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The Effect of Female Board Presence on Earnings Quality

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Abstract

This thesis examines the effect of female board presence on earnings quality. Earnings quality is measured by using five dimensions of earning quality: earnings management, financial restatement, unexplained audit fees, internal control deficiencies and the cash flow ratio. The results show that female board presence has no effect on earnings management, internal control deficiencies, unexplained audit fees and the cash flow ratio. However, female board presence is negatively associated with the likelihood of a restatement, which implies an increase in earning quality. Therefore, the combined net effect of female board presence on earnings quality is positive, implying that a higher number of female directors on the board lead to higher earnings quality.

Keywords: female board presence, board of directors, earnings quality, earnings management, financial reporting, unexplained audit fees, internal control deficiencies, cash flow ratio

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1 INTRODUCTION

Listed companies have a separation between the owners of the company and the managers. The owners of the company, shareholders, expect managers to act in the best interest for them. However, managers do not always have the same interest as shareholders and are not directly responsible for their financial decisions. This causes a problem, which is known as the agency problem (Jensen and Meckling, 1976). Information asymmetry exacerbates this problem. Accounting information provided in financial statements is an important source for shareholders to assess firm performance. Unfortunately, because of the agency problem, managers have the incentive to manipulate earnings in their own interest. Without the agency problem managers would not have the incentive to manipulate earnings, making earnings quality unimportant (Fodio et al., 2013). Regrettably, the problem still exists. The problem is solved by aligning the interest of both shareholders and managers. Multiple internal and external governance mechanisms, of which the board of directors is one of the most important, try to achieve that goal (Kang et al., 2007).

The composition of the board of directors varies from company to company and can significantly impact earnings quality (e.g. Kao and Chen, 2004; Uzun et al., 2004). More diverse boards are generally more efficient, as they have better discussions, more effective communication and higher quality consultations than less diverse boards (Upadhyay and Zeng, 2014). Higher board diversity also improves the monitoring role, because diverse boards have a higher variety of heuristics and skills (Anderson et al., 2011). There are various types of diversity which are divided into two groups: demographic and cognitive diversity. Demographic diversity is observable and cognitive diversity is non-observable. One aspect of demographic diversity is gender.

Up to this time are female directors underrepresented in the board of directors compared to their male counterparts. This is typical for the time in which we live now. In the last century, women's rights and equality has increased. However, to this very day, we can still see the remains of a time when women had far fewer rights than men and had to take care of the family. The battle between inequality remains difficult. Women still earn less than man, have to take care of the family and violence against women is a continuing problem (De Telegraaf, 2018). The public debate about gender equality therefore remains a hot topic, also in the corporate world. Governments start to enforce firms to represent more females on the board of directors. About a decade ago Norway set the minimum female board presence of listed companies to 40% and when not complying the company faces a penalty. Belgium, Italy and France followed. Spain,

Germany and the Netherlands also implemented quotas, but without sanction when not complying (The Economist, 2018). This thesis will examine the effect of female board presence on earnings quality due to the political changes (quota's) and the public debate about women's equality. As mentioned before are financial statements one of the most important sources to assess firm performance, which is important for shareholders. Prior literature argues that more diversity in general will increase the efficiency of the board of directors. This thesis will focus on female board presence and the effect on earnings quality. So, the research question is follows:

"What is the effect of female board presence on earnings quality?"

Different regression analyses are performed on 8,327 US firm year observations to answer this research question. Earnings quality is not directly observable and has multiple dimensions. This thesis uses the following five dimensions to measure earnings quality: earnings management, financial restatement, unexplained audit fees, internal control deficiencies and the cash flow ratio. The results show that female board presence has no effect on earnings management, internal control deficiencies, unexplained audit fees and the cash flow ratio. The results also show that female board presence is negatively associated with the likelihood of a financial restatement, which implies that female board presence is positively associated with earnings quality. Combining the results together gives a positive net effect of female board presence on earnings quality although it does not affect all dimensions of earnings quality.

This thesis contributes to the debate about women's equality and the effect of female board presence on earnings quality. Besides it focuses on multiple dimensions of earnings quality simultaneously, which increases the robustness. This thesis is also useful for investors, regulators, researchers, creditors, analysts and other player in capital markets, as it reveals a new aspect when assessing earnings quality. Lastly, this thesis shows which dimensions of earnings quality are affected by female board presence and which not.

2 LITERATURE REVIEW

This chapter provides a literature review about the major concepts in this master thesis. Section 2.1 gives an overview about earnings quality literature and discusses the dimensions used in this thesis. Section 2.2 explains the role of the board of directors and how they can have an impact on earnings quality. Followed by a more detailed section on how female board presence is expected to affect earnings quality according to the literature.

2.1 EARNINGS QUALITY

Financial reports are records that include financial information about the position and activities of an economic entity. The reports give an overview of the past results and reflect information about the future. The primary goal of these reports is to provide useful information so that the users can make informed economic decisions. The quality of financial reports is important for users such as creditors, shareholders, capital providers and other market players (FASB, 1978). A broad range of literature is available on earnings quality. Prior research shows that multiple factors influence earnings quality, varying from CEO characteristics to audit firm tenure. Still, the definition of "earnings quality" remains unclear. Literature rather focuses on factors that impede high earnings quality than on defining it. Researchers use different empirical measures to assess earnings quality. Schipper and Vincent (2003) examine these empirical measures by relating them to decision usefulness. They define four different categories: time-series properties of earnings, relation among income, quantitative concepts and implementations.

The first category is time-series properties and assumes high earnings quality when earnings are persistent, predictable and smooth. Earnings are persistent when they are more permanent and have a high autocorrelation with prior periods. Predictability is the ability to forecast earnings and smoothness captures how much cash flow is adjusted to create a smooth pattern of earnings over time. However, the main concern when using these measures is that they are influenced not only by management intent, but also by the economic environment and regulations.

The second category are measures with relations among income. The first measure is the relation between operating cash flow and income. This measure assumes higher earnings quality when income is close to cash. The second measure is the change in total accruals. The more change in accruals the lower earnings quality. The third measure is the relation between accruals and cash. The higher the relation between accruals and cash, the better. The last

measure uses discretionary accruals to proxy for earnings management. The higher the discretionary accruals, the lower the quality of earnings. All aforementioned measures have weaknesses. The first measure assumes that cash perfectly measures firm performance whereas the second measure assumes that all changes in accruals are the result of manipulation and to calculate discretionary accruals it is necessary to predict non-discretionary accruals, which is difficult.

The third category, qualitative concepts from FASB's conceptual framework focuses on four concepts: relevance, reliability, comparability and consistency. Relevance is about the decision usefulness of the financial statement. Reliability captures if the information is true, fair and accurate. Comparability is the degree to which users can identify differences and similarities between two economic phenomena in accounting information and consistency is high when there are unchanging policies and procedures each period. However, it is hard to operationalize these concepts. Besides in most cases a trade-off has to be made between these concepts.

The last category, the implementation perspective, focuses on how much judgment is required to make the financial statements and how much advantage a manager takes of the discretion allowed. Again, this is very hard to measure. So, it is very difficult to choose one good measure to obtain earnings quality. All measures have their own weaknesses. It is therefore important to use different dimensions of earnings quality to increase the robustness. This research uses the following five dimensions to assess earnings quality: earnings management, financial restatement, unexplained audit fees, internal control deficiencies and the cash flow ratio. The following sections provide more detailed information about each dimension.

2.1.1 Earnings management

Earnings management is a frequently used measure to proxy for earnings quality. Scott (2014) defines earnings management as follows: "Earnings management is the choice by a manager of accounting policies, or actions affecting earnings, so as to achieve some specific reported earnings objective." (p.403). Earnings management can be done in two different ways, accrual-based earnings management or through real actions. Real actions have an immediate impact on cash flow, whereas accrual-based earnings management has not. An example of a real action is cutting advertising costs. An example of accrual-based earnings management is changing the depreciation method. This thesis only focuses on accrual-based earnings management. The degree of earnings management is assessed by calculating the discretionary accruals. Discretionary accruals are the part of accruals that is not explained by economic factors.

Within earnings management are four different patterns. The first pattern is taking a bath, which implies that the manager overstates losses to enhance higher future profits. The second is minimizing the income by taking more losses and recognize profits less quickly, for example to pay less tax. The third is the opposite, so income maximization, because of contraction reasons. One example is to increase their own bonus. Managers maximize income by recognizing revenue more quickly than losses. The last one is income smoothing, which means lowering the variability of earnings over different time periods. This is done by decreasing fluctuations in the compensation of the manager over time (Scott, 2014).

Over time researches tried to investigate why managers manage earnings and devised theories to explain this behaviour. They find two main theories: contractual motivation or capital market incentives. Healy (1985) supports the first theory, or the bonus plan hypothesis, as he finds that managers manage earnings upwards if the net income of the company is between bogey and cap. The bogey is the lower bound from which the bonus starts and begins to rise until the cap. After the cap the bonus stays constant and the manager does not have an incentive anymore to manage earnings upwards. The second theory is because managers want to avoid violation of the debt contracts. Dichev and Skinner (2002) find supporting evidence. They report that managers manage earnings to keep debt covenant ratios above the rates specified in the contract. The last contractual motivation theory is to avoid political costs. Jones (1991) find that managers have the incentive to reduce the discretionary accruals in order to keep tariff protection. One of the capital market incentives is to meet the expectations of the investors about earnings. If earnings don't meet the expectations it can lead to a strong negative reaction in the share price and it can damage the reputation of the manager. Jackson and Liu (2010) find that bad debt allowances are managed to meet the market expectations instead of missing them. The last theory is managing earnings upwards before initial public offerings. Cohen and Zarowin (2010) find supporting evidence. They find that in years of SEOs earnings are managed upwards.

There is a difference between good and bad earnings management. Bad earnings management is misleading shareholders, whereas good earnings management tries to signal information to the users of the financial statement. This thesis focuses bad or excessive earnings management, which misleads the users. As mentioned before Schipper and Vincent (2003) argue that the main goal of financial statements is to increase decision usefulness. The lower the decision usefulness of a financial statement, the lower earnings quality. Therefore, excessive earnings management lowers earnings quality.

2.1.2 Financial restatement

Financial statements are used to transfer financial information from the management of the firm to the owners and other users of the financial statements. It is therefore important that the financial statements are free of material misstatements. So, there are several measures to ensure the quality of the financial statements. The Securities and Exchange Commission (SEC) obligates all registrants to comply with Generally Accepted Accounting Principles (GAAP) and to have their financial statements checked by an auditor before the issuance. It is the responsibility of the auditor to obtain reasonable assurance that the financial statement is free from material misstatements (Eilifsen and Messier, 2000). Within a company, internal controls are of great importance, because they can sometimes prevent or detect material misstatements. In spite of the measures taken, material misstatements still occur in published financial statements and need to be revised. Eilifsen and Messier (2000) made a scheme which clearly describes the process prior to a financial restatement. This process is consistent with the audit risk model (appendix, figure 1).

The first stage represents the inherent risk of a material misstatement. This is the risk of a misstatement assuming that there are no internal controls or auditor to prevent or detect it. The second stage represents the control risk, which is the risk that internal controls are unable to prevent or detect the misstatements. However, if internal controls can detect and correct the misstatement resulting from the first stage, the financial statement will be free of misstatements. Unfortunately, internal controls are not always well designed or simply do not function properly, which leads to misstatements remaining in the financial statement. So, stage two creates two groups: financial statements in which misstatements are prevented or detected (and corrected) by the internal controls (group 1) and financial statements in which misstatements are not prevented nor detected (and corrected) by the internal controls (group 2). The third stage represents detection risk, which is the risk that an auditor is unable to detect the misstatement. In this stage the auditor performs substantive tests to obtain reasonable assurance that the financial statement is free of misstatements. For the first group the auditor will conclude and give reasonable assurance that the financial statement is free from misstatements. In the fourth stage the company publishes the true and fair financial statement. For the second group the auditor also performs substantive tests, which can result in the detection of the misstatement. The company publishes a fair financial statement in phase four if the auditor detects and corrects the misstatement. However, the company publishes a financial statement with misstatement in phase four if the auditor does not detect the misstatement. After the publication three outcomes are possible. The misstatement is discovered but turns out to be not material and is therefore

not corrected. The misstatement is not discovered at all or is self-corrected. And lastly, the misstatement is discovered and corrected, because it is material. The last case is called a financial restatement.

2.1.3 Unexplained audit fees

The study of Hribar et al. (2014) develops a new measure of earnings quality based on audit fees. They argue that unexplained audit fees reflect information about earnings quality. In a competitive market audit fees are equal to the expected cost of the audit, including costs of low earnings quality. Auditors and audit firms bear high litigation and reputation costs if the financial statement of the client contains a misstatement (Hennes et al. 2010: Thompson and McCoy, 2008). In response to the low-earnings quality, audit companies demand a higher risk premium, increase the number of hours they spend on the audit, or both. These actions increase the audit fee and reflect the assessment of earnings quality of the audit firm. So, by isolating the part which represents earnings quality from the total audit fee it is possible to obtain information about perceived earnings quality. The use of unexplained audit fees as indicator of earnings quality has some tempting aspects. First, auditors have inside knowledge about the operations of the firm and how this is reported in the financial statements. The audit fee is independent of the given audit opinion but does reflect the assessed earnings quality of the firm. This is since the audit firm increase the number of audit hours when the assessed earnings quality is low. Therefore, it can be the case that a company with very low earnings quality gets an unqualified audit opinion. And secondly, a material misstatement can occur in all parts of the financial statement. Unexplained audit fees thus capture a broader notion of earnings quality, because auditors reflect their litigation and reputation risk in the audit fee. Other measures of earnings quality mainly focus on just one specific dimension of earnings quality, for example accruals. Hribar et al. (2014) find a positive relation between unexplained audit fees and other measures of earnings quality. They therefore believe that unexplained audit fees are a suitable measure for earnings quality.

However, Gul et al. (2008) investigate the effect of board diversity on the demand for higher audit effort. They find that boards with female directors are more inclined to demand greater monitoring in the form of increased audit effort. Therefore, unexplained audit fees will rise. This is in line with the previous research that women improve the oversight function of the board and lead to higher earnings quality. If women on the board are to improve earnings quality, a negative relation between female board presence and unexplained audit fees would be expected based on the research of Hribar et al. (2014). Nonetheless, with findings from Gul

et al. (2008) it is also possible that a positive association is find. The positive association does not necessarily imply that women provide lower earnings quality but can also imply that women increase the monitor function of the board by demanding for more audit effort. Another option could be that both effects cancel each other out. If female board presence decreases the risk perceived by the auditor, which decreases unexplained audit fees, but also increases monitoring by asking for more audit effort, which increases unexplained audit fees, the net effect could be zero.

2.1.4 Internal control deficiencies

An internal control deficiency is a material weakness in the internal control system over financial reporting. The Public Company Accounting Oversight Board (PCAOB, 2004) defines a material weakness in internal control as follows: "A significant deficiency should be classified as a material weakness if, by itself or in combination with other control deficiencies, it results in more than a remote likelihood that a material misstatement in the company's annual or interim financial statements will not be prevented or detected." (p.19). So, firms with a material weakness have a higher likelihood of a material misstatement in the financial statement. A material misstatement decreases earnings quality as it decreases the decision usefulness of the financial statement. After several major accounting scandals, of which WorldCom and Enron are the most well-known, Senator Paul Sarbanes and his colleague Michael Oxley formed the Sarbanes-Oxley Act[1] (SOx). Section 404 of this act relates to management's structural accountability for internal control over financial reporting. Section 404 requires management to make an annual evaluation about the reliability of the internal controls and make a statement about their responsibilities to maintain adequate internal control over financial reporting. Besides does it require the auditor to express an opinion on the management's evaluation of internal control (Ashbaugh-Skaifea et al. 2007). Section 404 became operational in 2004. Data on internal control deficiencies are easily to obtained after this date.

2.1.5 Cash flow ratio

The cash flow ratio reflects the relation between operating cash flow and earnings. It assumes that cash flow gives a good representation of firm performance and that accruals are used to manipulate earnings (Schipper and Vincent, 2003). Earnings consists of two components: cash flow and accruals. So, the cash flow ratio shows what part of earnings is due to cash. A high

[1] Sarbanes–Oxley Act of 2002, Pub.L. 107–204, 116 Stat. 745, enacted July 30, 2002

cash flow ratio implies that earnings consist mainly of cash. Therefore, companies with a higher cash flow ratio have higher earnings quality.

2.1.6 Weaknesses

All abovementioned measures of earnings quality have their own strengths, but also their own weaknesses. As such, a financial restatement only occurs when a material misstatement is discovered in an issued financial statement. Earnings quality of a firm will mistakenly be perceived as high if this misstatement remains undiscovered. Besides, a financial restatement only occurs after the audit (Eilifsen and Messier, 2000). Meaning that a financial statement with low earnings quality can be issued without a misstatement, even when the initial earnings quality is low. This is since auditors increase time and effort in response to low perceived earnings quality (Hribar et al., 2014). This increases the chances of discovering the misstatement. For earnings management the weakness rests in the calculation of discretionary accruals, which is used as proxy for earnings management. Accruals consist of discretionary accruals and non-discretionary accruals. Non-discretionary accruals are the unmanaged part of accruals. Non-discretionary accruals are estimated in order to calculate discretionary accruals. However, it is difficult to predict non-discretionary accruals. Another weakness of earnings management is the hard distinction between intentional manipulation and unintentional errors in estimations (Schipper and Vincent, 2003). Unexplained audit fees struggle with the same weakness as discretionary accruals. The explained part of audit fees is estimated in order to calculate unexplained audit fees. But also, here it is difficult to estimate explained part of audit fees. The second weakness of this measure also rests in the estimation of explained audit fees. It is important that the variables used to explain audit fees are not related to earnings quality. This could, however, lead to discussions, as not all researchers agree on which variable is or is not related to earnings quality (Hribar et al., 2014). The weakness of the measure internal control deficiency lies in its incompleteness. An internal control deficiency is significant when there is remote likelihood that a material misstatement will not be detected nor prevented. Although it is very likely that the financial statement contains a material misstatement does not mean it really is. Besides, it might also be that a company without an internal control deficiency issues a financial statement with a material misstatement. And the cash flow ratio assumes that cash is a better measure of firm performance then accruals. However, the literature does not agree on this. Accruals are designed to solve timing and matching problems. Moreover, accounting is no longer needed if cash really is the right measure of firm performance (Schipper and Vincent, 2003). This thesis uses different dimensions of earnings quality to increase the robustness, because of these weaknesses.

2.2 CORPORATE GOVERNANCE

In listed companies there is a separation between the managers of the company and the owners. The managers are expected to act in the best interest of the shareholders. This causes a problem, because the managers are not directly responsible for their financial decisions and do not always have the same interest as the shareholders. This problem is called the agency problem and is aggravated by information asymmetry (Jensen and Meckling 1976). Accounting information is one of the most important sources of information to assess firm performance. However, managers have the incentive to manipulate earnings in their own interest. Earnings quality would not be important without the agency problem, because than the manager would not have the incentive to misreport information (Fodio et al., 2013). Corporate governance tries to align the interests between shareholders and management. Messier et al. (2008) define corporate governance as follows: "A system consisting of all the people, processes and activities to help ensure stewardship over an entity's assets.". This is all relations, processes and mechanisms that help to operate and control the company. In the United States the board of directors and its committees are mainly responsible for supervising the management. The audit committee consists of board members and helps to oversee earnings quality (Lin & Hwang, 2010). McMullen (1996) finds that quarterly earnings are corrected in presence of an audit committee and Wild (1996) finds that the stock price significantly increases in the presence of an audit committee. Institutional investors can also help to control the firm. Prior research finds that managers are less likely to act in their own interest when a large institution is the primary shareholder (Hartzell and Starks, 2003). Abovementioned is just a part of corporate governance. Corporate governance in a whole is much broader. Nevertheless, this thesis will only focus on the board of directors as it is one of the main mechanisms to monitor management.

2.2.1 Board of directors

The board of directors is part of corporate governance and is one of the main mechanisms to monitor management. Since the board of directors is chosen by the shareholders, their responsibility is to all shareholders (Jensen and Meckling, 1976). Researchers assign different responsibilities to the board. According to Jensen (1993), the board of directors is responsible for a company's internal control systems and for the operation of the organization. The board also sets the rules for the CEO in respect of dismissal, recruitment and remuneration plans. It also provides high-level advice. According to Vafeas (2000), the board is responsible for earnings quality as managers have their own incentives and interest when it comes to managing earnings and possibly misleading shareholders. According to Anderson et al. (2004), boards are responsible for evaluating, disciplining and monitoring the management, but also for overseeing

earnings quality. This corresponds with previously mentioned research and therefore gives a good overview of the generally expected responsibilities of the board of directors.

The composition of the board can differ among firms. This provides the opportunity to examine the effect of board composition on a wide range of research areas. The research area of interest for this thesis is earnings quality. Studies that examine the effect of board composition discuss issues that are related to CEO participation, proportion of outsiders and the size. The following sections will explain how each of these factors affect earnings quality according to prior research.

2.2.1.1 CEO participation

CEO participation or CEO duality denotes that the CEO is also the chairman of the board of directors. In the literature there is mixed evidence about the effect of CEO duality on firm performance. This can be explained by two theories. The first one, the agency theory, explains the negative effect of CEO duality on firm performance. According to this theory, the control and monitoring function of the CEO is reducing when the CEO is also the chairman of the board. The second one, the stewardship theory, explains the positive effect of CEO duality on firm performance. Firm performance would increase because of the unified command it presents (Epps and Ismail, 2009). Studies about earnings quality and CEO duality give a more one-sided result. Brickley et al. (1997) find that banks with CEO duality are more likely to record lower discretionary loan loss provision leading to an increased net income. Jensen (1993) argues that CEO duality impairs the control function of internal control systems. In this setting the CEO is responsible for the implementation as well as the monitoring of decisions, which is inappropriate. So, the literature agrees that CEO duality lowers earnings quality.

2.2.1.2 Outsiders

Outside directors are members of the board who do not financially depend on inside managing directors (Machuga and Teitel, 2009). Inside directors are members of the board who are also an employee of the firm. Since outside directors are independent, they are better able to control the earnings process and resist pressure from the company to manipulate earnings. Besides they do not have the incentives to develop a reputation as expert in monitoring and decision control in contrary with inside directors (Fama and Jensen, 1983). It seems that the appointment of independent directors is an effective way of increasing earnings quality as it reduces the agency problem. Several studies confirm this statement. Klein (2002) finds a negative association between the percentage of outside directors in the board and the magnitude of abnormal

accruals, which is a measure of earnings quality. Peasnell et al. (2000) find a negative association in the United Kingdom between the proportion of outside directors and income increasing accruals. Also, Davidson et al. (2005) find similar proof. They find that the likelihood of earnings management is significantly lower for boards with a high number of outside directors.

2.2.1.3 Board size

The effects of board size on earnings quality have been examined by several researchers. The general finding is that there is a negative association between board size and the efficiency of the board. According to Lipton and Lorsch (1992), it is difficult for everyone to express ideas and opinions when the board is larger than ten members, due to a lack of time. Another problem that can occur in large boards is "free riding". It implies that members rely on other board members when monitoring the management (Ahmed and Duellman, 2007). Jensen (1993) also believes that the efficiency of the board is negatively associated with board size and that internal conflicts are more likely to arise in larger boards. Thus, the aforementioned work agrees that an intermediate board size is the most efficient. And a company with an efficient board of directors is more likely to have higher earnings quality.

2.2.1.4 Board diversity

Board diversity is variety in the composition of the board. There are two types of diversity: demographic and cognitive. Demographic diversity is observable like gender, race, age, nationality and ethnicity. Cognitive diversity is non-observable like education, values, knowledge, affection, personality and perception (Erhardt et al., 2003). Prior literature finds that at group and individual level diversity leads to innovation, higher level of creativity and better decision-making. These characteristics are critical for the board of directors. Existing literature confirms that board diversity in general positively affects board efficiency. Diverse boards have higher quality consultations, better discussions and more effective communication than less diverse boards (Upadhyay and Zeng, 2014). According to Anderson et al. (2011), board diversity improves the monitoring of managers as it brings a higher variety of heuristics and skills. Prior research also examined the effect of one level of board diversity. For example: education and age. Education indicates the knowledge, skills and cognitive orientation of the director. Higher levels of education lead to more innovation and understanding (Post et al.,2011). The more diverse the education among the board, the more diverse the knowledge and perspectives of the board. This is necessary to solve complex problems (Walt et al., 2006). Age reflects the experience of a board member and the maturity in management (Kang et al., 2007). A board with older board members is expected to have higher earnings quality, because

they have more moral judgment and are more conservative (McCabe et al., 2006). This tendency is, however, changing. They promote age diversity to encourage different perspectives of varying age groups (Kang et al., 2007). Again, prior literature generally agrees that board diversity positively affects board efficiency.

2.2.2 Female board presence

Today, women have far more rights than they had before and are increasingly considered equal to men. Yet there are still many areas where women lag behind compared to men. This also applies to the composition of the board of directors, in which women are still underrepresented. However, more and more countries are introducing compulsory or voluntary quotas to increase the number of women on the boards. Women can help to increase firm value and earnings quality by improving the efficient monitoring of the board (Lara et al., 2017). Some prior literature argues that there are differences in the behaviour of male and female directors, even concluding that females are better in monitoring than their male counterparts (Srinidhi et al., 2011; Barua et al., 2010; Peni and Vähämaa, 2010). These findings are supported by different areas of research including behavioural aspects, ethics and organizational theory (Lara et al., 2017).

According to Damak (2018), two theories can explain why female board presence potentially leads to a higher effectiveness of the board. The first theory is the gender theory. This theory states that individual behaviour is determined by gender (Eagly, 1987). This is due to a difference in normatively expected behaviour of society between men and women. Individuals that align with the expected behaviour of their gender are more likely to be perceived by others (Eagly et al., 1995). For example, women are expected to be less assertive than men (Terjesen et al., 2016) and according to Rosener (1995) they are better able to tackle ambiguous situations. The differences between the genders may play a relevant role in the effectiveness of the board. The second theory is the agency theory. Virtanen (2012) mentions that females on the board of directors have a higher likelihood of taking an active role. Women are also more likely to ask critical questions to the managers, are more dynamic and have a higher attendance on board meetings (Adams and Ferreira, 2009). So, having a women on the board of directors increases the independence and thereby the efficiency of the monitoring.

2.2.2.1 Quotas and regulation

Worldwide, women are underrepresented on the board of directors compared to men. Norway was the first country in the world to implement a women's quota in order to increase the number of women on boards (Seierstad et al, 2017). The Norwegian women quota law passed in

December 2003 and requires all listed firms to have at least 40% women on the board of directors. Most firms did not voluntary comply with this law. So, in January 2006 the women quota law became compulsory. The deadline for this law was in January 2008. All firms that do not comply with this law after the deadline are dissolved (Bertrand et al., 2014). The women quota law was viewed with scepticism from other European countries, but also from within Norway. The quota law started debates about the male dominance on the board of directors and the feasibility of quotas (Teigen, 2012). In the years after, other European countries followed Norway by implementing various forms of quotas (see appendix, table 1). Some countries linked sanctions to non-compliance, while others chose to take more voluntary measures (Seierstad et al., 2017). Recently, California (US) passed a new law, which requires listed firms headquartered in California to have at least one woman on the board of directors before the end of 2019. By the end of 2021, companies with five directors are required to have at least two women on the board and companies with six or more directors are required to have at least three women on the board. This is the first women quota law in the United States (Carpenter and Wattles, 2018).

2.2.2.2 Unique gender characteristics

Prior literature investigated woman's behaviour in senior executive positions. Unique gender characteristics are clearly visible within risk-taking and decision-making. Women are more risk avers than man, because they have less room to express their weakness and to make mistakes (Gavious et al., 2012). According to Betz et al. (1989), woman are less concerned about economic profit compared to males, which can lead to other decisions. Besides, women are also more ethical in their judgments and behaviour. They feel more public pressure to express themselves against malpractice and therefore report suspicious or illegal acts more often. This is confirmed by the research of Kaplan et al. (2009). They find that women are more inclined to report fraudulent reporting. The communication skills of women are also more effective and they are more tempted to ask questions to the management that their male counterparts would not ask. Wood et al. (1985) conducted an experiment in which groups had to generate a solution to a certain problem. The groups are based on gender. The results showed that male groups came with more solutions, but that the female groups came with higher-quality solutions.

2.2.2.3 Group thinking

Group thinking is a corresponding way of thinking when people are closely involved in a coherent group and strive for unanimity meaning that they do not consider alternative practices (Janis, 1972). Group thinking in the board of directors can lead to a decrease in independence and critical thinking. Lack of questioning and criticism regarding assumptions made in the

financial statement and internal controls can lead to an insufficient internal control system (Abbott et al. 2012). Lack of questioning and criticism is corresponding with group thinking.

However, prior research finds that introducing a female board member increases efficient group decision-making and can create heterogeneity (Pelled et al. 1999; Lee and Farh 2004). According to sociology literature, heterogeneity can lead to more effective group discussions, which lead to decisions of higher quality. Next to that, boards are more active at meetings when there is a good balance between the genders. Especially when there are at least three female directors attend the meeting. So, the presence of female directors can therefore reduce group thinking and thereby improving the independence and efficiency of the board.

2.2.2.4 Discrimination

In contrast to previously described, Eagly and Johnson (1990) argue that there is no difference in the behaviour between men and women if they perform the same function in a company. Gneezy et al. (2009) states that the differences in gender are not predetermined, but due to social aspects. Deaves et al. (2009) show that women are not more overconfident than men in the disciplines of finance, business and economics. The authors argue that women in these fields may differ from women in the general population. This view is supported by various researchers (e.g. Bugeja et al., 2012; Adams and Ragunathan, 2015; Adams and Funk, 2012). Still, some studies that examine the effect of female board presence find a positive relation with board monitoring efficiency. Lara et al. (2017) come up with an explanation. They argue that even if there do not exist any gender differences, discrimination against women can help to explain the positive association between female board presence and board monitoring efficiency.

First, prejudices against women could lead to a better pool of available female applicants for the board of directors, allowing non-discriminatory companies to pick the most skilled applicants and thereby increasing earnings quality. Secondly, the barriers in order to become a director are higher for women than for men. Women who can succeed in becoming a director are probable making greater effort, as they have higher reputation concerns and could be more well-prepared than their male counterparts (Lee and James, 2007). Adams and Ferreira (2009) support this view. They find that women come more often to board meetings, which is consistent with the assumption that women make greater effort. They also find that the CEO tenure is shorter with more female directors, whom they interpret as underperforming CEOs who are more quickly removed from their positions in these companies. This is in line with the fact that women increase the monitoring function of the board. Lastly, Lara et al. (2017) argue that female board presence may indicate the quality of the governance structure. Firms with a

better governance structure are more likely to have a better hiring procedure based on objective criteria (Hutchinson et al., 2015). If these firms base the appointment of a director on objective criteria and do not discriminate the likelihood of hiring a female director increase. Besides, if firms with a good governance structure have higher-quality earnings (Armstrong et al., 2014), this will result in a positive association between female board presence and earnings quality.

2.2.2.5 Prior literature

The association between female board presence and earnings quality is examined before by multiple researchers. Abott et al. (2012) investigates the effect of female board presence on the likelihood of financial restatement. They use a sample from the United States and find a significant negative association between the likelihood of financial statement and female board presence. Meaning that having at least one woman on the board lowers the likelihood of a restatement. Damak (2018) examines the association between female board presence and earnings management in France. Damak (2018) finds that female board presence is negatively associated with earnings management but does not influence earnings management strategy. Saona et al. (2018) also find that boards with high gender diversity are less likely to engage in earnings management. Srinidhi et al. (2011) and Lara et al. (2017) both give an explanation why female board presence leads to higher earnings quality. Srinidhi et al. (2011) find that greater female board participation leads to higher earnings quality due to an improvement in the oversight function of the board. So female board presence increases the monitoring function of the board and thereby increases earnings quality. However, Lara et al. (2017) argue that women in senior positions, such as the board of directors, do not substantially differ and that discrimination plays an important role in explaining the relation between earnings quality and female board presence. Gul et al. (2008) carried out a research in order to investigate the effect of board diversity on the demand for higher audit effort. After correcting the audit fees for industry and firm characteristics they find that female board presence is positively associated with audit fees. This finding suggests that women on the board are more inclined to demand greater monitoring in the form of increased audit effort. This is in line with the findings of Srinidhi et al. (2011). A further analysis of this finding shows that boards with female directors demand for increased audit effort in case of complexity, ethical dilemma and information asymmetry. Ye et al. (2010) investigated the effect of top executive gender diversity on earnings quality in Chinese listed firms. They find no relation. They argue that there is only a positive relation between female board presence and earnings quality in countries with a high level of equality between the two genders. This is since in countries with a low level of equality women

cannot influence the male directors. An overview of abovementioned literature can be found in table 2 of the appendix.

3 HYPOTHESIS DEVELOPMENT

As discussed in previous section is this thesis about the effect of female board presence on earnings quality. The board of directors is one of the mechanisms of the company to align the interests between shareholders and management (Kang et al., 2007). The most important role of the board of directors is monitoring. Good and efficient monitoring results in higher firm value and earnings quality. According to the literature, women can improve the efficiency of the board in several ways. Women are in general less influenced by financial benefits, more risk averse and more ethical. Besides they have more effective communication skills and are more tempted to ask questions to the management that their male counterparts would not ask (Gavious et al., 2012). Groupthinking can occur when a board fully consists out of males. Adding a women to the board can create heterogeneity. This can lead to more effective discussions and a more critical view towards the management, thereby increasing the independence and efficiency of the board (Abbott et al., 2012). Despite the differences between the two genders find Eagly and Johnson (1990) no difference in the behaviour of men and women when they perform the same function. Deaves et al. (2009) argues that women who have higher functions differ from women in the general population. However, Gneezy et al. (2009) state that differences between man and women are not predetermined, but due to social aspects. So, discrimination of women, for example, can lead to differences. Lara et al. (2017) find that discrimination of woman could lead to a better pool of available female applicants for the board of directors. It is also harder for women to become a director, so the ones who succeed are probably better prepared and make a greater effort. Due to the inconclusive literature, both a positive or no association between female board presence and earnings quality is expected, therefore the hypotheses are as follows:

H_0: *"Female board presence is not associated with earnings quality."*

H_a: *"Female board presence is positively associated with earnings quality."*

Different dimensions of earnings quality are used to ensure the robustness of the research. According to Schipper and Vincent (2003), all measures of earnings quality have their own weaknesses, therefore it is important to use different dimensions. The dimensions used in this thesis are earnings management, financial restatement, unexplained audit fees, internal control deficiencies and cash flow ratio.

4 SAMPLE SELECTION

The goal of this thesis is to answer the research question on how female board presence effects earnings quality. This thesis uses data from the United States to conduct statistical analyses. In order to collect all needed data three databases are used: ISS, Audit Analytics and Compustat. A Wharton Research Data Services account provides access to these databases. Table 3 in the appendix shows which database is used to retrieve or calculate each variable. To collect as many information as possible the longest time period available is used. The ISS database covers the shortest time period ranging from 2007 to 2018. Both Compustat and Audit Analytics cover this time period as well. After merging the three databases together the full sample consist out of 9,172 firm year observations. After merging 601 missing values are deleted. The financial sector is excluded from this thesis and therefore all 244 firm year observations with a SIC code between 6000 and 6999 are deleted as well. Thus, the final sample consist of 8,327 firm year observations. To prevent distortions in the regression analysis, all variables are checked for outliers and if present removed by modifying them. Table 4a and table 4b in the appendix show the sample selection process.

5 RESEARCH DESIGN

This research examines the effect of female board presence on earnings quality by using different dimensions. The dimensions used in this thesis are: earnings management, financial restatement, unexplained audit fees, internal control deficiencies and the cash flow ratio. The libby boxes can be found in the appendix figure 2. Female board presence is presented as FEMALE, which is a ratio. The female ratio is calculated by dividing the number of women on the board by the total number of board members. Based on prior research the following regression analysis is used to answer the research question:

$$EQ_{it} = x_0 + x_1 * FEMALE_{it} + x_2 * OUTSIDERS_{it} + x_3 * BOARDSIZE_{it} + x_4 * CEODUALITY_{it} + x_5 * FIRMSIZE_{it} + x_6 * LEV_{it} + x_7 * MTB_{it} + x_8 * GSALES_{it} + \varepsilon_{it} \quad (1)$$

This regression analysis is performed for each dimension of earnings quality (EQ_{it}). Depending on the dimension either an ordinary least square (OLS) or logistic regression analysis is used. Control variables are added to control for firm and corporate governance characteristics that may have an effect on earnings quality. In this research seven different control variables are used of which three corporate governance controls and four firm characteristic controls.

OUTSIDERS is a ratio that captures the percentage of outsiders in a company. According to prior research, more outsiders lead to higher earnings quality (Klein, 2002; Peasnell et al., 2000; Davidson et al., 2005). This is due to the fact that outsiders are more independent and thus are better able to control the earnings process and resist pressure from the company to manipulate earnings (Fama and Jensen, 1983). BOARDSIZE is a ratio that represents the number of directors on the board. Prior research argues that larger boards are less efficient in monitoring due to communication issues (Lipton and Lorsch, 1992; Ahmed Duellman, 2007; Jensen, 1993). This implies a negative relation between BOARDSIZE and earnings quality. Researchers agree that an intermediate board size is the most efficient. CEODUALITY is a dummy variable that equals one if the CEO and chairman are the same person and zero otherwise. Prior literature expects lower earnings quality in the presence of CEO duality as it impairs the control function of internal control systems (Jensen, 1993). FIRMSIZE is the natural log of the total assets. This control variable is added to control for the potential effect a company's size on earnings quality. Larger firms are better monitored, which reduce opportunistic behaviour of the manager leading to lower earnings quality. Saona et al. (2018) and Damak (2018) support this view as they both find a negative relation between earnings quality and FIRMSIZE. LEVERAGE is defined as

debt divided by equity. Evidence regarding the effect of LEVERAGE on earnings quality is mixed. An et al. (2016) and Haw et al. (2004) find that firms with a high level of LEVERAGE engage more in earnings management, whereas Jelinek (2007) finds the opposite. The effect of LEVERAGE on earnings quality remains therefore unclear. Market-to-book ratio (MTB) and the sales growth rate (GSALES) both represent growth of a company. The higher MTB or GSALES the higher the growth of the company. Beasley (1996) argues that firms with a high level of growth are more likely to manipulate earnings, because of their desire to maintain the growth rate. This is supported by Chih et al. (2008) who find a strong positive association between growth and earnings aggressiveness. So MTB and GSALES are only expected to be positively related with discretionary accruals, restatement and unexplained audit fees. This because manipulated earnings and accounting aggressiveness does not need to have an effect on the cash flow ratio or on the likelihood of internal control deficiencies. An overview of all variables can be found in table 3 in the appendix. The following sections explain the research design per dimension of earnings quality.

5.1 EARNINGS MANAGEMENT

Discretionary accruals are the proxy for earnings management, as earning management is not directly observable. According to prior literature, managers prefer earnings management through accruals as it is harder for outsiders to detect (Jones, 1991; Dechow et al., 1995). In this thesis the modified Jones model is used to estimate the discretionary accruals of a company:

$$\frac{TA_{it}}{A_{it-1}} = \alpha_0 + \alpha_1 * \frac{1}{A_{it-1}} + \alpha_2 * \frac{(\Delta REV - \Delta REC)_{it}}{A_{it-1}} + \alpha_3 * \frac{PPE_{it}}{A_{it-1}} + \varepsilon_{it} \quad (2)$$

TA_{it} represents the total accruals of company *i* in year *t*, which is calculated by subtracting cash flow from operations from net income before extraordinary items. ΔREV is the change in sales revenue in year *t* from company *i*, ΔREC denotes the change in receivables in year *t* from company *i*, PPE_{it} is gross property plant and equipment in year *t* from company *i*, and A_{it-1} is the beginning value of total assets in year *t* from company *i*. Total accruals consist of non-discretionary accruals and discretionary accruals (DA). Discretionary accruals are due to management decisions alone, therefore discretionary accruals are used to proxy for earnings management. The residual in formula 2 represents discretionary accruals. So, to calculate discretionary accruals it is necessary to estimate non-discretionary accruals. This is done by estimating coefficients α_0, α_1, α_2 and α_3 per 2-digit industry year. Thereafter it is possible to calculate non-discretionary accruals and discretionary accruals (DA), because every variable is

known except the error term: DA. To analyse the effect of female board presence on earnings management an OLS-regression is used:

$$DA_{it} = \beta_0 + \beta_1 * FEMALE_{it} + \beta_2 * OUTSIDERS_{it} + \beta_3 * BOARDSIZE_{it} + \beta_4 * CEODUALITY_{it} + \beta_5 * FIRMSIZE_{it} + \beta_6 * LEV_{it} + \beta_7 * MTB_{it} + \beta_8 * GSALES_{it} + \varepsilon_{it} \quad (3)$$

The coefficient of interest is β_1. Female board presence is expected to increase earnings quality. The higher the level of discretionary accruals the lower earnings quality. Therefore, a negative coefficient is expected, implying a negative relation between discretionary accruals and female board presence.

5.2 Financial restatement

The RESTATEMENT variable equals 1 in all years of restatement and zero otherwise. To examine the effect of female board presence on restatement a logistic regression analysis is used, because RESTATEMENT is a dummy variable. The regression looks as follows:

$$RESTATEMENT_{it} = \gamma_0 + \gamma_1 * FEMALE_{it} + \gamma_2 * OUTSIDERS_{it} + \gamma_3 * BOARDSIZE_{it} + \gamma_4 * CEODUALITY_{it} + \gamma_5 * FIRMSIZE_{it} + \gamma_6 * LEV_{it} + \gamma_7 * MTB_{it} + \gamma_8 * GSALES_{it} + \varepsilon_{it} \quad (4)$$

The coefficient of interest is γ_1. Female board presence is expected to increase earnings quality and so decrease the restatement. As a result, a negative relation is expected. Meaning that coefficient γ_1 is expected to be negative.

5.3 Unexplained audit fees

Unexplained audit fees are, as well as earnings management, not directly observable and must be calculated. Audit fees consist of two parts: explained audit fees and unexplained audit fees. Unexplained audit fees can be calculated after the calculation of explained audit fees. Audit fees can be explained by complexity, inherent risk of the audit and other factors. The following formula is used to estimate unexplained audit fees:

$$Ln(AUDITFEES)_{it} = \eta_0 + \eta_1 * FIRMSIZE_{it} + \eta_1 * LEV_{it} + \eta_2 * REC_{it} + \eta_3 * INV_{it} + \eta_4 * CR_{it} + \eta_5 * BTM_{it} + \eta_6 * LOSS_{it} + \eta_7 * AUDOPIN_{it} + \eta_8 * ROA_{it} + \eta_9 * BIG4_{it} + \varepsilon_{it} \quad (5)$$

Where FIRMSIZE, LEV, REC, INV, CR and BTM represent the complexity of the audit. REC and INV are calculated by dividing receivables and inventory by total assets. CR is the current

ratio calculated as current assets divided by current liabilities. BTM is the book to market ratio, which is the inverse of the market to book ratio. LOSS and ROA increase inherent risk. Both risk and complexity require more extended inspection, which is costly. AUDOPIN is a dummy variable that equals 1 in case of a modified opinion and zero otherwise (Hribar et al, 2014). BIG4 is also a dummy variable which takes value 1 if the auditor is a big4 company and 0 otherwise. Prior literature finds mixed evidence regarding the audit fee premium charged by big4 companies. Some find no premium while others do (Firth, 1985; Palmrose, 1986). To ensure that a potential big4 premium is not excluded, the variable BIG4 is added. The error term represents the unexplained audit fee. In order to calculate the error term, the coefficients η_0 , $\eta_1, \eta_2, \eta_3, \eta_4, \eta_6, \eta_7, \eta_8$ and η_9 are estimated per 2-digit industry year. Thereafter it is possible to calculate the unexplained audit fee as every variable is known except the error term: UEAF. To investigate the effect of female board presence on unexplained audit fees the following OLS-regression is used:

$$UEAF_{it} = \kappa_0 + \kappa_1 * FEMALE_{it} + \kappa_2 * OUTSIDERS_{it} + \kappa_3 * BOARDSIZE_{it} + \kappa_4 * CEODUALITY_{it} + \kappa_5 * GSALES_{it} + \varepsilon_{it} \quad (6)$$

Coefficient κ_1 is the coefficient of interest. Unexplained audit fees will rise when the audit firm suspects the company of having bad earnings quality. However, Gul et al. (2008) investigate the effect of board diversity on the demand for higher audit effort and find that boards with female directors are more inclined to demand greater monitoring in the form of increased audit effort. Therefore, both a positive and negative association can be expected between unexplained audit fees and female board presence. To prevent multicollinearity, the control variables FIRMSIZE, MTB and LEV are not included in the regression model. These control variables (or the inverse) are already used for the calculation of unexplained audit fees.

5.4 INTERNAL CONTROL DEFICIENCIES

Internal control deficiencies can be easily retrieved from audit analytics under the name count weaknesses. Count weaknesses shows the number of internal control deficiencies per year. Dummy variable ICD equals 1 if the company has at least one internal control deficiency and zero otherwise. ICD is a dummy variable, so the following logistic regression analysis used:

$$ICD_{it} = \lambda_0 + \lambda_1 * FEMALE_{it} + \lambda_2 * OUTSIDERS_{it} + \lambda_3 * BOARDSIZE_{it} + \lambda_4 * CEODUALITY_{it} + \lambda_5 * FIRMSIZE_{it} + \lambda_6 * LEV_{it} + \lambda_7 * MTB_{it} + \lambda_8 * GSALES_{it} + \varepsilon_{it} \quad (7)$$

Where λ_1 is the coefficient of interest. Internal control deficiencies can lead to lower financial statement quality. Therefore, a negative association between female board presence and ICD is expected. Thus, coefficient λ_1 is expected to be negative.

5.5 CASH FLOW RATIO

The cash flow ratio is calculated by dividing cash flow from operations by net income. This ratio assumes that cash is a better predictor of firm performance than accruals. According to this dimension of earnings quality is a higher ratio equal to higher earnings quality. To examine the association between female board presence and cash flow ratio the following OLS-regression is used:

$$CFRATIO_{it} = \mu_0 + \mu_1 * FEMALE_{it} + \mu_2 * OUTSIDERS_{it} + \mu_3 * BOARDSIZE_{it} + \mu_4 * CEODUALITY_{it} + \mu_5 * FIRMSIZE_{it} + \mu_6 * LEV_{it} + \mu_7 * MTB_{it} + \mu_8 * GSALES_{it} + \varepsilon_{it} \quad (8)$$

Coefficient μ_1 is the coefficient of interest. Female board presence is expected to lead to higher earnings quality. Therefore, a positive association between female board presence and CFRATIO is expected. In other words, μ_1 is expected to be positive.

6 RESULTS

This section provides the results of this study. Section 6.1 presents a global picture of the variables used in this research and section 6.2 shows the results of the multivariate regression analysis and gives further explanations about the findings.

6.1 UNIVARIATE ANALYSIS

Table 5 provides descriptive statistics of the used variables. The mean of DA is 0.08 which is quite high as it should be around 0. DA is a residual and on average the residual should be equal to 0. After further analysis, it appeared that the mean of DA is so high because of dropping the "good" observations during the sample selection process. Before the sample selection process, the mean of DA was close to 0. Using the absolute value of DA increased the mean even more and is therefore not used. RESTATEMENT is a dummy variable and thus can only take values 1 and 0. The mean of RESTATEMENT is 0.13, indicating that in 13% from all observations the financial statement is restated. The mean of UEAF is 0.03 which is plausible as it should be around 0 for the same reason as DA. The mean of dummy variable ICD is 0.03 which means that from all observations only 3% has at least one internal control deficiency. The minimum of CFRATIO is negative for which are two explanations. Net income is positive, but cash flow from operations is negative or net income is negative, but cash flow from operations is positive. The minimum and the maximum of CFRATIO deviate quite lot from the mean value 1.62 despite winsorizing the outliers. The mean of FEMALE equals 0.15, meaning that on average 15% of all board members is female. The minimum of FEMALE equals 0 and the maximum equals 0.75. This indicates that there are boards without woman, but that there are no boards without man. At most the board consists for 75% out of female directors. The mean of OUTSIDERS is 0.80 and can be interpreted that on average 80% of the board consists of outside directors. At least 14% of directors is an outsider and, in some companies, even the whole board consists of outsiders. The mean of dummy variable CEODUALITY equals 0.51, implying that in about half of all observations the CEO and chairman are the same person. The descriptive statistics of FIRMSIZE show no striking results and has a mean of 8.04. LEV has a mean of 0.71, a maximum of 14.42 and a minimum of -9.37 which indicates positive leverage. Positive leverage can arise when a company borrows money and invests that money against a higher interest rate than they borrowed the money for. Despite winsorizing LEV are minimum and the maximum still far apart from the mean. The mean of MTB is 3.33 indicating that on average the market value of a firm is 3.33 times as high as the book value. This may indicate that the market is inefficient and on average overstates the value of the firm. It can also indicate that the

market takes potential growth into account when valuing a company. A combination of both is also possible. As by CFRATIO and LEV deviate the minimum and maximum of MTB quite a lot from the mean even after winsorizing. Sales growth, GSALES, is on average 0.07 or 7%. The minimum of sales growth is -0.65 which is a decline in sales of 65%. The maximum sales growth is 2.34 which is an increase in sales of 234%. These values are far apart from the mean but are entirely possible.

[insert table 5]

6.2 MULTIVARIATE ANALYSIS

Prior to regression analyses, the Hausman test is carried out to determine whether a fixed or random effects model should be used. The Hausman test shows that a random effects model should only be used for CFRATIO and the fixed effects model for the other four dimensions. The data used in this thesis is panel data and the robust standard errors are used for all models. In order to maintain the overview, a separate paragraph for each dimension of the earnings quality, with the results and interpretation, is given below. This is followed by an overview and the last paragraph discusses multicollinearity.

6.2.1 Earnings management

Discretionary accruals (DA) proxy for earnings management. Table 6 shows the results of the OLS-regression analysis between DA and FEMALE. The coefficient of FEMALE is positive, but not significant. So, female board presence does not have a significant effect on earnings management. Control variables OUTSIDERS, BOARDSIZE, CEODUALITY and LEV have no significant effect either. The results show that larger firms have higher discretionary accruals. Higher discretionary accruals mean lower earnings quality. Both MTB and GSALES are positively associated with discretionary accruals. This means that firms with high growth or growth opportunities are more likely to engage in excessive earnings management implying lower earnings quality.

[insert table 6]

6.2.2 Restatement

Table 7 shows the results of the logistic regression analysis between RESTATEMENT and FEMALE. The coefficient of FEMALE is negative and significant at a 1% level. The negative coefficient indicates that a greater number of women on the board decrease the likelihood of a financial restatement. A lower likelihood on restatement implies higher earnings quality. The coefficient of control variable OUTSIDERS is also negative at a 10% level. So more outsiders on the board of directors decreases the likelihood on a financial restatement. The other control variables do not have a significant impact on the likelihood of a financial restatement.

[insert table 7]

6.2.3 Unexplained audit fees

Table 8 presents the results of the OLS-regression analysis of UEAF and FEMALE. The results show that female board presence has no significant effect on unexplained audit fees. An explanation for this could be that the two expected effects cancel each other out. Female board presence is expected to increase earnings quality. According Hribar et al. (2014), the coefficient of FEMALE is expected to be negative, because women increase earnings quality and thus decrease the risk perceived by the auditor. However, Gul et al. (2008) find that women ask for more monitoring in the form of increased audit effort, which increases audit fees. Therefore, based on the work of Gul et al. (2008) a positive coefficient for FEMALE is expected. If both are true, they can cancel out each other's effect. It is, however, not possible to confirm this theory with these results. So further research is needed to confirm this theory. The coefficients of control variables OUTSIDERS, CEODUALITY and GSALES are significant at a 1% level. The coefficient of OUTSIDERS is positive implying that a higher number of outsiders on the board increases unexplained audit fees. The coefficients of CEODUALITY and GSALES are both negative. So based on these results and according to Hribar et al. (2014), a higher number of outside directors decreases earnings quality and a higher sales growth or the CEO being the same person as the chairman increases earnings quality.

[insert table 8]

6.2.4 Internal control deficiencies

Table 9 presents the results of the logistic regression analysis of ICD and FEMALE. The coefficient of interest, FEMALE, is not significant. Therefore, female board presence does not

have a significant effect on the likelihood of an internal control deficiency. All other control variables do not have a significant effect either on the likelihood of an internal control deficiency except for CEODUALITY. The coefficient of CEODUALITY is negative and significant at a 10% level. So if the CEO is same person as the chairman the likelihood of an internal control deficiency decreases.

[insert table 9]

6.2.5 Cash flow ratio

Table 10 shows the results of the OLS-regression analysis of CFRATIO and FEMALE. The coefficient of interest, FEMALE, is positive but insignificant. Meaning that female board presence has no significant effect on the cash flow ratio. The coefficients of all other control variables are also insignificant except for GSALES. The coefficient of GSALES is positive and significant at a 1% level. This means that a higher sales growth rate increases the cash flow ratio and thus increases earnings quality.

[insert table 10]

6.2.6 Overview

Table 11 gives an overview of the results presented in previous sections. The effect of female board presence on earnings quality depends on the dimension. Female board presence has no effect on earnings management, internal control deficiencies, the cash flow ratio and unexplained audit fees. So based on these four dimension of earnings quality the null hypothesis is accepted. However, female board presence decreases the likelihood of a financial restatement, which implies an increase in earnings quality. Therefore, the net effect of female board presence on earnings quality is positive and so the null hypothesis is rejected and the alternative hypothesis accepted. The results show that a higher number of outsiders decreases the likelihood on a financial restatement, but increases unexplained audit fees. These two findings have an opposite effect on earnings quality. It is not possible from these results to determine the net effect on earnings quality. BOARDSIZE and LEV have both no significant effect on earnings quality. CEODUALITY has a net positive effect on earnings quality and FIRMSIZE has a net negative effect on earnings quality. Both findings are against the expectations. Therefore, further research is needed to explain these results. As expected are

MTB and GSALES positively associated with discretionary accruals as firms try to maintain their growth rate by manipulating earnings. MTB has no effect on the other dimensions of earnings quality and therefore the net effect MTB is negative. However, GSALES decreases unexplained audit fees and increases the cash flow ratio. Both indicate an increase in earnings quality. So it is not possible to access the net effect of GSALES on earnings quality based on these results.

[insert table 11]

6.2.7 Multicollinearity tests

Multicollinearity is a phenomenon when two or more explaining variables are strongly correlated with each other. In this case it is possible to predict the variable based on the other variable. Table 12 in the appendix presents the correlation matrix. The correlation between all variables is is lower than 0.350 with two exceptions. The correlation between firm size and board size is 0.610 and the correlation between the market-to-book ratio and leverage is 0.642. Both values are below 0.800 which means that there is no reason to worry about multicollinearity based on the correlation matrix. However, the correlation matrix does not include indirect correlation, whereas the variance inflation factor (VIF) does. The VIF is calculated for each regression analysis. Table 13.A to 13.E show the results. In general, a VIF value of 10 or more is considered to be serious multicollinearity (Burns, 2016). The mean VIF is 1.37 for all regression analyses except for regression analysis number 6. The VIF for regression analysis number 6 is 1.08. So all VIF values are far below 10, which indicates that there is no multicollinearity.

7 CONCLUSION

This section provides the conclusion of this thesis, discusses the contribution and limitations and provides suggestions for further research.

7.1 CONCLUSION

The results of this study show that female board presence has a positive effect on earnings quality and therefore the null hypothesis is rejected, and the alternative hypothesis accepted. This conclusion is based on the combined net effect of female board presence on the five dimensions of earning quality. The five dimensions of earnings quality are: earnings management, financial restatement, unexplained audit fees, internal control deficiencies and the cash flow ratio. Female board presence has no effect on the dimensions earnings management, internal control deficiencies, unexplained audit fees and the cash flow ratio. However, female board presence is negatively associated with the likelihood of a financial restatement, which implies higher earnings quality. Therefore, the net effect of female board presence on earnings quality is positive.

7.2 CONTRIBUTION

This thesis contributes to the existing literature in different ways. It focuses on multiple dimension of earnings quality and therefore it is possible to indicate which dimensions of earnings quality are affected by female board presence and which not. By combining the results, the net effect of female board presence is determined, considering multiple dimensions of earnings quality. The results show that female board presence is associated with higher earnings quality. As it is not a causal relation it cannot be used by regulators to implement laws or regulations. However, it could be useful for investors, regulators, researchers, creditors, analysts and other player in capital markets, as it reveals a new aspect when assessing earnings quality. Besides, it contributes to the debate about female board presence and the effects on the company. It can promote further research to the possible benefits of having more females in higher business functions.

7.3 LIMITATIONS

This research suffers from some limitations. First, data used for this thesis originates from the US. In the US, there are currently no women's quotas that are valid throughout the country. As a result, it is possible that the findings of this research may not be valid in countries where there

is a women's quota. In addition, the culture in a country may also play an important role. For example, discrimination could be a possible explanation for finding a positive association between female board presence and earnings quality. Therefore, it is possible that the results are not applicable in companies located in countries other than the US. Secondly, this thesis examines an association rather than a causal link, due to time constrains. Thirdly, female board presence can have two effects on unexplained audit fees, so it is possible that these two effects cancel each other out. According to Hribar et al. (2014), higher unexplained audit fees increase as the auditors perceives higher risk. High earnings quality decreases the risk perceived by the auditor and therefore unexplained audit fees will decrease. So if female board presence increases earnings quality, Hribar et al. (2014) expects female board presence to decrease unexplained audit fees. However, Gul et al. (2008) find that women on the board of directors want better monitoring by asking for more audit effort resulting in higher audit fees. Gender is not included in the calculation for unexplained audit fees and a positive association between female board presence and unexplained audit fees is expected. So the question remains, if unexplained audit fees is an approriate way of measuring earnings quality in this thesis as female board presence can have two opposite effects on unexplained audit fees. Lastly, the initial database of compustat had a mean DA that was close to zero. After the sample selection process the mean of DA raised to 0.08, which is quite high. This indicates that some "good" observations are dropped during this process, which can cause a bias in the results.

7.4 FURTHER RESEARCH

This study shows that female board presence does not have an effect on all dimensions of earning quality. Further research could investigate why some dimension of earnings quality are affected while others are not. An interesting research could be on the two possible effects of female board presence on unexplained audit fees. From the results in this thesis it is not possible to see if the two effects cancel each other out or that there is simply no significant effect of female board presence on earnings quality. Besides, it is still not certain what drives earnings quality to go up with more gender diversity. It could be explained by the different characteristics of male and female, a reduction in group thinking or even discrimination. Further research is needed to answer the question what drives earnings quality to go up when gender diversity increases.

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9 APPENDIX

Figure 1. The process of misstatement incidence and detection according to Eilifsen and Messier (2000)

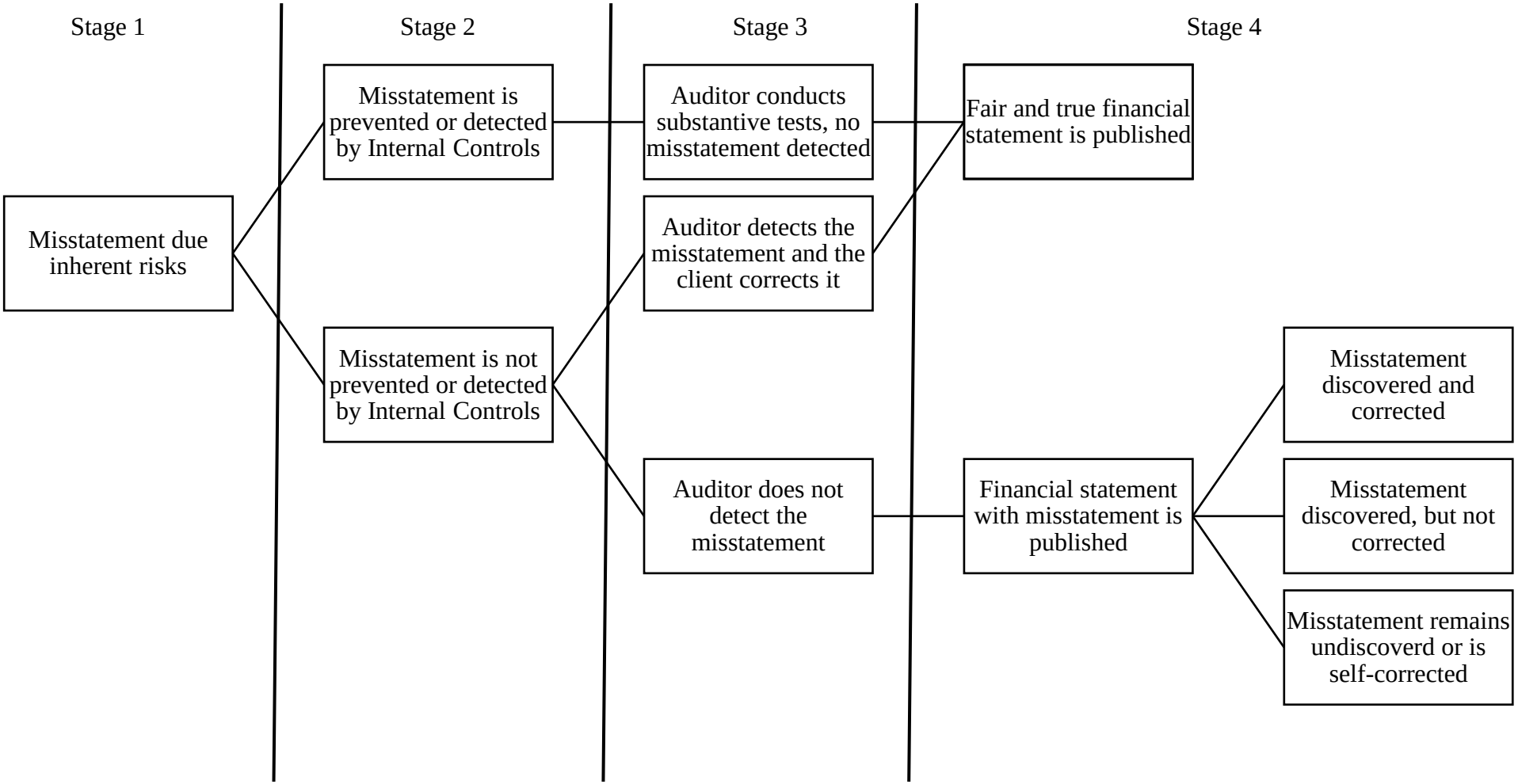

Figure 2. Libby boxes

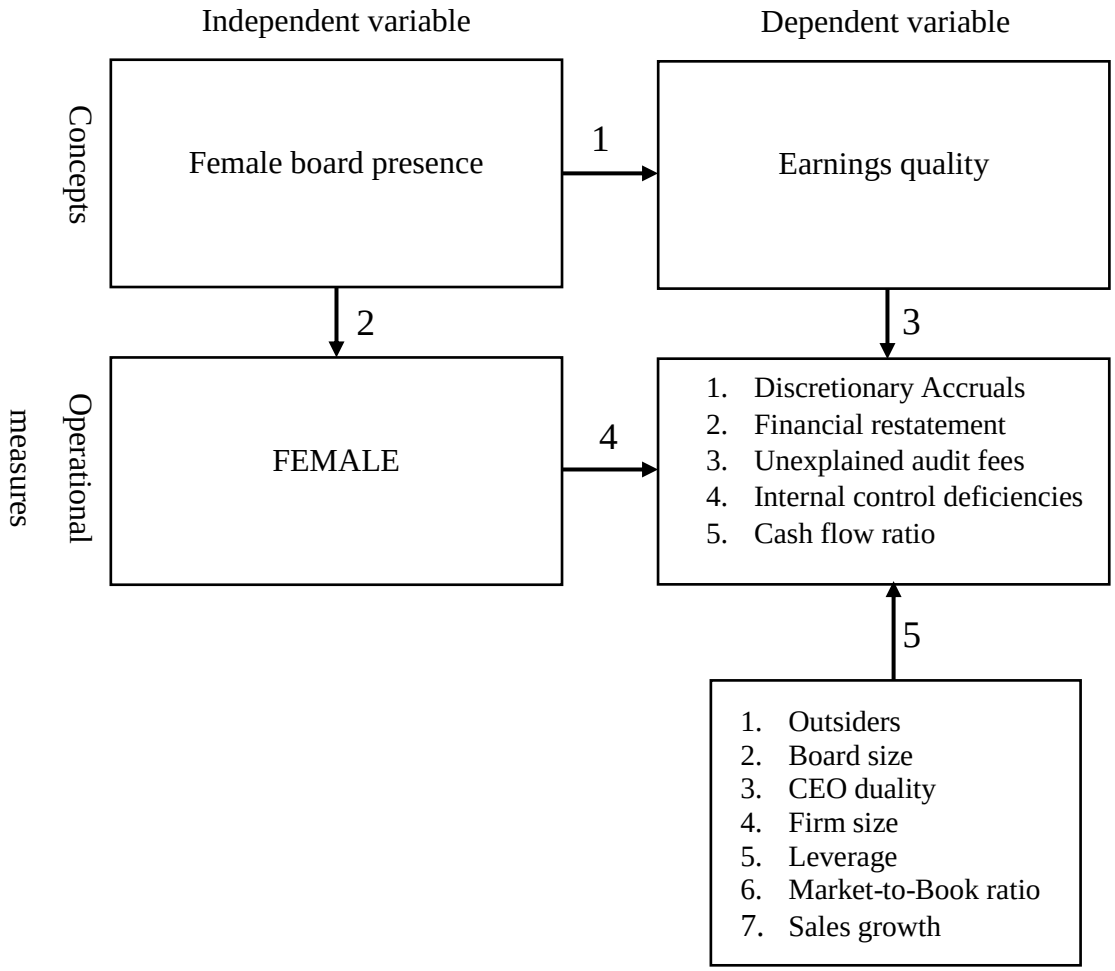

Table 1. The implementation of women quota per country.

Country	Quota yes/no	Sanction yes/no	Target	PTFs*	SOEs**	Deadline
Austria	Yes	No	35%	No	Yes	1/1/2018
Belgium	Yes	Yes	33%	Yes	Yes	1/1/2017
Bulgaria	No	-	-	-	-	-
Croatia	No	-	-	-	-	-
Cyprus	No	-	-	-	-	-
Czech Republic	No	-	-	-	-	-
Denmark	No	-	-	-	-	-
Estonia	No	-	-	-	-	-
Finland	Yes	No	40%	No	Yes	1/6/2005
France	Yes	Yes	40%	Yes	No	1/1/2017
Germany	Yes	Yes	30%	Yes	No	1/1/2016
Greece	Yes	No	33%	No	Yes	12/9/2000
Hungary	No	-	-	-	-	-
Iceland	Yes	No	40%	Yes	Yes	1/9/2013
Ireland	No	-	-	-	-	-
Italy	Yes	Yes	33%	No	Yes	Not set
Latvia	No	-	-	-	-	-
Lithuania	No	-	-	-	-	-
Luxembourg	No	-	-	-	-	-
Malta	No	-	-	-	-	-
Netherlands	Yes	No	30%	Yes	No	1/1/2020
Norway	Yes	Yes	40%	Yes	Yes	1/1/2008
Poland	No	-	-	-	-	-
Portugal	No	-	-	-	-	-
Romania	No	-	-	-	-	-
Slovakia	No	-	-	-	-	-
Slovenia	No	-	-	-	-	-
Spain	Yes	No	40%	Yes	No	1/1/2015
Sweden	No	-	-	-	-	-
United Kingdom	No	-	-	-	-	-
United States – California	Yes	Yes	40%***	Yes	No	31/12/2021
United states – other states	No	-	-	-	-	-

* PTFs: Publicly traded firms

** SOEs: State-owned enterprises

*** On average: at least two female directors if the board has five directors and three if the board counts six or more directors.

Sources: European Commission (2016); Terjesen et al. (2015); Seierstad et al. (2017)

Table 2. Literature overview

Authors	Title	Country	Year	Dimension(s) of Earnings Quality	Main finding(s)
Abbott, L. J., Parker, S., & Presley, T. J.	Female board presence and the likelihood of financial restatement	US	2012	Financial restatement	There is a significant negative association between female board presence (at least one woman on the board) and the likelihood of financial restatement.
Damak, S. T.	Gender diverse board and earnings management: evidence from French listed companies	France	2018	Earnings management	Female board presence is negatively associated with the level of earnings management but does not affect earnings management strategy.
Gul, F. A., Srinidhi, B., & Tsui, J. S. L.	Board Diversity and the Demand for Higher Audit Effort	US	2008	Unexplained audit fees	Boards with female board presence have significantly higher unexplained audit fees. This seems to indicate that such boards will be more inclined to demand greater monitoring in the form of increased audit effort.
Lara, J. M.G., Osma, B.G., Mora, A., & Scapin, M. P.	The monitoring role of female directors over accounting quality	UK	2017	Earnings management	In senior positions such as the board of directors, men and women do not substantially differ. Discrimination plays an important role in explaining the relation between earnings quality and female board presence.
Saona, P., Muro, L., & Martín, P.S.	Board of director gender diversity and its impact on earnings management: an empirical analysis for selected European firms	Denmark, Finland, France, Germany, Italy, Norway, Portugal, Spain, Sweden and UK	2018	Earnings management	Boards with high gender diversity are less likely to engage in earnings management.
Srinidhi, B., Gul, F. A., & Tsui, J.	Female directors and earnings quality	Global	2011	Accruals quality and meeting or beating benchmarks	Greater female board participation leads to higher earnings quality due to an improvement in the oversight function of the board of directors.
Ye, K., Zhang, R., & Rezaee, Z.	Does top executive gender diversity affect earnings quality? A large sample analysis of Chinese listed firms	China	2010	Persistence, accuracy, association with stock returns and earnings management	No significant difference in earnings quality between firms with both male and female top executives and firms without female top executives.

Table 3. Description of all variables.

Variable name	Description	Used database(s)	Expected sign	Prior studies
DA	Discretionary accruals, calculated as the error term of the modified Jones model.	Compustat		
RESTATEMENT	Dummy variable that equals 1 if the annual financial statement is restated and zero otherwise.	Audit analytics		
ICD	Dummy variable that equals 1 if at least one internal control deficiency is present and zero otherwise.	Audit analytics		
ICDNUM	Number internal control deficiencies.	Audit analytics		
UEAF	The part of the audit fee which is not explained by characteristics of the (audit) firm.	Audit analytics		
CFRATIO	Cash flow from operations divided by net income.	Compustat		
FEMALE	Number of women in the board of directors represented as ratio. Calculated by dividing the number of women on board by the total number of directors.	ISS	+	Abbott et al. (2012) & Gavious et al. (2012) and Lara et al. (2017)
OUTSIDERS	Number of outsiders in the board of directors represented as ratio. Calculated by dividing the number of non-employees on the board by the total number of directors.	ISS	+	Davidson et al. (2005), Fama and Jensen (1983), Klein (2002) and Peasnell et al. (2000)
BOARDSIZE	Number of directors on the board of directors.	ISS	-	Ahmed and Duellman (2007), Jensen (1993) and Lipton and Lorsch (1992)
CEODUALITY	Dummy variable that equals 1 if the CEO and chairman of the firm are the same person and zero otherwise.	ISS	+	Brickley et al. (1997) and Jensen (1993)
FIRMSIZE	Natural logarithm of the firm's total assets.	Compustat	+	Damak (2018) and Saona et al. (2018)
LEV	Debt divided by equity.	Compustat	+/-	An et al. (2016), Haw et al (2004) and Jelinek (2007)
MTB	Market to book ratio which is calculated by dividing the market value of the firm by book value of the firm.	Compustat	-	Beasley (1996) and Chih et al. (2008)
GSALES	Growth rate of sales calculated by dividing the change in sales from year *t-1* to *t* by the sales of year *t*.	Compustat	-	Beasley (1996) and Chih et al. (2008)

Table 4a. Databases

Database name	Database number
Compustat database	1
Audit Analytics database	2
ISS database	3

Table 4b. Sample selection

Process	#Observations
Start database 1	48,706
(-) Nonmatching observations database 1&2	- 22,128
(-) Nonmatching observations database 1,2 & 3	- 17,406
= Full sample	9,172
(-) Missing values	- 601
(-) SIC-codes 6000-6999	- 244
= Final Sample	8,327

Table 5. Descriptive statistics

Variable	N	Mean	Std. Dev.	Quantiles				
				Min	25th	Mdn	75th	Max
DA	8,327	0.08	0.17	-2.06	-0.01	0.05	0.15	1.67
RESTATEMENT	8,327	0.13	0.34	0.00	0.00	0.00	0.00	1.00
UEAF	8,327	0.03	0.39	-2.05	-0.20	0.03	0.28	2.60
ICD	8,327	0.03	0.16	0.00	0.00	0.00	0.00	1.00
CFRATIO	8,327	1.62	3.99	-18.94	1.06	1.52	2.22	22.19
FEMALE	8,327	0.14	0.11	0.00	0.08	0.13	0.22	0.75
OUTSIDERS	8,327	0.80	0.11	0.14	0.73	0.82	0.89	1.00
BOARDSIZE	8,327	9.29	2.08	5.00	8.00	9.00	11.00	15.00
CEODUALITY	8,327	0.51	0.50	0.00	0.00	1.00	1.00	1.00
FIRMSIZE	8,327	8.04	1.61	4.00	6.83	7.90	9.08	13.00
LEV	8,327	0.71	1.96	-9.37	0.11	0.45	0.90	14.42
MTB	8,327	3.33	4.22	-12.36	1.58	2.43	3.90	27.39
GSALES	8,327	0.07	0.21	-0.65	-0.02	0.05	0.13	2.43

Table 6. OLS-regression analysis DA and FEMALE

	Coef.	St. Err.	t-value	p-value	[95% Conf.	Interval]	Sig
FEMALE	0.026	0.031	0.84	0.403	-0.035	0.086	
OUTSIDERS	0.016	0.032	0.49	0.624	-0.048	0.079	
BOARDSIZE	-0.003	0.002	-1.33	0.185	-0.006	0.001	
CEODUALITY	-0.002	0.005	-0.45	0.651	-0.012	0.008	
FIRMSIZE	0.022	0.007	3.10	0.002	0.008	0.037	***
LEV	-0.002	0.002	-1.25	0.210	-0.005	0.001	
MTB	0.002	0.001	2.85	0.004	0.001	0.004	***
GSALES	0.034	0.016	2.13	0.034	0.003	0.066	**
Constant	-0.100	0.062	-1.63	0.105	-0.222	0.021	

Mean dependent var	0.079	SD dependent var	0.167
R-squared	0.008	Number of obs	8327.000
F-test	4.157	Prob > F	0.000
Akaike crit. (AIC)	-10287.189	Bayesian crit. (BIC)	-10230.971

*** *p<0.01*, ** *p<0.05*, * *p<0.1*

Table 7. Logistic regression analysis RESTATEMENT and FEMALE

	Coef.	St. Err.	t-value	p-value	[95% Conf.	Interval]	Sig
FEMALE	-2.768	1.035	-2.67	0.007	-4.796	-0.740	***
OUTSIDERS	-1.770	0.933	-1.90	0.058	-3.599	0.058	*
BOARDSIZE	-0.064	0.053	-1.21	0.227	-0.167	0.040	
CEODUALITY	-0.271	0.165	-1.65	0.100	-0.594	0.052	
FIRMSIZE	0.252	0.196	1.28	0.199	-0.132	0.635	
LEV	-0.004	0.052	-0.07	0.945	-0.106	0.098	
MTB	-0.023	0.028	-0.84	0.402	-0.078	0.031	
GSALES	-0.267	0.215	-1.24	0.215	-0.689	0.155	

Mean dependent var	0.307	SD dependent var	0.461
Pseudo r-squared	0.013	Number of obs	3355.000
Chi-square	22.491	Prob > chi2	0.004
Akaike crit. (AIC)	2727.287	Bayesian crit. (BIC)	2776.233

*** *p<0.01, ** p<0.05, * p<0.1*

Table 8. OLS-regression analysis UEAF and FEMALE

	Coef.	St. Err.	t-value	p-value	[95% Conf.	Interval]	Sig
FEMALE	0.100	0.065	1.55	0.121	-0.027	0.227	
OUTSIDERS	0.181	0.068	2.67	0.008	0.048	0.315	***
BOARDSIZE	0.002	0.004	0.49	0.624	-0.006	0.010	
CEODUALITY	-0.030	0.011	-2.75	0.006	-0.051	-0.008	***
GSALES	-0.076	0.017	-4.49	0.000	-0.110	-0.043	***
Constant	-0.124	0.066	-1.87	0.061	-0.254	0.006	*

Mean dependent var	0.034	SD dependent var	0.386
R-squared	0.011	Number of obs	8327.000
F-test	7.255	Prob > F	0.000
Akaike crit. (AIC)	-2556.930	Bayesian crit. (BIC)	-2521.793

*** *p<0.01, ** p<0.05, * p<0.1*

Table 9. Logistic regression analysis ICD and FEMALE

	Coef.	St. Err.	t-value	p-value	[95% Conf.	Interval]	Sig
FEMALE	2.147	1.658	1.29	0.195	-1.102	5.397	
OUTSIDERS	0.023	1.546	0.01	0.988	-3.007	3.052	
BOARDSIZE	0.012	0.103	0.12	0.906	-0.190	0.214	
CEODUALITY	-0.453	0.247	-1.83	0.067	-0.937	0.032	*
FIRMSIZE	0.355	0.288	1.23	0.218	-0.210	0.919	
LEV	0.091	0.135	0.68	0.500	-0.173	0.355	
MTB	-0.042	0.070	-0.60	0.548	-0.180	0.096	
GSALES	-0.113	0.433	-0.26	0.795	-0.961	0.736	

Mean dependent var	0.151	SD dependent var	0.359
Pseudo r-squared	0.015	Number of obs	1367.000
Chi-square	9.751	Prob > chi2	0.283
Akaike crit. (AIC)	774.633	Bayesian crit. (BIC)	816.396

*** *p<0.01, ** p<0.05, * p<0.1*

Table 10. OLS-regression analysis CFRATIO and FEMALE

	Coef.	St. Err.	t-value	p-value	[95% Conf.	Interval]	Sig
FEMALE	0.699	0.533	1.31	0.190	-0.346	1.744	
OUTSIDERS	0.483	0.545	0.89	0.375	-0.585	1.551	
BOARDSIZE	0.036	0.030	1.20	0.230	-0.023	0.095	
CEODUALITY	0.005	0.099	0.05	0.961	-0.189	0.199	
FIRMSIZE	0.039	0.041	0.95	0.340	-0.041	0.119	
LEV	-0.008	0.038	-0.21	0.831	-0.082	0.066	
MTB	0.010	0.016	0.62	0.536	-0.021	0.041	
GSALES	0.740	0.261	2.84	0.005	0.229	1.251	***
Constant	0.390	0.461	0.85	0.397	-0.513	1.293	

Mean dependent var	1.620	SD dependent var	3.991
Overall r-squared	0.003	Number of obs	8327.000
Chi-square	22.738	Prob > chi2	0.004
R-squared within	0.002	R-squared between	0.007

*** *p<0.01, ** p<0.05, * p<0.1*

Table 11. Overview of the results

	DA	RESTATEMENT	ICD	CFRATIO	UEAUDITFEES
FEMALE	o	-	o	o	o
OUTSIDERS	o	-	o	o	+
BOARDSIZE	o	o	o	o	o
CEODUALITY	o	o	-	o	-
FIRMSIZE	+	o	o	o	o
LEV	o	o	o	o	o
MTB	+	o	o	o	o
GSALES	+	o	o	+	-

"o" no or no significant coefficient, "+" significant positive coefficient, "-" significant negative coefficient

Table 12. Correlation matrix

	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1)	DA	1.000												
(2)	RESTATEMENT	-0.010	1.000											
(3)	UEAF	0.026	0.030	1.000										
(4)	ICD	0.014	0.177	0.075	1.000									
(5)	CFRATIO	-0.031	0.006	0.034	-0.006	1.000								
(6)	FEMALE	0.005	-0.017	0.110	-0.012	0.030	1.000							
(7)	OUTSIDERS	0.028	-0.028	0.109	-0.022	0.018	0.254	1.000						
(8)	BOARDSIZE	-0.013	-0.008	0.126	-0.054	0.029	0.318	0.195	1.000					
(9)	CEODUALITY	0.024	-0.028	-0.004	-0.025	0.015	0.080	0.127	0.081	1.000				
(10)	FIRMSIZE	-0.027	-0.048	0.091	-0.070	0.033	0.323	0.260	0.610	0.139	1.000			
(11)	LEV	-0.007	0.016	0.012	0.003	0.013	0.072	0.090	0.117	-0.020	0.157	1.000		
(12)	MTB	0.081	-0.019	-0.025	-0.012	0.011	0.065	0.047	0.036	-0.022	0.016	0.642	1.000	
(13)	GSALES	0.075	-0.012	-0.108	0.000	0.034	-0.093	-0.064	-0.083	-0.016	-0.029	-0.014	0.080	1.000

Table 13.A VIF of regression (3)

Variable	VIF
DA	1.02
FEMALE	1.20
OUTSIDERS	1.13
BOARDSIZE	1.64
CEODUALITY	1.03
FIRMSIZE	1.74
LEV	1.79
MTB	1.78
GSALES	1.03
Mean VIF	1.37

Table 13.B VIF of regression (4)

Variable	VIF
RESTATEMENT	1.01
FEMALE	1.20
OUTSIDERS	1.13
BOARDSIZE	1.65
CEODUALITY	1.03
FIRMSIZE	1.74
LEV	1.79
MTB	1.76
GSALES	1.03
Mean VIF	1.37

Table 13.C VIF of regression (6)

Variable	VIF
UEAF	1.04
FEMALE	1.17
OUTSIDERS	1.11
BOARDSIZE	1.14
CEODUALITY	1.02
GSALES	1.02
Mean VIF	1.08

Table 13.D VIF of regression (7)

Variable	VIF
ICD	1.01
FEMALE	1.20
OUTSIDERS	1.13
BOARDSIZE	1.64
CEODUALITY	1.03
FIRMSIZE	1.74
LEV	1.79
MTB	1.76
GSALES	1.03
Mean VIF	1.37

Table 13.E VIF of regression (8)

Variable	VIF
CFRATIO	1.00
FEMALE	1.20
OUTSIDERS	1.13
BOARDSIZE	1.64
CEODUALITY	1.03
FIRMSIZE	1.74
LEV	1.79
MTB	1.76
GSALES	1.03
Mean VIF	1.37