals are a function of sales growth and property, plant and equipment (PPE). The model defines discretionary accruals as the error term $\varepsilon_{j,t}$ of the following function

$$ACC_{j,t} = \alpha + \beta_1 \Delta Sales_{j,t} + \beta_2 PPE_{j,t} + \varepsilon_{j,t}$$

where

$ACC_{j,t}$ = total current accruals for firm j in year t

$\Delta Sales_{j,t}$ = change in sales from year $t - 1$ to year t , scaled by lagged total assets

$PPE_{j,t}$ = Gross value of property, plant and equipment of firm j in year t , scaled by lagged total assets

Kothari Model

This model also estimates discretionary accruals with a regression on total accruals. It controls for variables that have previously been identified to influence non-discretionary accruals (Kothari et al., 2005) and defines discretionary accruals as the error term $\varepsilon_{j,t}$ of the following function:

$$ACC_{j,t} = \alpha + \beta_1 \Delta Revenue_{j,t} + \beta_2 PPE_{j,t+1} + \beta_3 ROA_{j,t+1} \varepsilon_{j,t}$$

where

$ACC_{j,t}$ = total current accruals for firm j in year t

$\Delta Revenue_{j,t}$ = change in revenue from year $t - 1$ to year t , scaled by lagged total assets

$PPE_{j,t}$ = Gross value of property, plant and equipment of firm j in year t , scaled by lagged total assets

$ROA_{j,t}$ = Net income of firm j in year t , scaled by lagged total assets

Dechow and Dichev Model

The model is based on the idea that an inaccurate estimation will be revealed and must be corrected with the recognition of the actual cash flow. Thus, as a measure for discretionary accruals these corrections are looked at (Dechow & Dichev, 2002). The model defines discretionary accruals as the error term $\varepsilon_{j,t}$ of the following function:

$$ACC_{j,t} = \alpha + \beta_1 CF_{j,t-1} + \beta_2 CF_{j,t} + \beta_3 CF_{j,t+1} + \varepsilon_{j,t}$$

where

$ACC_{j,t}$ = total current accruals for firm j in year t

$CF_{j,t}$ = Cash from current operations of firm j in year t

Modified Dechow and Dichev Model

This model combines the ideas of model I and III by adding the two main variables from the Jones Model (sales growth and PPE) to the DD model to increase the explanatory power (McNichols, 2002). It defines discretionary accruals as the error term $\varepsilon_{j,t}$ of the following function:

$$ACC_{j,t} = \alpha + \beta_1 CF_{j,t-1} + \beta_2 CF_{j,t} + \beta_3 CF_{j,t+1} + \beta_4 \Delta Sales_{j,t} + \beta_5 PPE_{j,t} + \varepsilon_{j,t}$$

where

$ACC_{j,t}$ = total current accruals for firm j in year t

$CF_{j,t}$ = Cash from current operations of firm j in year t

$\Delta Sales_{j,t}$ = change in sales from year $t - 1$ to year t , scaled by lagged total assets

$PPE_{j,t}$ = Gross value of property, plant and equipment of firm j in year t , scaled by lagged total asset

8.2.Appendix 2 – Correlation Matrix

CEO Regression															
	DACC	FRAUD	GENDER	SALARY	BONUS	OPTCOMP	ACOV	CIG	LOSS	LEV	SGROWTH	MB	ROA	AUDIT	SIZE
DACC	1														
FRAUD	0.002	1													
GENDER	0.019	0.024	1												
SALARY	0.022	-0.029	-0.009	1											
BONUS	-0.029	0.027	-0.022	-0.1962	1										
OPTCOMP	0.018	0.039	-0.045	-0.3141	0.220	1									
ACOV	0.255	0.023	-0.000	0.0402	-0.019	0.098	1								
CIG	-0.036	-0.009	0.044	-0.1560	-0.025	0.147	0.122	1							
LOSS	0.261	0.021	0.027	0.1346	-0.151	-0.253	0.025	-0.114	1						
LEV	-0.178	-0.017	0.035	-0.1002	0.025	-0.099	-0.420	-0.007	0.061	1					
SGROWTH	0.145	0.024	-0.035	-0.0917	0.202	0.200	0.084	0.074	-0.215	-0.047	1				
MB	0.104	-0.006	0.023	-0.1426	0.074	0.292	0.176	0.068	-0.131	0.093	0.099	1			
ROA	-0.304	-0.034	-0.008	-0.1295	0.129	0.268	0.029	0.102	-0.602	-0.114	0.191	0.228	1		
AUDIT	-0.038	-0.029	-0.001	-0.114	-0.014	0.039	-0.063	0.074	-0.014	0.078	0.008	0.016	0.028	1	
SIZE	-0.240	0.015	0.006	-0.389	0.061	0.186	-0.468	0.147	-0.149	0.423	-0.003	0.006	0.114	0.167	1

CFO Regression															
	DACC	FRAUD	GENDER	SALARY	BONUS	OPTCOMP	ACOV	CIG	LOSS	LEV	SGROWTH	MB	ROA	AUDIT	SIZE
DACC	1														
FRAUD	0.003	1													
GENDER	-0.005	-0.012	1												
SALARY	0.016	-0.033	-0.017	1											
BONUS	-0.015	0.022	0.004	-0.186	1										
OPTCOMP	0.026	0.030	0.014	-0.309	0.234	1									
ACOV	0.255	0.023	-0.000	0.040	-0.019	0.098	1								
CIG	-0.036	-0.009	0.044	-0.1560	-0.025	0.147	0.122	1							
LOSS	0.261	0.021	0.027	0.1346	-0.151	-0.253	0.025	-0.114	1						
LEV	-0.178	-0.017	0.035	-0.1002	0.025	-0.099	-0.420	-0.007	0.061	1					
SGROWTH	0.145	0.024	-0.035	-0.0917	0.202	0.200	0.084	0.074	-0.215	-0.047	1				
MB	0.104	-0.006	0.023	-0.1426	0.074	0.292	0.176	0.068	-0.131	0.093	0.099	1			
ROA	-0.304	-0.034	-0.008	-0.1295	0.129	0.268	0.029	0.102	-0.602	-0.114	0.191	0.228	1		
AUDIT	-0.038	-0.029	-0.001	-0.114	-0.014	0.039	-0.063	0.074	-0.014	0.078	0.008	0.016	0.028	1	
SIZE	-0.240	0.015	0.006	-0.389	0.061	0.186	-0.468	0.147	-0.149	0.423	-0.003	0.006	0.114	0.167	1

8.3. Appendix 3 – Results Robustness Checks Model 1

Model 1 - Discretionary Accruals estimated with Kothari Model

VARIABLES	Expected Sign	(H1) CEO	(H2) CFO	(H3) EXEC
<i>GENDER</i>	-	0.0184** (0.0081)	0.0075 (0.0049)	0.0101** (0.0044)
<i>SALARY</i>	-	-0.0259*** (0.0085)	-0.0338*** (0.0082)	-0.0408*** (0.0083)
<i>BONUS</i>	?	0.0006* (0.0003)	0.0007* (0.0004)	0.0007* (0.0004)
<i>OPTCOMP</i>	+	0.0059*** (0.0012)	0.0072*** (0.0016)	0.0064*** (0.0013)
<i>ACOV</i>	+	0.0668*** (0.0147)	0.0652*** (0.0147)	0.0619*** (0.0146)
<i>CIG</i>	+	0.00018 (0.0003)	0.0003 (0.0003)	0.0002 (0.0003)
<i>LOSS</i>	+	0.0003 (0.0151)	-0.0005 (0.0151)	0.0002 (0.0151)
<i>LEV</i>	?	-0.0189 (0.0142)	-0.0171 (0.0140)	-0.0168 (0.0140)
<i>SGROWTH</i>	+	0.0029* (0.0017)	0.0028* (0.0017)	0.0028* (0.0017)
<i>MB</i>	+	0.0046*** (0.0012)	0.0045*** (0.0011)	0.0044*** (0.0011)
<i>ROA</i>	-	-0.157 (0.103)	-0.158 (0.103)	-0.158 (0.103)
<i>AUDIT</i>	-	-0.0050 (0.0117)	-0.0067 (0.0118)	-0.0058 (0.0117)
<i>SIZE</i>	-	-0.0113*** (0.0015)	-0.0115*** (0.0014)	-0.0125*** (0.0015)
Observations		7,998	7,998	7,998
R-squared		0.107	0.107	0.109
Industry FE		YES	YES	YES
Time FE		YES	YES	YES

Notes: The dependent variable is the absolute value of the discretionary accruals derived from the Kothari Model in million USD. The results were estimated with an OLS regression. Robust standard errors are reported in parentheses (*** p<0.01, ** p<0.05, * p<0.1). The panel covers the time period from 2000 to 2010.

Model 1 - All Variables Winsorized at 1 and 99 Percent Level

VARIABLES	Expected Sign	(H1) CEO	(H2) CFO	(H3) EXEC
<i>GENDER</i>	-	0.0088** (0.0041)	0.0011 (0.0024)	0.0090** (0.0041)
<i>SALARY</i>	-	-0.0076** (0.0038)	-0.0090** (0.0039)	-0.0261*** (0.0081)
<i>BONUS</i>	?	-1.13e-05 (0.0002)	0.0004 (0.0003)	4.82e-05 (0.0004)
<i>OPTCOMP</i>	+	0.00156*** (0.0005)	0.0012* (0.0006)	0.0031*** (0.0011)
<i>ACOV</i>	+	0.0565*** (0.0089)	0.0570*** (0.0089)	0.0564*** (0.0149)
<i>CIG</i>	+	-0.0004** (0.0002)	-0.0003* (0.0002)	0.0001 (0.0003)
<i>LOSS</i>	+	0.0182*** (0.0028)	0.0181*** (0.0028)	0.0197*** (0.0050)
<i>LEV</i>	?	-0.0305*** (0.0057)	-0.0308*** (0.0058)	0.0006 (0.0103)
<i>SGROWTH</i>	+	0.0453*** (0.0065)	0.0449*** (0.0065)	0.0716*** (0.0155)
<i>MB</i>	+	0.0030*** (0.0005)	0.0031*** (0.0005)	0.0030*** (0.0009)
<i>ROA</i>	-	-0.154*** (0.0181)	-0.153*** (0.0183)	-0.0400 (0.0264)
<i>AUDIT</i>	-	-0.0006 (0.0030)	-0.0007 (0.0030)	-0.0215 (0.0141)
<i>SIZE</i>	-	-0.0030*** (0.0007)	-0.0030*** (0.0006)	-0.0106*** (0.0013)
Observations		6,403	6,403	6,403
R-squared		0.263	0.262	0.111
Industry FE		YES	YES	YES
Time FE		YES	YES	YES

Notes: The dependent variable is the absolute value of the discretionary accruals derived from the modified Dechow and Dichev Model in million USD. The results were estimated with an OLS regression. Robust standard errors are reported in parentheses (***) p<0.01, ** p<0.05, * p<0.1). The panel covers the time period from 2000 to 2010.

Model 1 - No Fixed Effects Specifications

VARIABLES	Expected Sign	(H1) CEO	(H2) CFO	(H3) EXEC
<i>GENDER</i>	-	0.0097** (0.0039)	0.0012 (0.0025)	0.0030 (0.0022)
<i>SALARY</i>	-	-0.0117*** (0.0039)	-0.0134*** (0.0040)	-0.0152*** (0.0043)
<i>BONUS</i>	?	-0.0004** (0.0002)	-0.0002 (0.0002)	-0.0003 (0.0002)
<i>OPTCOMP</i>	+	0.0012*** (0.0005)	0.0006 (0.0006)	0.0013** (0.0005)
<i>ACOV</i>	+	0.0542*** (0.0086)	0.0544*** (0.0087)	0.0529*** (0.0087)
<i>CIG</i>	+	-0.0003** (0.0002)	-0.0003* (0.0002)	-0.0003** (0.0002)
<i>LOSS</i>	+	0.0192*** (0.0028)	0.0191*** (0.0028)	0.0193*** (0.0027)
<i>LEV</i>	?	-0.0345*** (0.0056)	-0.0350*** (0.0057)	-0.0340*** (0.0056)
<i>SGROWTH</i>	+	0.0436*** (0.0061)	0.0431*** (0.0061)	0.0428*** (0.0061)
<i>MB</i>	+	0.0031*** (0.0004)	0.0032*** (0.0005)	0.0030*** (0.0004)
<i>ROA</i>	-	-0.152*** (0.0181)	-0.151*** (0.0183)	-0.152*** (0.0183)
<i>AUDIT</i>	-	-0.0007 (0.0028)	-0.0008 (0.0028)	-0.0007 (0.0028)
<i>SIZE</i>	-	-0.0032*** (0.0007)	-0.0031*** (0.0006)	-0.0034*** (0.0007)
Observations		6,403	6,403	6,403
R-squared		0.254	0.252	0.254
Industry FE		YES	YES	YES
Time FE		YES	YES	YES

Notes: The dependent variable is the absolute value of the discretionary accruals derived from the modified Dechow and Dichev Model in million USD. The results were estimated with an OLS regression. Robust standard errors are reported in parentheses (***) p<0.01, ** p<0.05, * p<0.1). The panel covers the time period from 2000 to 2010.

Model 1 - Subsamples for Large and Small Firms

VARIABLES	Expected Sign	CEO - large	CEO - large	CEO - small	CFO - large	CFO - small	EXEC - large	EXEC - small
<i>GENDER</i>	-	0.0056 (0.0052)	0.0056 (0.0052)	0.0110* (0.0059)	0.0019 (0.0034)	5.30e-05 (0.0032)	0.0030 (0.0031)	0.0022 (0.0030)
<i>SALARY</i>	-	-0.0069 (0.0084)	-0.00692 (0.0084)	-0.00136 (0.0041)	-0.0095 (0.0072)	-0.0002 (0.0046)	-0.0093 (0.0076)	-0.0012 (0.0047)
<i>BONUS</i>	?	-0.0002 (0.0004)	-0.0002 (0.0004)	0.0001 (0.0003)	-5.79e-06 (0.0004)	0.0006* (0.0003)	-9.80e-05 (0.0004)	0.0004 (0.0003)
<i>OPTCOMP</i>	+	0.0006 (0.0006)	0.0006 (0.0006)	0.0015* (0.0008)	-4.12e-05 (0.0009)	0.0012 (0.0008)	0.0006 (0.0007)	0.00177** (0.0008)
<i>ACOV</i>	+	0.103*** (0.0235)	0.103*** (0.0235)	0.0596*** (0.0098)	0.104*** (0.0230)	0.0607*** (0.0099)	0.104*** (0.0231)	0.0599*** (0.0099)
<i>CIG</i>	+	-7.68e-05 (0.0002)	-7.68e-05 (0.0002)	-0.0006*** (0.0002)	-5.10e-05 (0.0002)	-0.0005** (0.0002)	-7.13e-05 (0.0002)	-0.0006*** (0.0002)
<i>LOSS</i>	+	0.0258*** (0.0046)	0.0258*** (0.0046)	0.0162*** (0.0035)	0.0257*** (0.0046)	0.0162*** (0.0034)	0.0260*** (0.0046)	0.0166*** (0.0034)
<i>LEV</i>	?	-0.0240** (0.0101)	-0.0240** (0.0101)	-0.0395*** (0.0064)	-0.0243** (0.0102)	-0.0395*** (0.0065)	-0.0236** (0.0101)	-0.0393*** (0.0064)
<i>SGROWTH</i>	+	0.0403*** (0.0085)	0.0403*** (0.0085)	0.0478*** (0.0085)	0.0402*** (0.0084)	0.0475*** (0.0085)	0.0398*** (0.0084)	0.0472*** (0.0085)
<i>MB</i>	+	0.00135** (0.0006)	0.00135** (0.0006)	0.0045*** (0.0007)	0.0014** (0.0006)	0.0046*** (0.0008)	0.00135** (0.0006)	0.0045*** (0.0008)
<i>ROA</i>	-	-0.102*** (0.0325)	-0.102*** (0.0325)	-0.171*** (0.0211)	-0.101*** (0.0325)	-0.171*** (0.0212)	-0.101*** (0.0327)	-0.172*** (0.0212)
<i>AUDIT</i>	-	0.00331 (0.0043)	0.0033 (0.0043)	-0.0020 (0.0035)	0.0033 (0.0043)	-0.0019 (0.0037)	0.0032 (0.0043)	-0.0019 (0.0036)
Observations		2,178	2,178	4,225	2,178	4,225	2,178	4,225
R-squared		0.252	0.252	0.266	0.252	0.265	0.252	0.266
Industry FE		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE		YES	YES	YES	YES	YES	YES	YES

Notes: The dependent variable is the absolute value of the discretionary accruals derived from the modified Dechow and Dichev Model in million USD. The results were estimated with an OLS regression. Robust standard errors are reported in parentheses (** p<0.01, * p<0.05, * p<0.1). The panel covers the time period from 2000 to 2010.

8.4. Appendix 4 - Results Robustness Checks Model 2

Model 2 - All Variables Winsorized at 1 and 99 Percent Level				
VARIABLES	Expected Sign	(H4) CEO	(H5) CFO	(H6) EXEC
<i>GENDER</i>	-	1.065 (0.730)	-0.510 (0.532)	-0.0863 (0.470)
<i>SALARY</i>	-	-0.906 (0.706)	-0.921 (0.781)	-1.888** (0.962)
<i>BONUS</i>	?	-0.0589 (0.0381)	-0.105** (0.0475)	-0.0756* (0.0408)
<i>OPTCOMP</i>	+	0.0496 (0.0710)	0.0432 (0.0643)	0.0917 (0.0576)
<i>ACOV</i>	+	1.728* (0.943)	1.922* (0.919)	1.360 (0.919)
<i>CIG</i>	+	-0.0240 (0.0149)	-0.0221 (0.0150)	-0.0230 (0.0151)
<i>sDACC</i>	+	1.661** (0.828)	1.860** (0.832)	1.773** (0.850)
<i>LOSS</i>	+	0.0881 (0.350)	0.0911 (0.340)	0.155 (0.329)
<i>LEV</i>	?	-0.833 (0.528)	-0.770* (0.466)	-0.555 (0.500)
<i>SGROWTH</i>	+	0.573*** (0.180)	0.576*** (0.206)	0.523** (0.216)
<i>MB</i>	+	-0.105** (0.0505)	-0.114** (0.0475)	-0.132** (0.0525)
<i>ROA</i>	-	-1.933*** (0.609)	-1.820*** (0.569)	-1.813*** (0.568)
<i>AUDIT</i>	-	-0.870* (0.495)	-0.881* (0.472)	-0.890* (0.483)
<i>SIZE</i>	+	0.413*** (0.0906)	0.445*** (0.116)	0.340*** (0.0982)
Observations		4,713	4,713	4,713
Pseudo R-squared		0.0604	0.0603	0.0653
Industry FE		YES	YES	YES
Time FE		YES	YES	YES

Notes: The dependent variable is the absolute value of the discretionary accruals derived from the modified Dechow and Dichev Model in million USD. The results were estimated with an OLS regression. Robust standard errors are reported in parentheses (*** p<0.01, ** p<0.05, * p<0.1). The panel covers the time period from 2000 to 2010.

Model 2 - No Fixed Effects Specifications

VARIABLES	Expected Sign	(H4) CEO	(H5) CFO	(H6) EXEC
<i>GENDER</i>	-	1.157** (0.550)	-0.439 (0.460)	0.0322 (0.354)
<i>SALARY</i>	-	-0.763 (0.807)	-0.971 (1.006)	-2.051* (1.100)
<i>BONUS</i>	?	0.0481 (0.0301)	0.0396 (0.0365)	0.0522 (0.0341)
<i>OPTCOMP</i>	+	0.136** (0.0604)	0.136 (0.0923)	0.159*** (0.0524)
<i>ACOV</i>	+	2.738** (1.140)	2.857** (1.237)	2.328** (1.135)
<i>CIG</i>	+	-0.0292 (0.0216)	-0.0252 (0.0217)	-0.0265 (0.0215)
<i>sDACC</i>	+	1.076 (1.004)	0.931 (1.005)	0.973 (1.022)
<i>LOSS</i>	+	0.443 (0.344)	0.427 (0.341)	0.459 (0.341)
<i>LEV</i>	?	-0.716 (0.505)	-0.723 (0.451)	-0.518 (0.436)
<i>SGROWTH</i>	+	0.523* (0.302)	0.515* (0.294)	0.461 (0.327)
<i>MB</i>	+	-0.0764 (0.0494)	-0.0746 (0.0469)	-0.0968* (0.0509)
<i>ROA</i>	-	-1.830** (0.739)	-1.639** (0.654)	-1.691** (0.680)
<i>AUDIT</i>	-	-0.885** (0.369)	-0.902** (0.371)	-0.899** (0.369)
<i>SIZE</i>	+	0.227*** (0.0872)	0.239** (0.0972)	0.135 (0.0898)
Observations		6,403	6,403	6,403
Pseudo R-squared		0.0477	0.0416	0.0549
Industry FE		NO	NO	NO
Time FE		NO	NO	NO

Notes: The dependent variable is the absolute value of the discretionary accruals derived from the modified Dechow and Dichev Model in million USD. The results were estimated with an OLS regression. Robust standard errors are reported in parentheses (***) p<0.01, ** p<0.05, * p<0.1). The panel covers the time period from 2000 to 2010.

Model 2 - Subsamples for Large and Small Firms

VARIABLES	Expected Sign	CEO-large	CEO-small	CFO-large	CFO-small	EXEC-large	EXEC-small
<i>GENDER</i>	-	-15.41*** -1.262 (0.919)	2.042*** (0.600)	-0.293 (0.613)	-0.814 (0.726)	-0.710 (0.723)	0.250 (0.458)
<i>SALARY</i>	-	-0.211 (0.919)	-2.115* -1.174	-0.399 -1.225	-1.629 -1.097	-0.965 -1.518	-2.815** -1.424
<i>BONUS</i>	?	-0.0705 (0.0518)	-0.0190 (0.0652)	-0.212*** (0.0595)	-0.0096 (0.0578)	-0.147*** (0.0509)	-0.0029 (0.0645)
<i>OPTCOMP</i>	+	0.156** (0.0632)	0.0368 (0.131)	0.0319 (0.0854)	0.177* (0.106)	0.175*** (0.0566)	0.101 (0.115)
<i>ACOV</i>	+	-0.528 -2.622	0.285 (0.950)	-0.788 -2.678	0.538 (0.917)	-1.013 -2.531	0.334 (0.894)
<i>CIG</i>	+	-0.0387 (0.0312)	-0.0113 (0.0255)	-0.0325 (0.0282)	-0.0041 (0.0230)	-0.0416 (0.0303)	-0.0075 (0.0240)
<i>sDACC</i>	+	0.930 -2.838	2.649* -1.607	1.405 -2.797	2.285 -1.629	0.609 -3.046	2.324 -1.668
<i>LOSS</i>	+	1.182* (0.619)	-1.578** (0.730)	1.053* (0.621)	-1.390** (0.696)	1.254** (0.600)	-1.413** (0.688)
<i>LEV</i>	?	0.710 (0.784)	-1.588** (0.717)	0.0653 (0.669)	-1.795** (0.753)	0.519 (0.668)	-1.706** (0.710)
<i>SGROWTH</i>	+	0.748** (0.335)	0.874* (0.459)	1.045*** (0.280)	0.789 (0.493)	0.934*** (0.291)	0.751 (0.481)
<i>MB</i>	+	-0.0044 (0.0524)	-0.449*** (0.138)	0.0138 (0.0328)	-0.493*** (0.125)	-0.0038 (0.0481)	-0.481*** (0.124)
<i>ROA</i>	-	-3.981*** -1.077	-1.076 -1.602	-2.812* -1.558	-1.152 -1.163	-2.746** -1.368	-1.171 -1.388
<i>AUDIT</i>	-	-1.436** (0.696)	-0.246 (0.553)	-1.515** (0.608)	-0.200 (0.557)	-1.490** (0.664)	-0.221 (0.542)
Observations		952	3,070	952	3,070	952	3,070
Pseudo R-squared		0.1545	0.0946	0.1492	0.0753	0.1587	0.0849
Industry FE		YES	YES	YES	YES	YES	YES
Time FE		YES	YES	YES	YES	YES	YES

Notes: The dependent variable is the absolute value of the discretionary accruals derived from the modified Dechow and Dichev Model in million USD. The results were estimated with an OLS regression. Robust standard errors are reported in parentheses

(*** p<0.01, ** p<0.05, * p<0.1). The panel covers the time period from 2000 to 2010.