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**An empirical analysis of the relation between board busyness of
outside directors and financial reporting quality**

Abstract

This thesis attempts to examine the relation between board busyness of outside directors and financial reporting quality. 6,985 firm-year observations of 1,098 firms from S&P 1500 between 2007 and 2016 are collected to conduct an empirical archival research. Using different proxies for board busyness of outside directors and financial reporting quality, the OLS and logit regression results show there is no significant association observed between board busyness proxies and financial reporting quality proxies, except for audit fees. Furthermore, the additional regression results indicate that a greater extent of board busyness does not strengthen the effect of board busyness on financial reporting quality, except for the relation between becoming a busier board by a greater extent and audit fees. Therefore, the reported findings, which are not in line with the predicted hypothesis, provide evidence that the board busyness of independent outside directors does not have a significant effect on the financial reporting quality, except for audit fees.

Key words: board busyness of outside directors, financial reporting quality, corporate governance, multiple directorships

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1. Introduction

The falsification of financial statements of companies, like Enron and WorldCom, in the earlier twenty-first century have shown that investors lost their trust in the board of directors, which was reflected in a negative reaction in stocks exchanges. Due to these scandals, the Sarbanes-Oxley Act (SOX) was approved by the United States Congress to re-establish the trust of financial statement users in the stock market by requiring stricter conditions for financial statement audits and stricter supervision by the board of directors (Kim, 2003). According to Linck, Netter, and Yang (2008) and Jiraporn, Singh, and Lee (2009), the regulation has a significant effect on the board independence, director busyness, and ownership structure. Therefore, it could be noticed that the SOX has affected the board structure significantly.

When stakeholders allocate capital to a listed firm, they use the information in the financial statements to evaluate the profitability of this firm. However, the content of financial statements depends to a large degree on management's judgments and assumptions (FASB, 2010). Normally, the shareholders of listed firms own the company, which is controlled by the management (Fama & Jensen, 1983). Because of this separation, information asymmetry arises. The objectives of the management, which are different than the interest of capital providers, could lead to falsification of financial statements in order to maximize their utilities (Healy & Palepu, 2001, Dey, 2008).

To mitigate these agency costs, stakeholders settle different corporate governance mechanisms to monitor the management. One of these mechanisms is settling independent outside directors. According to Fama and Jensen (1983), outside directors will have less incentives to commit fraud. Therefore, the monitoring process of financial statements could be executed more objectively, which should increase the financial reporting quality. For example, Peasnell, Pope, and Young (2005) find that when the proportion of outside directors in the board increases, the level of earnings management decreases, which indicates that outside directors restricts the managerial misbehaviour.

Furthermore, outside directors can also take other supervisory roles in their company or outside the company in other boards, which has been called "multiple directorships". Having additional directorships could improve the monitoring abilities of outside directors, because these additional directorships provide them the opportunity to learn other monitoring techniques. Therefore, their increased abilities could foster the financial reporting quality by applying these techniques in the monitoring process of financial reporting process (Fama & Jensen, 1983).

Despite the positive effect of multiple directorships on the monitoring skills of outside directors, it could also decrease the effectiveness of monitoring process by outside directors. Monitoring in different boards decreases the time that independent outside directors could put in the monitoring process, which arises because of an overkill of multiple directorships. An ineffective monitoring by outside directors indicates a weaker corporate governance. According to Core, Holthausen, and Larcker (1999), when a firm is considered to have a weak corporate governance, it will face higher agency costs. In presence of weak monitoring, which leads to opportunistic behaviour in financial reporting by the management, it is probable that for companies with a busy board the financial reporting quality decreases.

By conducting an empirical archival research for the listed U.S. firms from S&P 1500 between 2007 and 2016, this study attempts to examine the relation between board busyness of independent outside directors and financial reporting quality. The following research question is composed to answer this relation:

RQ: Does the board busyness of independent outside directors affect the financial reporting quality?

By answering this research question, it will be obvious whether being a busy board or becoming a busier board does indicate a weaker or stronger corporate governance. In order to answer this research question, the following hypothesis is composed: *“Board busyness of independent outside directors does have an effect on the financial reporting quality”*.

The Council of Institutional Investors (2017), which settles corporate governance guidelines on behalf of stakeholders, do advocate directors to supervise not more than two other boards at the same time. Therefore, when directors have three or more directorships, these directors are considered to be busy directors (Core et al., 1999, Ferris, Jagannathan, & Pritchard 2003, Fich & Shivdasani, 2006). Following these scholars, I qualify a director as busy when a director supervises three or more boards. To identify busyness of independent outside directors as a group (board busyness, hereafter) two proxies are used for board busyness. The first proxy treats a board as busy when 50% or more of outside directors have three or more directorships. The second proxy defines board busyness by measuring the proportion of busy outside directors by board (Fich & Shivdasani, 2006).

With regard to financial reporting quality, six proxies are used to capture financial reporting quality. The first and main proxy is accruals quality and examines to which extent working capital accruals are matched with operating cash flows (Dechow & Dichev, 2002). The second proxy is accounting restatements, which measure the financial reporting failure (Archambeault, Dezoort, & Hermanson, 2008). The third and fourth proxy are internal control weaknesses, which are reported in the SOX 302 disclosure or SOX 404 audit opinion and measure whether internal controls are effective over financial reporting process (Costello & Wittenberg-Moerman 2011). The fifth proxy is audit fees and examines to which extent the financial reporting process is transparent and risky (Engel, Hayes, & Wang, 2010). Lastly, the meet/beat behaviour is used as a proxy for financial reporting quality and examines whether the management manipulates the financial statements by managing the earnings to meet or beat the forecasts of analysts (Burgstahler & Chuk, 2013).

The descriptive statistics of this study indicate that on average the proportion of independent outside directors on the board has increased in the post-SOX period compared to the study of Fich and Shivdasani (2006), which examines the relation between board busyness of outside directors and firm performance in the pre-SOX period. Furthermore, on average the proportion of busy outside directors on the board is 25.8%, which is rather smaller than the 52.3% that is found by Fich and Shivdasani (2006). Therefore, it seems that in the post-SOX period there are less busy outside directors on the board compared to the pre-SOX period.

Furthermore, by performing OLS and logistic regressions, the effect of board busyness on financial reporting quality reporting is examined. The results of this study show there is no significant association observed between board busyness proxies and financial reporting quality proxies at the 5% level, except for audit fees. When using audit fees as a proxy for financial reporting quality, it turns out that board busyness has a significant negative effect on financial reporting quality. Therefore, the composed hypothesis, which predicts that board busyness of independent outside directors does have an effect on the financial reporting quality, is rejected at the 5% significance level and the findings are not in line with the prediction based on prior literature, except for audit fees when this proxy is used for financial reporting quality.

Moreover, using the four-directorship benchmark to qualify outside directors as busy directors, it is examined whether a greater extent of board busyness does strengthen the effect of board busyness on financial reporting quality. The results indicate that a greater extent of board

busyness does not strengthen the effect of board busyness on financial reporting quality and the findings are not in line with the predicted hypothesis based on prior literature, except for the relation between becoming a busier board by a greater extent and audit fees.

This research contributes to the existing literature on the relation between board busyness and financial reporting quality in multiple ways. First of all, existing research on the relation between board busyness and financial reporting quality does not make any distinction between the roles of inside and outside directors. According to Fich and Shivdasani (2006), inside directors on the board do not fulfil monitoring roles. Therefore, director busyness of inside directors is excluded from this research.

Existing research has also focused on the average directorships that outside directors possess to capture the board busyness. However, this method is a biased measure to capture board busyness as a group (Fich & Shivdasani, 2006). Because of this, it is important to make a distinction between busyness on director and group level to examine the effect of board busyness on financial reporting quality.

Furthermore, prior literature on the relation between board busyness and financial reporting quality has mainly examined this topic in the pre-SOX period. However, it appears that the SOX regulation has affected the board structure and director busyness significantly (Linck et al, 2008, Jiraporn et al, 2009). Because of this, it is interesting to examine whether there is a relation between board busyness and financial reporting quality in the post-SOX period.

Lastly, existing research on board busyness has used accounting irregularities to measure the financial reporting quality. Because of the multitude of proxies for financial reporting quality, this research will shed more light on whether board busyness of outside directors has an effect on financial reporting quality by using different proxies for financial reporting quality.

The results of this study are relevant for all stakeholders, who use and rely on the information in the financial statements to make decisions whether it is profitable to provide resources to the reporting firm. This study provides evidence whether being a busy board or becoming a busier board does improve or impair the financial reporting quality.

Further structure of this thesis is organized as follows. First of all, section 2 provides the literature review on main concepts, which are financial reporting quality, information asymmetry, corporate governance, board of directors, and board busyness. In section 3, based on prior literature the underlying theory is provided to predict the relation between board busyness of independent

outside directors and financial reporting quality. Section 4 provides the methodology, which elaborates on the operationalization of relevant variables. Furthermore, the research design is discussed and the collection of sample selection is provided in the latter section. In section 5, the interpretation of descriptive statistics, correlation table, and regression results is provided. Lastly, the conclusion, limitations of this research and suggestions for future research are provided in section 6.

2. Literature review

Based on prior literature this section provides literature review to define main relevant constructs. First of all, in paragraph 2.1, 2.2, 2.3, and 2.4 I elaborate the definition, measurement, and importance of financial reporting quality. Subsequently, information asymmetry and agency costs are amplified in paragraph 2.5. Paragraph 2.6, 2.7, and 2.8 explain the importance of board of directors, which is the fundamental part of corporate governance, that should decrease the information asymmetry and agency costs by increasing and fostering the usefulness of financial reporting. Finally, in paragraph 2.9 I discuss my contribution to existing literature.

2.1 Financial reporting quality

It is the duty of the management to compose the content of financial statements. This content is used by different stakeholders to make decisions whether it is profitable to provide capital to a firm (FASB, 2010). Normally, stakeholders do not have possibility to obtain the financial information directly from the management. Therefore, they use the information in the financial statements to make decisions, which mentions that the content is important for investors and debt holders.

Because of this, when the financial reporting quality is evaluated, it is considered whether the financial information is useful to the users of financial statements. If a financial information is useful, then it is considered that it does increase the financial reporting quality. The framework of the Financial Accounting Standards Board (FASB) does indicate that financial reporting quality depends on different factors. In order to be recognized as a useful information, the faithfulness and relevance of the financial information are evaluated. These two aspects are fundamental characteristics. If the provided financial information is timely, understandable, verifiable and comparable, then it does also increase the usefulness of financial information. These aspects are also considered as important factors that influence the quality of financial reporting, but these standards are not qualified as crucial standards. According to Nobes and Stadler (2015), Tasios and Bekiaris (2012), and Franco, Kothari, and Verdi (2011) the management, auditors, and investors refer to these standards to evaluate whether the content of financial statements is useful. However, from a practical point, the measurement of these constructs is subjective and depends on the context (Schipper & Vincent, 2003).

2.2 Measurement of financial reporting quality

The financial reporting quality is operationalized in the empirical research by different proxies. First of all, Dechow, Sloan, and Sweeney (1995), Healy and Wahlen (1999), Biddle, Hillary, and Verdi (2009), and Barth, Landsman, and Lang (2008) use accruals as a proxy for financial reporting quality. Analysing discretionary accruals (DA) provide evidence whether the management manages earnings to mislead the financial position of the entity in order to achieve their objectives. However, it is hard to identify which part of accruals should be classified as discretionary or non-discretionary accruals (NDA). Therefore, it is difficult to estimate to which extent the management does actually manage the earnings (Healy & Wahlen, 1999).

Secondly, the value relevance of information in financial statements is used to evaluate whether it does increase or decrease the quality of financial reporting. Barth, Beaver, and Landsman (2001) and Nichols and Wahlen (2004) examine the relation between earnings and stock returns in order to determine whether the release of earnings information is reflected in stock prices. This method evaluates the relevance and reliability of financial statements by observing whether there is a high significant association between earnings and stock returns. However, this method is an association study. Even if there is a significant relation observed between earnings and stock returns, it cannot be automatically suggested that the information in financials statements is relevant and reliable. Because of this, it is difficult to conclude a causal relation based on value relevance studies (Holthausen & Watts, 2001).

Finally, specific aspects that are related to financial statements are used as proxies to measure the quality of financial reporting. For example, Hirst, Hopkins, and Wahlen (2004) use fair value approach in accounting to measure the financial reporting quality, which provides investors useful information about the current value of an entity. Furthermore, the type of auditor opinion and internal control weaknesses are used as a proxy for financial reporting quality (Gaeremynck & Willekens, 2003, Costello & Wittenberg-Moerman, 2011). It is assumed that a qualified opinion or internal control weakness increase the possibility that financial statements contain a material misstatement, which decreases the reliability of financial statements. Lastly, accounting restatements are used as a proxy for financial reporting quality, which indicates that the company is enforced to restate its materially misstated financial statements by the Securities Acts due to error or fraud (Archambeault et al., 2008, Armstrong, Jagolinzer, & Larcker, 2010).

2.3 Accrual quality

Following Dechow and Dichev (2002), I use accrual quality as the main proxy to measure earnings quality. Earnings summarize the firm's performance in the financial statements by taking all business transactions into account. According to Dechow, Ge, and Schrand (2010), when earnings reflect the accurate financial position of an entity, which means that the quality of earnings is high, this information will be considered as an useful information by stakeholders and helps them in decision-making process. In general, cash flows do not show the accurate view of the financial position of a firm, because the revenues and costs are not recognized timely. Therefore, in order to present the financial performance of a firm in a correct way, accruals are used to mitigate matching and timing problems, which should increase the usefulness of financial information. (Dechow, 1994). By subtracting the cash flow from operations from earnings, the accrual part is calculated (Healy, 1985).

However, in case of errors, which could be intentional or not intentional, the estimation of DA could be distorted or biased. Therefore, the quality of earnings decreases when such distortions occur. Prior studies have used the magnitude of accruals or the residuals from accrual models to capture accrual quality. When it is observed that the magnitude of accruals or the residuals from accrual models is high, it is indicated that the quality of accruals and earnings is low. (Dechow & Dichev, 2002, Dechow et al, 2010).

2.4 The importance of financial reporting quality

The content of financial statements is used by various stakeholders for contracting purposes between different parties and to estimate the value of an entity (Watts & Zimmerman, 1990, Holthausen & Watts, 2001). According to Armstrong, Guay, and Weber (2010), by providing useful information in financial statements, which decreases the information asymmetry between the management and stakeholders, it is possible to construct more optimal contracts. For example, Costello and Wittenberg-Moerman (2010) suggest that when debt holders observe a decrease in the quality of financial statements, they decrease the use of financial covenants, which depends on to content of financial statements.

On the other hand, when investors observe an increase in the quality of financial statements, it does increase the efficiency of capital allocation (Biddle et al, 2009). Nichols and Wahlen (2004) provide empirical evidence that investors take the announced earnings into account

to predict the future performance of a firm, which are subsequently reflected in stock prices. In addition, the investors react more positive if a large part of earnings is persistent or the accrual part of earnings exists of high accrual quality. (Francis, Lafond, Olsson, & Schipper, 2005).

Furthermore, the taxing authorities rely on financial statement numbers to evaluate the effectiveness of tax policies (Hanlon & Heitzman, 2010). In general, financial information has a crucial effect on the allocation of capital and in constructing efficient contracting decisions for various stakeholders.

2.5 Information asymmetry and agency problems

Prior examples of empirical studies indicate the importance of accounting numbers in capital markets. However, the content of financial reports depends to a large degree on management's judgments and assumptions (FASB, 2010). Normally, the shareholders (principal) of listed firms own the company, which is controlled by the management (agent) (Fama & Jensen, 1983, Jensen & Meckling, 1976). Because of this separation, information asymmetry arises. The objectives of the management, which are different than the interest of capital providers, could lead to falsification of financial statements in order to maximize their utilities (Healy & Palepu, 2001, Dey, 2008). For example, scandals such as Enron and WorldCom show that the management could manipulate the financial statements in order to increase their compensation on of stakeholders.

To mitigate the agency costs, Fama and Jensen (1983) mention that board of directors, which is the fundamental part of corporate governance, plays a significant role in the monitoring process in order that agents act on behalf of stakeholders. Dey (2008) finds that firms, which are faced with severe agency costs, place superior corporate governance instruments to restrict the managerial misbehaviour. Agency problems could also be reduced by composing efficient contracts, which align the interest of the management and capital providers. Lastly, financial analysts and auditors, which function as information intermediaries, provide capital providers useful information in order to reduce the information gap between the management and capital providers (Healy & Palepu, 2001).

2.6 Corporate governance

Because of the information asymmetry between principals and agents, the stakeholders demand corporate governance mechanisms. According to Armstrong et al. (2010), corporate governance is

mechanisms, which are placed by different contracts, in order that agents act on behalf of principals. When considering the effectiveness of a corporate governance instrument, it should be questioned whether the instrument leads to that agents act on principal's interest or increases the performance of an entity (Denis, 2001).

Appendix 1 shows a conceptual framework of different corporate governance instruments (Gillan, 2006). This research focuses only on the supervisory role of board of directors, because it is the foundation of corporate governance.

Prior empirical research indicates that an effective corporate governance does increase the quality of financial reporting significantly (Beasley, 1996, Dechow, Sloan, & Sweeney, 1996). However, Larcker, Richardson, and Tuna (2007) suggest that their research shows contradicting or insufficient evidence between corporate governance proxies and financial reporting quality proxies. They indicate that such anomaly arises, because it is difficult to operationalize corporate governance as a proxy and that current measures lack of consistency.

2.7 Board of directors

Capital providers settle inside and outside directors in the board in order to monitor the management, to advise the management in strategic decisions and to provide more reliability about the stewardship of the company (Gillan, 2006). According to Fama and Jensen (1983), outside directors will have less incentives to commit fraud. Therefore, the monitoring process of financial statements could be executed more objectively, which should increase the financial reporting quality. This phenomenon leads to that capital providers are more likely to assign outside directors for supervisory roles.

Appendix 2 presents a framework, which is called the internal control environment. According to this framework, the board composition is considered to be an important mechanism, which avoids that the management falsifies the financial statements. An ineffective supervision by the board simplifies the falsification of financial statements by the management, which results in more agency costs. Normally, the board of directors settle an audit committee, which is a part of board of directors, to monitor the quality of financial reporting (AICPA, 1987). Archambault et al. (2008) emphasize that corporate failures in the earlier twenty-first century have strengthened the role of directors and executives significantly in the monitoring process of financial reporting quality.

2.8 Board busyness

Directors can also take other supervisory roles in their company or outside the company in other boards, which has been called “multiple directorships”. This research focuses on the multiple directorships of independent outside directors. Having additional directorships could increase the monitoring abilities of outside directors, because these additional directorships provide them the opportunity to learn other monitoring techniques. Additionally, it is assumed that outside directors with multiple directorships are great advisors for critical decisions such as merger and acquisitions, because due to these additional directorships it provides them the opportunity to expand their network (Perry & Peyer, 2005, Harris & Shimizu, 2004). Benson, Davidson III, Davidson, and Wang (2014) and Field, Lowry, and Mkrtychyan (2011) observe that directors, who are busy, still act on the behalf of shareholders’ interest and do not neglect their supervisory roles.

Despite the positive effect of multiple directorships on the monitoring skills of outside directors, it could also decrease the effectiveness of monitoring process by outside directors. Monitoring in different boards decreases the time that independent outside directors could put in the monitoring process, which arises because of an overkill of multiple directorships. An ineffective monitoring by outside directors indicates a weaker corporate governance. According to Core, Holthausen, and Larcker (1999), when a firm is considered to have a weak corporate governance, it will face higher agency costs. In addition, in presence of weak monitoring, which leads to opportunistic behaviour in financial reporting, it is probable that the accrual quality decreases. (Kent, Routledge, & Stewart, 2010).

The empirical evidence on the relation between director busyness and financial reporting quality is mixed. Beasley (1996) finds that the probability of having a deception in the financial statements is significantly lower, when outside directors decrease their additional directorships. On the other hand, there is no significant relation observed between being a busy board and the probability of being litigated for fraud (Ferris et al., 2003). Both studies Beasley (1996) and Ferris et al. (2003) examine the relation between director busyness and financial reporting quality for firms in the U.S. in the pre-SOX period. On the other hand, Mendez, Garcia, and Pathan (2017) document that boards, where the proportion of busy directors is higher, are more likely to obtain an unqualified audit opinion, which indicates that the probability of having a material misstatement in the financial statements is lower. Furthermore, due to time-constraint effect, busy directors have lower likelihood of showing up in board meetings (Chou, Chung, & Yin, 2013). Therefore, by

neglecting their supervisory role in board meetings, this result indicates that being a busy director leads to a weaker corporate governance.

Other scholars have mainly focused on the relation between board busyness and firm performance. Di Pietra, Grambovas, Raonic, and Riccaboni (2008) provide empirical evidence that a higher degree of director busyness does increase the performance of a firm in the market. However, according to Fich and Shivdasani (2006) and Andres, Bongard, and Lehmann (2013), it appears that busy boards, where the majority of outside directors are classified as busy directors, do decrease the performance of firms significantly. Therefore, the empirical evidence on the relation between board busyness and firm performance is mixed.

In general, the effect of multiple directorships on monitoring quality is ambiguous. Due to multiple directorships, the time-constraint effect decreases the time that independent directors put in monitoring process, which leads to a weaker corporate governance. But on the other hand, there is the quality effect, which increases the abilities of outside directors by learning other monitoring techniques used in other boards. It is not obvious which effect is superior (Adams, Hermalin, & Weisbach, 2010). According to Lopez Iturriaga and Morros Rodriguez (2013), the contradicting results exist, because the association between board busyness and firm performance is not linear. Due to quality effect, low level of director busyness has a positive effect on firm's performance. But if time-constraint effect dominates, then these firms with higher level of director busyness are associated with lower firm performance. Because of this, existing literature on the relation between board busyness and financial reporting quality or firm performance produces mixed results.

2.9 Contribution to literature

This research contributes to the existing literature on the relation between board busyness and financial reporting quality in multiple ways. First of all, it distinguishes the busyness of directors on director level, because inside directors on the board do not fulfil monitoring roles. Therefore, director busyness of inside directors is excluded from this research (Fich and Shivdasani, 2016).

Existing research has also focused on the average directorships that outside directors possess to capture board busyness. However, this method is a biased measure to capture board busyness as a group (Fich & Shivdasani, 2006). Because of this, it is important to make a

distinction between busyness on director and group level to examine the effect of board busyness on financial reporting quality.

Furthermore, prior literature on the relation between board busyness and financial reporting quality has mainly examined this topic in the pre-SOX period. However, the findings of Jiraporn et al. (2009) do indicate that the SOX has affected director busyness significantly. Therefore, by conducting an empirical archival research in the post-SOX period, this research extends the literature by providing more relevant evidence to stakeholders on the relation between board busyness of outside directors and financial reporting quality

Lastly, existing research on board busyness has used accounting irregularities to measure the financial reporting quality. Because of the multitude of proxies for financial reporting quality, this research will shed more light on whether board busyness of outside directors has an effect on financial reporting quality by using different proxies for financial reporting quality.

3. Theory and hypothesis development

Based on prior literature, I provide in section 3.1 the underlying theory to predict the relation between board busyness of independent outside directors and financial reporting quality.

3.1 The relation between board busyness and financial reporting quality

The content of financial statements is used by various stakeholders for contracting purposes between different parties and to estimate the value of an entity (Watts & Zimmerman, 1990, Holthausen & Watts, 2001). The summary measure of firm's financial performance in the financial statements is earnings. Because of this, this measure is often used for different contracting purposes. For example, the reported earnings determine whether the compensation of management and debt covenant restrictions should be increased or decreased (Lev, 1989).

However, the content of financial reporting depends to a large extent on management's judgments and assumptions (FASB, 2010). For example, the recognition of DA part of earnings requires the discretion of management. Normally, shareholders of listed firms own the company, which is controlled by the management (Fama & Jensen, 1983). Because of this separation, information asymmetry arises. The objectives of the management, which are different than the interest of capital providers, could lead to falsification of financial statements in order to maximize their utilities. Due to these intentional or unintentional errors, the earnings quality could be distorted or biased.

To mitigate these agency costs, stakeholders settle different corporate governance mechanisms to monitor the management. One of these mechanisms is settling independent outside directors. According to Fama and Jensen (1983), outside directors will have less incentives to commit fraud. Therefore, the monitoring process of financial statements could be executed more objectively, which should increase the financial reporting quality. For example, Peasnell, Pope, and Young (2005) find that when the proportion of outside directors on the board increases, the level of earnings management decreases, which indicates that outside directors restricts the managerial misbehaviour. Furthermore, in this research, it is assumed that inside directors on the board do not fulfil monitoring roles (Fich & Shivdasani, 2006).

Independent outside directors can also take other supervisory roles on other boards. Having additional directorships could improve the monitoring abilities of outside directors, because these additional directorships provide them the opportunity to learn other monitoring techniques. In

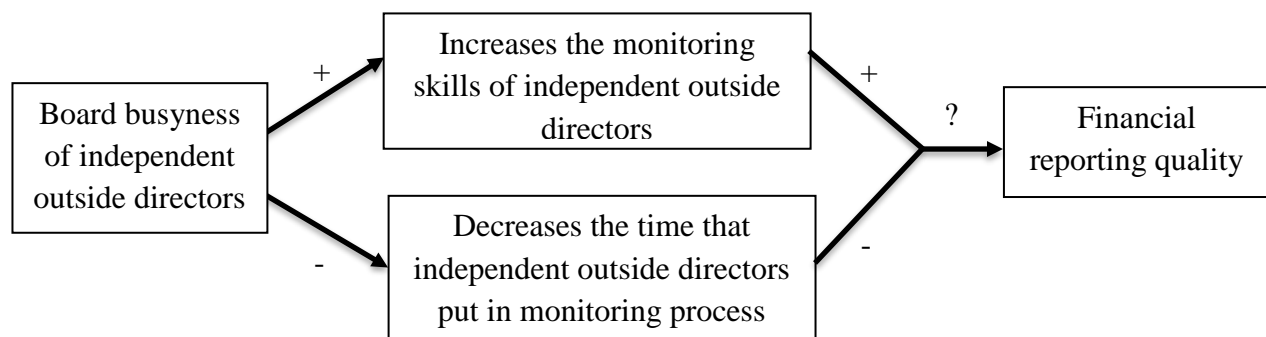
such a case independent outside directors in busy boards could use their increased abilities to perform better in monitoring the quality of financial reporting.

Despite the positive effect of multiple directorships on the monitoring skills of outside directors, it could also decrease the effectiveness of monitoring process by outside directors. Monitoring in different boards decreases the time that independent outside directors could put in monitoring process, which arises because of an overkill of multiple directorships. An ineffective monitoring by outside directors indicates a weaker corporate governance. In presence of weak monitoring, which leads to opportunistic behaviour in financial reporting by the management, it is probable that for companies with a busy board the financial reporting quality decreases due to increased magnitude of accrual estimation errors.

According to Adams et al. (2010) the effect of multiple directorships on financial reporting quality is ambiguous, because it not obvious whether the quality effect is superior to the time-constraint effect. Because of this ambiguity, it is not possible to predict what the direction (positive or negative) of board busyness of independent outside directors will be on the financial reporting quality. Despite this ambiguity, it can be predicted that the board busyness of independent outside directors has an effect on the financial reporting quality. The relation between board busyness of independent outside directors and financial reporting quality is given in figure 1. The following hypothesis is composed based on these theoretical arguments:

H1: Board busyness of independent outside directors does have an effect on the financial reporting quality.

Figure 1: The relation between board busyness of independent outside directors and financial reporting quality



4. Methodology

In this section, I provide the underlying methodology to test the hypothesis that I have composed in the previous section. First of all, in paragraph 4.1, 4.2, and 4.3 I elaborate on the operationalization of independent construct, dependent construct, and control variables, which are presented in Table 1. Subsequently, in paragraph 4.4 I discuss the research design to examine the relation between board busyness and financial reporting quality. Lastly, in paragraph 4.5 I describe the sample selection in order to perform an empirical archival research.

4.1 Independent variable

The Council of Institutional Investors (2017), which settles corporate governance guidelines on behalf of stakeholders, do advocate directors to supervise not more than two other boards at the same time. Therefore, when directors have three or more directorships, these directors are considered to be busy directors (Core et al., 1999, Ferris, Jagannathan, & Pritchard 2003, Fich & Shivdasani, 2006). Following these scholars, I qualify a director as busy when a director supervises three or more boards. Furthermore, according to Fich and Shivdasani (2006), inside directors on the board do not fulfil monitoring roles. Therefore, director busyness of inside directors is excluded from this research.

To identify busyness of independent outside directors as a group, I use two proxies for board busyness. First of all, Fich and Shivdasani (2006) classify firms that have a board, which 50% or more of outside directors have three or more directorships (*BUSY_BOARD*) as a busy board. This proxy is a binary variable. Secondly, to operationalize board busyness, Fich and Shivdasani (2006) also use a continuous variable, which is the proportion of busy outside directors by board to define board busyness (*%BUSY_BOARD*). By operationalising board busyness as a continuous variable, it will be clarified whether the effect of board busyness on financial reporting quality is stronger if a board becomes “busier”.

4.2 Dependent variable

Following Barth et al. (2008) and Biddle et al. (2009), I use accrual quality as the main proxy to measure financial reporting quality. According to these studies, when earnings exist to a large extent of low accrual quality, then it is assumed that earnings do not present the actual performance of the entity. Therefore, this proxy indicates indirectly that the underlying information in financial

reporting is less useful. In this study, the magnitude of accrual estimation errors is used to measure the accrual quality. According to the accrual quality model of Dechow and Dichev (2002), the accrual quality is calculated by examining to which extent working capital accruals are matched to operating cash flows. A poor match between working capital accruals and operating cash flow realizations indicates a low accrual quality. The following formula is used by Dechow and Dichev (2002) to measure the accrual quality:

$$WCA_{it} = b_0 + b_1 * CFO_{it-1} + b_2 * CFO_{it} + b_3 * CFO_{it+1} + \mathcal{E}_{it}$$

Where:

WCA = working capital accruals;

CFO = cash flow from operations;

\mathcal{E} = residual;

i = indicates the firm; and

t = indicates the year.

According to McNichols (2002), the variation in revenues does affect the magnitude of accrual estimation errors significantly. Because of this, McNichols (2002) adds the change in sales to this accrual quality model to capture the performance of an entity. In addition, the magnitude of PPE is included in this regression to account for a broader part of accruals. By including these two variables, the following regression model is composed, which I use to calculate the standard deviation of residuals:

$$WCA_{it} = b_0 + b_1 * CFO_{it-1} + b_2 * CFO_{it} + b_3 * CFO_{it+1} + b_4 * \Delta Sales_{it} + b_5 * PPE_{it} + \mathcal{E}_{it}$$

Where:

$\Delta Sales$ = the change in sales; and

PPE = property plant and equipment.

In this extended regression model, all variables are divided by the average total assets between the previous year and current year. By subtracting the income before extraordinary items from the cash flow from operations plus the depreciation, the working capital accruals of a firm are calculated.

The measurement of accrual quality is performed in two parts. First of all, the residuals of the extended regression model are predicted. From 2007 until 2016 I forecast the coefficients b_0 , b_1 , b_2 , b_3 , b_4 , and b_5 in order to estimate the residual. The residual in this regression model indicates to what extent unrelated cash flow realizations are reflected in working capital accruals.

Subsequently, following Ashbaugh-Skaife, Collins, Kinney, and Lafond (2008), I calculate for every firm-year over the period between 3 and 5 years the standard deviation of residuals. A high (low) standard deviation of residuals indicates a low (high) accrual quality. To obtain normality in the data the standard deviation of residuals is operationalized by taking the natural logarithm of the standard deviation of residuals (*LN_STD_RESIDUAL*).

However, according to Dechow et al. (2010), an obvious weakness of using residuals as a proxy for financial reporting quality is that there are confounding factors, which correlate with firm characteristics such as performance. Therefore, the calculation of residuals could be biased. Furthermore, according to Wysocki (2009), it is not evident whether the accrual quality measures the financial reporting quality in a reliable way. Therefore, I operationalize the financial reporting quality by using five other proxies, to ensure that the effect of board busyness on financial reporting quality is consistent for different proxies used for financial reporting quality. First of all, following Archambeault et al. (2008), I use accounting restatements (*RESTATEMENT*) to measure financial reporting quality, because they accurately measure the financial reporting failure. This proxy is a binary variable and equals one if a firm is enforced to restate its misstated financial statements by the Securities Act due to error or fraud and zero otherwise. A restatement could be identified by the company, the SEC, an independent auditor or a combination of them.

Secondly, following Costello and Wittenberg-Moerman (2011), I use internal control weaknesses as a proxy for financial reporting quality, which are reported in the SOX 302 or SOX 404. It is assumed that an ineffective internal control over financial reporting process increases the possibility that financial statements contain a material misstatement, which decreases the reliability of financial statements. Both dependent variables are binary variables. *SOX 302* equals one if the management reports a material internal control weakness in the disclosure of financial statements and zero otherwise. *SOX 404* equals one if a firm is identified as having a material internal control weakness by an independent auditor and zero otherwise.

Thirdly, I operationalize the financial reporting quality by using the natural logarithm of audit fees (*LN_AUDITFEES*). According to Engel et al. (2010), audit fees depends on different

factors. A complex business environment, higher risk of litigation, and ineffective internal control over financial reporting process increase audit fees. Therefore, auditors require higher premium risk, which is reflected in audit fees, to firms with lower quality of financial reporting.

Lastly, following Burgstahler and Chuk (2013), I use the variable *MEET/BEAT* to analyse whether the management manipulates the financial statements and manages the earnings in order to meet or beat the forecast of analysts. This proxy is a binary variable and equals one, if the estimated earnings per share by financial analyst are met or beaten by 0 or 0,01 by the announced earnings per share and zero otherwise.

4.3 Control variables

Despite that board busyness can have a significant effect on financial reporting quality, there is the effect of possible confounding factors, which also influence the association between financial reporting quality and board busyness. Because of this, depending on the proxy for financial reporting quality, I control for other variables that it is assumed to have an effect on the dependent variable based on prior empirical archival research. These control variables are divided into two categories, which are the board of director-level and firm-level characteristics.

4.3.1 Board of director-level characteristics

According to Fama and Jensen (1983), independent outside directors are more likely to be objective, which increases the reliability of financial reporting. Prior research found a significant negative association between the management of earnings and the level of independence of board (Dechow, Sloan, & Sweeney, 1996, Davidson, Goodwin-Stewart, & Kent 2005). Following Dechow et al. (1996), I include the variable *%OUTSIDERS*, which indicates the ratio of board members that are independent.

Furthermore, I include the variable *BOARDSIZE*, which indicates the number of board members on the board, as the second board of director-level characteristic. Vafeas (2005) mentions that when the number of board members increases, it is more difficult for board to supervise and coordinate in an effective way. Therefore, it will be less likely that board of directors finds out whether the management manipulates the financial statements.

In addition, Vafeas (2005) indicates that when the magnitude of inside ownership increases by directors, it could lead to higher quality of earnings because this mechanism will cause that

directors do act on behalf of stakeholders. Because of this, the variable *%INSIDER_OWNERSHIP* is added, which represents to what extent of outstanding shares are possessed by directors.

I also include the variable *%INDEPENDENT_AC*, which indicates the ratio of audit committee members that are independent. Normally, the board of directors settle an audit committee, which is a part of board of directors, to monitor the quality of financial reporting. When audit committees are independent, they are more likely to be objective, which increases the reliability of financial reporting. According to Klein (2002), when the ratio of independent audit committee members increases, it will decrease the falsification of financial statements by the management.

According to Jensen (1993), it is recommended that both titles of CEO and chairman of the board of directors should be possessed by different persons because otherwise it could hamper the effectiveness of supervisory role of the board of directors by decreasing the impartiality of the board of directors. Davidson, Jiraporn, Kim, and Nemeč (2004) document that firms, where both titles are executed by one person, are more likely be confronted with earnings that are managed by the management. Therefore, I include the binary variable *CEO_DUAL*, which equals one if both titles of CEO and the chairman of the board of directors are executed by the same person and zero otherwise.

Finally, I add the variable *%FIN_EXPERTISE*, which indicates to what extent board members have financially background. According to Bedard, Chturou, and Courteau (2004), board members, who have financially background, are more skilled to find out whether the management has managed the earnings aggressively.

4.3.2 Firm-level characteristics

Prior empirical archival research shows that besides board of director-level characteristics the accrual quality is also affected by firm-level characteristics (Dechow & Dichev, 2002, Dechow et al., 1995). Therefore, I include firm-level characteristics to control for these variables, which could have a significant effect on the accrual quality. First of all, according to Defond and Jiambolva (1994) and Klein (2002), it is more likely that the management will deceive the quality of earnings, when the predetermined debt covenants are not met. Because of this, I include the variable *LEVERAGE*, which indicates to what extent of total assets are financed by total liabilities. It is assumed that firms with higher debts are more likely to be associated with low accrual quality.

Secondly, according to Dechow and Dichev (2002), the business environment of big firms is steadier and more unsurprising, which is caused by the diversification of business activities. This will result in less accrual estimation errors for larger firms. Therefore, I add the variable *FIRMSIZE*, which is the logarithm of the market value of equity of an entity.

Dechow and Dichev (2002) also mention that firms operating in less steady business environment are more likely to be associated with accrual estimation errors. Therefore, I include the variables *STD_CFO* and *STD_SALES*. A high standard deviation of cash flows from operations and sales indicate that the business environment is unstable and more estimation in accruals, which result in lower accrual quality. The standard deviation of cash flows from operations and sales are calculated by first dividing both items by total assets. Subsequently, the standard deviation is calculated over the earlier five fiscal years (Ashbaugh-Skaife, Collins, Kinney, and Lafond, 2008).

According to Ashbaugh-Skaife et al. (2008), firms, which use conservative accounting, are positively associated with accrual quality. In conservative accounting losses are recognized earlier than revenues, which result in fewer estimation errors. Therefore, I use the variable *BM* and *WRITEOFF* to account for conservative accounting. If a firm has a lower book-to-market ratio or write-off than it is assumed that this firm is more conservative.

If a firm want to grow too fast, it will boost its inventory. This will decrease the accrual quality because of distortions in absorption costing. Therefore, to account for this effect I include the variables *GROWTH* and *INVENTORY*. *GROWTH* is the change in sales expressed in percentages compared to the previous year, whereas *INVENTORY* is the proportion of inventory of total assets (Ashbaugh-Skaife et al., 2008).

When a firm merges or restructures with another firm, the possibility of having more accrual estimation errors is higher, because the recognition of R&D and goodwill requires more judgment and assumption by the management. Therefore, I include the binary variables *MERGER* and *RESTRUCTURE* to capture these effects. If a firm is involved in a restructuring or merge in the earlier three years, these variables are one and zero otherwise (Ashbaugh-Skaife et al., 2008).

In addition, if a firm faces a financial distress or have higher likelihood of going bankrupt, it is more likely to report larger abnormal accruals. These accruals are more likely to contain estimation errors, which decreases the accrual quality. Therefore, I use the variables *LOSS* and *ALTMAN_Z_SCORE* (1968), to control for firms with financial problems. The variable *LOSS* is a binary variable and is one when a firm discloses a loss in the current year and zero otherwise

(Dechow & Dichev, 2002, Ashbaugh-Skaife et al., 2008). Using the formula of Altman (1968), the continuous variable *ALTMAN_Z_SCORE* is computed.

According to Ashbaugh et al. (2008), firms, which operate in a foreign country, will suffer from lower quality of accruals, because of the fluctuated exchange rates and the complicated business environment. Therefore, I use the binary variable *FOREIGN*, which equals one if a firm has a foreign currency translation and zero otherwise.

It is also assumed that the asset structure does affect the accrual quality, because the recognition standards of tangible and intangible assets differ from each other (Ashbaugh et al., 2008). Therefore, I include the variables *INTANGIBLE_INTENSITY*, *NO_INTENSITY*, and *CAPITAL_INTENSITY* to control for a firm's asset structure. *INTANGIBLE_INTENSITY* reflects the intangible asset intensity and it is the total R&D and advertising expenses divided by sales. *NO_INTENSITY* is a binary variable and equals one if a firm does not exhibit intangible assets and otherwise zero. *CAPITAL_INTENSITY* is the ratio between the PPE and total assets.

To account for auditor quality, I add the binary variable *BIG4*, which equals one if the auditor is a Big 4-firm, and otherwise zero. According to Becker, Defond, Jiambalvo, and Subramanyam (1998), Big 4-firms increase the accrual quality because these audit firms provide high quality audits by restricting the management of earnings.

Lastly, all control variables mentioned up here are related to accruals quality. As it is earlier mentioned, because of some weaknesses of accruals quality in measuring the financial reporting quality, I also use other proxies for financial reporting quality. However, some of these proxies are affected by some other specific variables. Therefore, relying on prior empirical archival research, I include the following variables: *CURRENT_RATIO*, *DELTA_ACCOUNT_RECEIVABLES*, *EBITDA*, *PAST_RESTATEMENT*, *DISCRETIONARY_ACCRUALS*, *DELTA_NET_INCOME*, *ROA*, *ROAVAR*, *TOBIN'S_Q*, and *PAST_EARNINGS_SURPRISE* to control for these effects. Table 1 provides the description of these variables.

Table 1: Variable Definitions

Variables	Description	Scale	Database
<i>Dependent variable</i>			
LN_STD_RESIDUAL	Natural logarithm of standard deviation of accrual estimation errors	Continuous	Compustat
RESTATEMENT	Binary variable equals one if a firm is enforced to restate its misstated financial statements by the Securities Acts due to error or fraud, and zero otherwise.	Binary	Audit Analytics
SOX_302	Binary variable equals one if the firm is identified as having a material weakness in their internal control by the SOX 302 disclosure, and zero otherwise.	Binary	Audit Analytics
SOX_404	Binary variable equals one if the firm is identified as having a material weakness in their internal control by the SOX 404 audit opinion, and zero otherwise.	Binary	Audit Analytics
LN_AUDITFEES	Natural logarithm of audit fees		
MEET/BEAT	Binary variable equals one, if the estimated earnings per share by financial analyst are met or beaten by 0 or 0.01 by the announced earnings per share and zero otherwise.	Binary	Compustat and I/B/E/S
<i>Independent variable</i>			
BUSY_BOARD	Binary variable equals one when 50% or more of outside directors on the board have three or more outside directorships and zero otherwise.	Binary	ISS
%BUSY_BOARD	Proportion of outside directors, which has three or more directorships	Continuous	ISS
<i>Control variables</i>			
<i>Board of director-level characteristics</i>			
%OUTSIDERS	Proportion of board members, which is independent outside director	Continuous	ISS
BOARDSIZE	Number of board members in the firm	Continuous	
%INSIDER_OWNERSHIP	Proportion of total shares, which is possessed by outside directors	Continuous	ISS and Compustat
%INDEPENDENT_AC	Proportion of audit committee members, which is an independent outside director	Continuous	ISS
CEO_DUAL	Binary variable equals one if both titles of CEO and the chairman of board of directors are executed by the same person, and zero otherwise.	Binary	ISS
%FIN_EXPERTISE	Proportion of board members, which has financial background	Continuous	ISS
<i>Firm-level characteristics</i>			
LEVERAGE	Ratio between the total liabilities and the total assets	Continuous	Compustat

Table 1 (continued)

FIRMSIZE	Natural logarithm of the market value	Continuous	Compustat
STD_CFO	Standard deviation of the ratio between the cash flow from operation and the total assets over earlier five fiscal years	Continuous	Compustat
STD_SALES	Standard deviation of the ratio between the sales and the total assets over earlier five fiscal years	Continuous	Compustat
BM	The ratio between the book value of equity and the market value of equity	Continuous	Compustat
WRITEOFF	Binary variable equals one if a firm reports a write-off, and zero otherwise.	Binary	Compustat
GROWTH	Growth in total sales compared to the previous year	Continuous	Compustat
INVENTORY	The ratio between the inventory and the total assets	Continuous	Compustat
MERGER	Binary variable equals one if a firm is related to a merger in the earlier three years, and zero otherwise.	Binary	Compustat
RESTRUCTURE	Binary variable equals one if a firm is related to a restructuring in the earlier three years, and zero otherwise.	Binary	Compustat
LOSS	Binary variable equals one if the firm reports a loss in the current year, and zero otherwise.	Binary	Compustat
ALTMAN_Z_SCORE	Z-score computed using the formula of Altman (1968)	Binary	Compustat
FOREIGN	Binary variable equals one if a firm has a foreign currency translation, and zero otherwise.	Binary	Compustat
INTANGIBLE_INTENSITY	The ratio between the R&D and advertising expenses and sales.	Binary	Compustat
NO_INTENSITY	Binary variable equals one if a firm does not possess intangible assets, and zero otherwise.	Binary	Compustat
CAPITAL_INTENSITY	The ratio between the PPE and the total assets	Binary	Compustat
BIG4	Binary variable equals one if the auditor is a Big 4-firm, and zero otherwise.	Binary	Compustat
CURRENT_RATIO	The ratio between the current assets and the current liabilities	Continuous	Compustat
DELTA_ACCOUNT_RECEIVABLES	The change in account receivables compared to the previous year	Continuous	Compustat
EBITDA	The ratio between the EBITDA and the total assets	Continuous	Compustat
DISCRETIONARY_ACCRUALS	The estimation of abnormal accruals using the modified Jones model (1991)	Continuous	Compustat
DELTA_NET_INCOME	Binary variable equals one if the current net income is higher than last year's net income, and zero otherwise.	Binary	Compustat
TOBIN'S_Q	The ratio between the market value of equity and the book value of equity.	Continuous	Compustat

Table 1 (continued)

ROA	The ratio between the net income after depreciation and the average total assets	Continuous	Compustat
ROAVAR	The variance of ROA calculated over five year.	Continuous	Compustat
PAST_ EARNINGS_ SURPRISE	Binary variable equals one if the previous earning surprise is positive, and zero otherwise.	Binary	I/B/E/S
PAST_ RESTATEMENT	Binary variable equals one if a firm restated its financial statements in the earlier two years, and zero otherwise	Binary	Audit Analytics

4.4 Research Design

To examine the relation between board busyness and financial reporting quality, I set up the following research design, which is presented in the Libby boxes in figure 2. The Libby boxes are used as a predictive validity framework and illustrate the operationalization of underlying constructs. The framework consists of four boxes and five links. The theory domain of the concepts and operational measures are reflected in the boxes.

With regard to links, the first link represents the hypothesized association. As it is mentioned earlier, it is not clear whether the time-constraint effect dominates the quality effect. Because of this, it is not possible to predict what the direction (positive or negative) of board busyness of independent outside directors will be on the financial reporting quality.

The second and third link capture the measurement of the independent and dependent construct, which have already been described in section 4.1 and 4.2. By using different proxies for financial reporting quality and board busyness, which all are publicized in acknowledged journals, there should not be a concern regarding the construct validity of the concepts. However, it is questionable whether a director with three directorships is a busy director. Therefore, in paragraph 5.4 “Additional analysis” the director busyness is operationalized by using the four-directorship benchmark.

The fourth link reflects the association between the independent and the dependent variable, which I empirically test. However, based on prior empirical archival research the financial reporting quality is also affected by other factors. Therefore, I include several control variables, which is reflected by link five. Taking the fourth and the fifth link together, the following six regression models are composed. Because of using two proxies for board busyness

(BUSY_BOARD and %BUSY_BOARD), each regression model is divided into two subcategories. The main regression models are presented below:

$$\text{EQ A) } RESPONSE_VARIABLE_{it} = a_0 + \mathbf{a1} * BUSY_BOARD_{it} + \sum a_k CONTROL_VARIABLES_{it} \\ + \sum a_m YEAR + \sum a_n INDUSTRY + \varepsilon_{it}$$

$$\text{EQ B) } RESPONSE_VARIABLE_{it} = a_0 + \mathbf{a1} * \%BUSY_BOARD_{it} + \sum a_k CONTROL_VARIABLES_{it} \\ + \sum a_m YEAR + \sum a_n INDUSTRY + \varepsilon_{it}$$

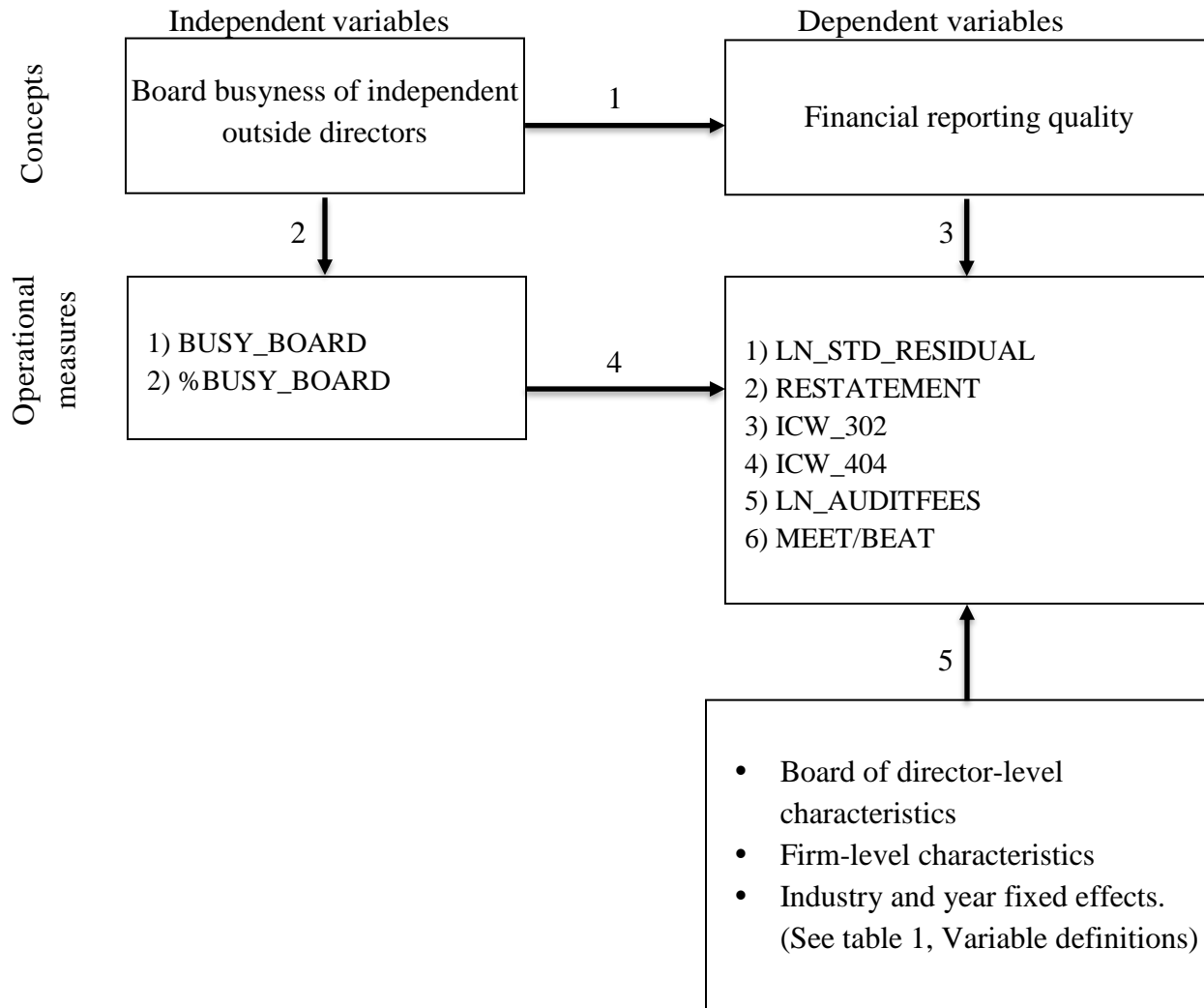
In these regression models **a1** reflects the association between board busyness and response variable and it is the main coefficient. Because of the ambiguous effect of board busyness on financial reporting quality, this coefficient could be positive or negative. If the coefficient **a1** is statistically significant or in other words, it differs statistically from zero at the 5% significance level, then I assume that board busyness has a significant effect on the response variable. The *RESPONSE_VARIABLE* reflects the proxies for financial reporting quality. Depending on each proxy for financial reporting quality, a certain number of control variables ($\sum a_k CONTROL_VARIABLES_{it}$) is included for each regression model. The variable ε_{it} is called the error term and it reflects factors other than independent variable that affect the dependent variable. By including the industry (*aindustry*) and year (*ayear*) fixed effects in all regression models, it is ensured that differences between industries and economy effects on macro level do not bias the results. Furthermore, the standard residuals are clustered by firm in order to obtain independence across firms (Gow, Ormazabal, & Taylor, 2010).

Furthermore, in order to foster the internal validity of this research, a different number of control variables, industry and year-fixed effects, and standard error clustered are included. However, it is possible that for firms with high financial reporting quality there is less monitoring required by outside directors, which results in more busy directors. Therefore, it is not possible to assume a causal relation between board busyness and financial reporting quality due to confounding variables (Larcker et al., 2007) and reverse causality.

Lastly, regarding the external validity, in the United States there is not a regulation, which restricts the number of outside directorships of independent directors. However, the corporate governance code of Bahrain mandates outside directors to supervise not more than two other boards at the same time (Ministry of Industry and Commerce of Bahrain, 2011). Therefore, this

research may not be representative for Bahrein, which prevents it to generalize the results of this research for a mandatory setting.

Figure 2: Libby boxes, Predictive validity framework



4.5 Sample selection

In this section, the collection and preparation of data are provided in order to perform empirical archival research, which are covered in section 4.5.1 and 4.5.2. The sample of this research consists of U.S firms from S&P 1500 between 2007 and 2016 because the data about the director-level characteristics is only available from 2007 until 2016. The sample selection process for the relation between board busyness and accrual quality is shown in Table 2. The main sample consists of 6,985 firm-year observations with unbalanced panel data of 1,098 firms, which 1,193 firm-year observations are considered to be a busy board.

4.5.1 Data collection

Using WRDS all data on board of director-level and firm-level characteristics are collected. First of all, the ISS database is used to obtain board of director-level characteristics. This database contains all information on individual director-level characteristics, which is used to calculate all variables at board-level characteristics. The unit of analysis is a firm-year, hence I collapsed multiple director information in the same firm and fiscal year, which results in 14,829 unique board of directors observations. Subsequently, via Audit Analytics database section SOX 302, SOX 404, Audit Fees, and Non-Reliance restatements, I obtain material internal control weaknesses, audit fees, and restatements. Furthermore, the I/B/E/S database is used to obtain yearly firm earnings announcement and EPS forecast in order to calculate the variable *MEET/BEAT*. Lastly, using the Compustat database, the other firm-level characteristics are acquired.

After acquiring those databases, the merging process is performed by using the CUSIP, company identifier key (CIK), and fiscal year as the primary key. Furthermore, according to Bedard et al. (2004), firms that operate in a regulated, financial, and governmental industry follow special accounting policies. Because of this, it is difficult to estimate the standard deviation of accrual errors for these firms. Therefore, these industries are excluded in the merged sample. Finally, removing observations, which are not merged or following special accounting practices, results in total 8,050 observations in the merged sample.

4.5.2 Data preparation

Analysing the merged sample reveals that some firm-year observations have missing values or inconsistencies for specific variables. However, in order to execute regression analysis, each firm-year observation should have information on the values for all variables. Furthermore, it is not logical that total liabilities are greater than total assets based on the accounting equation model (total debits equal total credits), the shares held by outside directors are greater than total shares outstanding, ROA less than minus one, or the write-offs are positive. Thus, observations with *%INSIDEROWNERSHIP* or *LEVERAGE* greater than one, ROA less than minus one or a positive write-off are removed.

Furthermore, plotting all variables in a scatterplot indicates that there are outliers in the continuous variables, which could bias the results. Therefore, I winsorize the bottom and top one percent of all continuous variables with outliers.

Table 2: Sample selection

Board of Directors-level characteristics

Board of Directors Sample Selection

Number of director observations obtained in the database using CUSIP	139,073
Minus: Deleting missing values without a CUSIP	-8
Minus: Deleting duplicate director identity numbers in the same fiscal year	-8
Total unique director observations obtained	139,057
Minus: Deleting multiple director information in the same fiscal year and firm	-124,228
Total unique board of directors observations obtained	14,829

Firm-level characteristics

SOX 302 disclosure Sample Selection

Number of firm-year observations obtained in the database using CIK	343,849
Minus: Deleting duplicate firm-year observations in the same fiscal year	-245,767
Total unique SOX 302 observations obtained	98,082

SOX 404 audit opinion Sample Selection

Number of firm-year observations obtained in the database using CIK	126,448
Minus: Deleting duplicate firm-year observations in the same fiscal year	-43,741
Total unique SOX 404 observations obtained	82,707

Audit Fees Sample Selection

Number of firm-year observations obtained in the database using CIK	120,571
Minus: Deleting duplicate firm-year observations in the same fiscal year	-4,902
Minus: Deleting audit fees equal to zero	-743
Total unique audit fees observations obtained	115,669

Restatements Sample Selection

Number of firm-year observations obtained in the database using CIK	7,462
Minus: Deleting duplicate firm-year observations in the same fiscal year	-651
Minus: Deleting restatements, which are related to fraud	-81
Total unique restatement observations obtained	6,730

I/B/E/S MEET/BEAT Sample Selection

Number of firm-year observations obtained in the database using CUSIP	6,860,306
Minus: Deleting missing values	767,010
Minus: Keeping only the last forecast of EPS before the announcement of EPS	6,048,349
Total unique MEET/BEAT observations obtained	44,947

Compustat Sample Selection

Number of observations obtained in the dataset using CIK	112,678
Minus: Deleting missing values	-79,858
Total unique observations obtained in the dataset using CIK	32,820

Table 2 (continued)

Merged Sample	
Number of observations after merging Compustat and Restatement samples	37,382
Minus: Deleting restatements which has no Compustat info	-4,562
Minus: Deleting data which is not merged with Discretionary accruals sample	-197
Minus: Deleting data which is not merged with Board of director sample	-22,485
Minus: Deleting data which is not merged with I/B/E/S MEET/BEAT sample	-156
Minus: Deleting data which is not merged with SOX 302 sample	-11
Minus: Deleting data which is not merged with SOX 404 sample	-8
Minus: Deleting firms which follow special accounting policies	-1,913
Final number of observations after merging in the Merged sample	8,050
Main Sample	
Final number of observations after merging in the Merged sample	8,050
Minus: Deleting missing values	-948
Minus: Deleting inconsistencies in the dataset	-117
Final number of observations after data preparation in the Main sample	6,985
Matched Sample	
Number of no Busy boards	5,792
Number of Busy boards	1,193
Final number of observations in the Matched sample	6,985

By performing those restrictions and transformations 6,985 firm-year observations are collected. 1,193 of 6,985 firm-year observations are considered to be a busy board. Table 3 provides the industry and year composition of the main sample.

Table 3A: Number of busy boards by industry

SIC Code	Main Sample		Number of Busy boards	Control group
	Frequency	Percent	Frequency	Frequency
10 Mining	361	5.17	63	298
20 Construction	1,494	21.40	279	1,215
30 Manufacturing	2,734	39.14	489	2,245
50 Wholesale and Retail trade	1,086	15.55	186	900
70-80 Services	1,310	18.75	176	1,134
Total	6,985	100.00	1193	5,792

Table 3B: Number of busy boards by year

BUSY_BOARD	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
0	447	542	567	576	624	629	641	621	609	536	5,792
1	122	161	140	135	110	111	110	105	97	101	1,193
Total	569	703	707	711	734	740	751	726	706	638	6,985

5. Empirical results

In this section, I provide the main descriptive statistics in paragraph 5.1, the correlation between the main independent and dependent variables in paragraph 5.2, and the regression results with and without control variables in paragraph 5.3. Lastly, in paragraph 5.4 “Additional analysis”, the regression results between board busyness and financial reporting quality is provided by using the four-directorship benchmark to capture the director busyness.

5.1 Descriptive statistics

Table 4A presents the descriptive statistics for the entire sample, which is 6,985 firm-year observations. 17.1% of these firm-year observations are considered to be a busy board. The sample of Fich and Shivdasani (2006), who used the same definition for board busyness, consists of 21,4% busy boards for 3,366 observations, which makes this research quite comparable to their research. However, on average the proportion of independent busy directors on the board is 25.8%, which is rather smaller than the 52.3% that is found by Fich and Shivdasani (2006). Using the sample of Fich and Shivdasani (2006) as a reference, it seems that in the post-SOX period there are less busy outside directors on the board compared to the pre-SOX period. Furthermore, on average a board has 9 directors, where 75.9% of them are considered to be independent directors, 21.3% of them have a financial background, and 6.4% of total shares outstanding are held by directors. Moreover, more than half (51.7%) of observations have a CEO who is also the chairman of board and nearly all audit committee members (95.0%) are independent. Compared to Fich and Shivdasani (2006), there are more independent directors on the board in the post-SOX period, which could be the result of the regulation after the corporate failures in the earlier twenty-first century.

With regard to financial reporting quality proxies, the average standard deviation of accrual estimation errors is 0.078. 6.2% of observations are required to restate its previous financial statements by the Securities Acts. 4.6% and 2.9% of observations are identified as having a material weakness in their internal control by the SOX 302 and the SOX 404. The average audit fee is 3.649 million dollars and 6.5% of firm-year observations are identified, where the estimated earnings per share by financial analyst are met or beaten by 0 or 0.01 by the announced earnings per share

By dividing the main sample in *BUSY_BOARD* and industry-matched (non-*BUSY_BOARD*) firms, the descriptive statistics of both groups are presented in Table 4B to analyse

Table 4A: Descriptive statistics for the entire population (n = 6,985)

	N	Mean	Median	Std. Dev.	Min.	Max.
<i>Financial reporting quality proxies</i>						
STD_RESIDUAL	6,985	0.078	0.064	0.054	0.011	0.294
RESTATEMENT	6,985	0.062	0.000	0.241	0.000	1.000
SOX_302	6,985	0.046	0.000	0.209	0.000	1.000
SOX_404	6,985	0.029	0.000	0.168	0.000	1.000
AUDITFEES	6,985	3.649	2.008	4.717	0.307	28.815
MEET/BEAT	6,985	0.065	0.000	0.247	0.000	1.000
<i>Board busyness proxies</i>						
BUSY_BOARD	6,985	0.171	0.000	0.376	0.000	1.000
%BUSY_BOARD	6,985	0.258	0.250	0.207	0.000	1.000
BUSY_BOARD_4SEATS	6,985	0.014	0.000	0.116	0.000	1.000
%BOARDBUSYNESS_4SEATS	6,985	0.089	0.000	0.122	0.000	1.000
<i>Board of director-level characteristics</i>						
%OUTSIDERS	6,985	0.759	0.778	0.124	0.143	1.000
BOARDSIZE	6,985	9.048	9.000	2.070	3.000	20.000
%INSIDER_OWNERSHIP	6,985	0.064	0.024	0.104	0.000	0.991
%INDEPENDENT_AC	6,985	0.950	1.000	0.126	0.000	1.000
CEO_DUAL	6,985	0.517	1.000	0.500	0.000	1.000
%FIN_EXPERTISE	6,985	0.213	0.182	0.141	0.000	0.857
<i>Firm-level characteristics</i>						
LEVERAGE	6,985	0.487	0.492	0.197	0.039	1.000
FIRMSIZE	6,985	7.874	7.710	1.551	3.410	13.348
STD_CFO	6,985	0.039	0.032	0.028	0.006	0.159
STD_SALES	6,985	0.129	0.095	0.109	0.016	0.629
BM	6,985	0.488	0.412	0.328	0.029	1.806
WRITEOFF	6,985	0.183	0.000	0.386	0.000	1.000
GROWTH	6,985	0.061	0.053	0.179	-0.448	0.757
INVENTORY	6,985	0.118	0.098	0.111	0.000	0.709
MERGER	6,985	0.474	0.000	0.499	0.000	1.000
RESTRUCTURE	6,985	0.621	1.000	0.485	0.000	1.000
LOSS	6,985	0.138	0.000	0.345	0.000	1.000
ALTMAN_Z_SCORE	6,985	4.857	3.825	3.731	0.403	23.791
FOREIGN	6,985	0.436	0.000	0.496	0.000	1.000
INTANGIBLE_INTENSITY	6,985	0.059	0.025	0.079	0.000	0.386
NO_INTENSITY	6,985	0.213	0.000	0.410	0.000	1.000
CAPITAL_INTENSITY	6,985	0.228	0.163	0.201	0.001	0.983
BIG4	6,985	0.922	1.000	0.268	0.000	1.000
CURRENT_RATIO	6,985	2.536	2.086	1.641	0.576	9.437
DELTA_ACCOUNT_RECEIVABLES	6,985	0.081	0.051	0.277	-0.561	1.324
EBITDA	6,985	0.143	0.136	0.079	-0.107	0.397
DISCRETIONARY_ACCRUALS	6,985	0.085	0.066	0.144	-0.294	0.548
DELTA_NET_INCOME	6,985	0.586	1.000	0.493	0.000	1.000
TOBINS_Q	6,985	3.424	2.414	3.613	0.511	25.801
ROA	6,985	0.107	0.101	0.082	-0.145	0.366
ROAVAR	6,985	0.003	0.001	0.006	0.000	0.045
PAST_EARNINGS_SURPRISE	6,985	0.520	1.000	0.500	0.000	1.000
PAST_RESTATEMENT	6,985	0.118	0.000	0.323	0.000	1.000

Table 4B: Descriptive statistics for BUSY_BOARD firms and Industry-matched firms

	Industry-matched (Non BUSY_BOARD) firms (n = 5,792)			BUSY_BOARD firms (n = 1,193)			Std. Dev.	t- statistic	P-value
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.			
<i>Financial reporting quality proxies</i>									
STD_RESIDUAL	0.078	0.064	0.054	0.075	0.063	0.052	1.636	0.102	
RESTATEMENT	0.064	0.000	0.244	0.054	0.000	0.225	1.360	0.174	
SOX_302	0.049	0.000	0.215	0.034	0.000	0.180	2.528	0.012	*
SOX_404	0.030	0.000	0.170	0.025	0.000	0.157	0.900	0.368	
AUDITFEES	3.125	1.811	3.871	6.195	3.643	7.055	-14.586	0.000	***
MEET/BEAT	0.065	0.000	0.246	0.069	0.000	0.253	-0.520	0.603	
<i>Board of director-level characteristics</i>									
%OUTSIDERS	0.759	0.778	0.122	0.760	0.778	0.132	-0.266	0.790	
BOARDSIZE	8.906	9.000	2.030	9.740	10.000	2.124	-12.451	0.000	***
%INSIDER_OWNERSHP	0.067	0.027	0.104	0.046	0.014	0.101	6.514	0.000	***
%INDEPENDENT_AC	0.953	1.000	0.124	0.934	1.000	0.138	4.279	0.000	***
CEO_DUAL	0.504	1.000	0.500	0.579	1.000	0.494	-4.748	0.000	***
%FIN_EXPERTISE	0.212	0.167	0.140	0.220	0.200	0.144	-1.810	0.071	
<i>Firm-level characteristics</i>									
LEVERAGE	0.474	0.476	0.198	0.548	0.558	0.184	-12.506	0.000	***
FIRMSIZE	7.725	7.562	1.474	8.600	8.431	1.705	-16.502	0.000	***
STD_CFO	0.040	0.032	0.029	0.035	0.028	0.025	5.949	0.000	***
STD_SALES	0.130	0.097	0.110	0.122	0.090	0.105	2.263	0.024	*
BM	0.496	0.421	0.330	0.451	0.377	0.315	4.443	0.000	***
WRITEOFF	0.177	0.000	0.382	0.209	0.000	0.407	-2.454	0.024	*
GROWTH	0.064	0.055	0.180	0.046	0.045	0.171	3.187	0.001	**
INVENTORY	0.118	0.098	0.111	0.118	0.098	0.111	0.072	0.943	
MERGER	0.476	0.000	0.499	0.467	0.000	0.499	0.574	0.566	
RESTRUCTURE	0.605	1.000	0.489	0.700	1.000	0.458	-6.415	0.000	***
LOSS	0.137	0.000	0.343	0.145	0.000	0.352	-0.756	0.449	
ALTMAN_Z_SCORE	5.021	3.953	3.865	4.062	3.382	2.862	9.870	0.000	***
FOREIGN	0.428	0.000	0.495	0.473	0.000	0.499	-2.801	0.005	**
INTANGIBLE_INTENSITY	0.058	0.024	0.078	0.064	0.035	0.083	-2.225	0.026	*
NO_INTENSITY	0.218	0.000	0.413	0.189	0.000	0.392	2.275	0.023	*
CAPITAL_INTENSITY	0.229	0.163	0.203	0.221	0.160	0.188	1.415	0.157	
BIG4	0.915	1.000	0.279	0.955	1.000	0.208	-5.607	0.000	***
CURRENT_RATIO	2.620	2.172	1.690	2.126	1.791	1.306	11.262	0.000	***
DELTA_ACCOUNT_RECEIVABLES	0.085	0.054	0.279	0.064	0.041	0.268	2.372	0.018	*
EBITDA	0.143	0.136	0.080	0.143	0.140	0.073	0.014	0.989	
DISCRETIONARY_ACCRUALS	0.084	0.064	0.144	0.090	0.072	0.140	-1.314	0.189	
DELTA_NET_INCOME	0.059	1.000	0.492	0.562	1.000	0.496	1.832	0.067	
TOBIN'S_Q	0.590	1.000	0.492	0.562	1.000	0.496	-2.226	0.026	*
ROA	0.108	0.100	0.083	0.107	0.107	0.076	0.367	0.713	
ROAVAR	0.003	0.001	0.500	0.002	0.000	0.005	4.280	0.000	***
PAST_EARNINGS_SURPRISE	0.521	1.000	0.500	0.511	1.000	0.500	0.635	0.526	
PAST_RESTATEMENT	0.118	0.000	0.323	0.118	0.000	0.323	-0.009	0.993	

* p < 0.05, **p < 0.01, ***p < 0.001

whether the means of both groups differ significantly from each other for the financial reporting quality proxies, board of director-level characteristics, and firm-level characteristics. First of all, it can be noticed that with regard to the means of financial reporting quality proxies, there are significant differences between the industry-matched and *BUSY_BOARD* sample for the SOX 302 disclosure and audit fees. In the matched-industry sample, 4.9% of firms are identified as having a material weakness in their internal control by the SOX 302 disclosure, which is significantly larger than the mean of *BUSY_BOARD* firms (3.4%). On the other hand, at the significance level of 0.1%, *BUSY_BOARD* firms are almost charged with twice of audit fees compared to non-*BUSY_BOARD* firms. However, there are no significant differences observed between the means of accruals quality, restatements, SOX 404 audit opinion, and meet/beat behaviour for busy boards and non-busy boards.

Secondly, with regard to the board of director-level characteristics, *BUSY_BOARD* firms have on average greater board size, less insider ownership by directors, less independent members in the audit committee and more CEO duality compared to industry-matched firms, at the 0.1% significance level.

Lastly, with regard to the firm-level characteristics, *BUSY_BOARD* firms have on average significantly more BIG4-firms as auditors, greater firm size, lower current ratio, more debt than equity, higher *ALTMAN_Z_SCORE*, less change in account receivables, more foreign sales, and are more involved in restructuring compared to industry-matched firms. Furthermore, *BUSY_BOARD* firms have on average a lower book-to-market ratio and more write-offs, which indicate that *BUSY_BOARD* firms are more conservative than non-*BUSY_BOARD* firms. The next significant difference is that *BUSY_BOARD* firms have a lower mean for *STD_CFO*, *STD_SALES*, and *ROAVAR*, which point out that *BUSY_BOARD* firms are operating in a less unsteady business environment than industry-matched firms. In addition, a significant lower mean for *GROWTH*, and *TOBIN'S_Q* show that busy boards are less fast-growing firms and have a lower market-to-book ratio, which indicate that *BUSY_BOARD* firms have a lower firm performance than non-*BUSY_BOARD* firms based on these characteristics.

5.2 Correlation

Table 5 provides the correlation (r-value) between the dependent variables and independent variables to analyse whether there is a significant strong correlation between board busyness and

Table 5: Correlation table

	LN_STD_ RESIDUAL	RESTATE- MENT	SOX_ 302	SOX_ 404	LN_ AUDITFEES	MEET/ BEAT
LN_STD_RESIDUAL	1.000					
RESTATEMENT		1.000				
SOX_302	0.025*		1.000		-0.018	
SOX_404	0.013			1.000	-0.011	
LN_AUDITFEES					1.000	
MEET/BEAT						1.000
BUSY_BOARD	-0.018	-0.015	-0.027*	-0.010	0.241***	0.006
%BUSY_BOARD	-0.019	-0.008	-0.042***	-0.029*	0.408***	0.014
%OUTSIDERS	0.004	0.002	-0.005	0.003	0.172***	
BOARDSIZE	-0.086***	0.005	-0.057***	-0.037**		
%INSIDER_OWNERSHIP	-0.028*	0.047***	0.056***	0.057***	-0.187***	-0.021
%INDEPENDENT_AC	-0.031*	0.018	-0.004	0.012		
CEO_DUAL	-0.040***	-0.001	-0.030**	-0.037**		0.002
%FIN_EXPERTISE	0.002	0.005	-0.035**	-0.022		
LEVERAGE	-0.098***	0.018	0.002	0.015	0.444***	0.011
FIRMSIZE	-0.120***	-0.048***	-0.127***	-0.092***	0.731***	0.033**
STD_CFO	0.378***					
STD_SALES	0.187***					
BM	0.043***					-0.040***
WRITEOFF	0.055***					-0.017
GROWTH	0.030*	-0.012	-0.027*	-0.019	-0.077***	0.007
INVENTORY	-0.081***				-0.073***	
MERGER	-0.009				0.155***	
RESTRUCTURE	0.010				0.323***	
LOSS	0.140***	0.039**	0.077***	0.057***	-0.042***	-0.039**
ALTMAN_Z_SCORE	0.044***					0.007
FOREIGN	0.059***					
INTANGIBLE_INTENSITY	0.154***	0.012	0.039**	0.025*	-0.027*	
NO_INTENSITY	0.041***					
CAPITAL_INTENSITY	-0.040***					-0.009
BIG4	-0.094***				0.289***	
CURRENT_RATIO					-0.332***	
DELTA_ACCOUNT_ RECEIVABLES		0.003	-0.024*	-0.022	-0.075***	
EBITDA		-0.068***	-0.099***	-0.080***	-0.059***	0.021
DISCRETIONARY_ ACCRUALS		-0.012	-0.017	-0.012	0.061***	0.010
DELTA_NET_INCOME						0.011
TOBIN'S_Q		-0.026*	-0.020	-0.003	0.064***	
ROA		-0.065***	-0.103***	-0.084***	-0.033**	0.021
ROAVAR		-0.003	0.035**	0.026*	-0.199***	-0.019
PAST_EARNINGS_ SURPRISE						-0.148***
PAST_RESTATEMENT			0.123***	0.112***	-0.002	-0.005

* p<0.05, ** p<0.01, *** p<0.001

financial reporting quality before I run the regression models. From this table, it is observable that there is a significant negative correlation between *BUSY_BOARD* and *SOX_302*, which is -0.027. When using *%BUSY_BOARD* as the independent variable, the r-value is -0.042, which indicates that the correlation between *%BUSY_BOARD* and *SOX_302* is more significant and stronger. However, considering both r-values of -0.027 and -0.042, the linear relation between board busyness and having a material weakness in the internal control by the SOX 302 disclosure is very weak.

Furthermore, a significant negative correlation is found between the *%BUSY_BOARD* and *SOX_404* at the 5% level. However, the r-value of -0.029 indicates that the linear relation between these two variables is very weak.

Lastly, a significant positive correlation is observed between board busyness and audit fees for both proxies of board busyness at the 0.1% level. The r-value between *BUSY_BOARD* and *LN_AUDITFEES* is 0.241. When using *%BUSY_BOARD* as the proxy for board busyness, the r-value increases to 0.408. Considering both r-values of 0.241 and 0.408 there might be a weak positive linear relation between board busyness and audit fees.

However, according to table 5, there is not a significant positive or negative correlation noticed between *BUSY_BOARD* or *%BUSY_BOARD* and *LN_STD_RESIDUAL*, *RESTATEMENT*, and *MEET/BEAT*, which indicates that board busyness and accruals quality, restatements, or meet/beat behaviours do not vary together.

5.3 Regression results

By performing OLS and logistic regressions, the effect of board busyness on financial reporting quality proxies is presented in Table 6. This table is divided into two categories, which are univariate tests (Table 6A) and multivariate tests (Table 6B). Univariate tests examine the relation between board busyness and financial reporting quality proxies without control variables, whereas multivariate tests examine the relation between board busyness and financial reporting quality proxies with control variables. Since the following response variables *MEET/BEAT*, *RESTATEMENT*, *SOX_302*, and *SOX_404* are binary variables, logistic regressions are used to analyse the association between board busyness and the likelihood of the occurrence of those variables. The other two response variables, which are *LN_STD_RESIDUAL* and *LN_AUDITFEES*, are continuous variables. Therefore, OLS regressions are used for these

response variables. Furthermore, the prior literature indicates that the effect of board busyness of outside directors on financial reporting quality could be positive or negative. Therefore, board busyness variables are tested two-tailed. When the board busyness proxies are statistically significant or in other words, it differs statistically from zero at the 5% significance level, then it is assumed that board busyness has a significant effect on the response variable.

First of all, the relation between board busyness and accrual quality is examined. When a board is busy or becomes busier, it is expected that independent outside directors use their increased abilities to perform better in monitoring the quality of financial reporting, which decreases the magnitude of accrual estimation errors. However, on the other hand, being a busy board or becoming a busier board could result in less effective monitoring by outside directors, which leads to opportunistic behaviour in financial reporting by the management. This misbehaviour will result in an increase of the magnitude of accrual estimation errors. From Table 6A it is observable that there is a negative relation between board busyness and accrual estimation errors for the univariate tests. However, both coefficients of -0.032 and -0.063 do not differ statistically from zero at the 5% significance level. Furthermore, adding control variables in Table 6B changes the relation between board busyness and accrual estimation errors into positive. However, once again both coefficients are not significant at the 5% significance level. The results between board busyness proxies and accrual estimation errors indicate that on average when a board is busy or becomes busier, the increased abilities of outside directors in monitoring the financial reporting quality or the decreased time that outside directors put in monitoring process have not resulted in a significant increase or decrease of accrual estimation errors. Therefore, using accrual quality as a proxy for financial reporting quality, the composed hypothesis, which is board busyness of independent outside directors does have an effect on the financial reporting quality, is rejected at the 5% significance level and the findings are not in line with the prediction based on prior literature. Since it is mentioned earlier, it is not evident whether the accrual quality captures the financial reporting quality in an accurate and consistent way. Therefore, the financial reporting quality is operationalized by using five other proxies to ensure that the effect of board busyness on financial reporting quality is consistent for different proxies used for financial reporting quality.

Secondly, the relation between board busyness and audit fees is examined. According to Engel et al. (2010), audit fees do reflect to which extent the financial reporting process is

transparent and risky. If a board is busy or becomes busier, this could indicate that outside directors put less effort in monitoring the management. In presence of weak monitoring, which leads to opportunistic behaviour in financial reporting by the management, it is probable that the financial reporting process is less transparent and riskier, which is reflected in higher audit fees. However, it could also be the opposing situation. If a board is busy or becomes busier, it is expected that independent outside directors could use their increased abilities to perform better in monitoring the quality of financial reporting, which should result in less risky and more transparent financial reporting process. This will result in lower audit fees. From Table 6 it can be noticed that board busyness has a significant positive effect on audit fees for the univariate tests as well as the multivariate tests at the 1% level. Keeping control variables at the mean value, if a board is busy, audit fees increase on average from 2,087,317 to 2,238,999, which implies that auditors increase the audit fees for busy boards with 7.3% due to premium risk. Moreover, an increase of 2,6% for audit fees is observed when the proportion of board busyness increases with 10%. The small change in the magnitude of audit fees because of board busyness indicates that the effect of board busyness on audit fees is not economically significant. Therefore, using audit fees as a proxy for financial reporting quality, the composed hypothesis is accepted at the 5% significance level and the findings are in line with the prediction based on prior literature.

Thirdly, the relation between board busyness and meet/beat behaviour is examined. According to Burgstahler and Chuk (2013), the meet/beat behaviour shows whether the management manipulates the financial statements and manages the earnings by meeting or beating the forecasts of analysts. If a board is busy or becomes busier, this could indicate that outside directors put less effort in monitoring the management. In presence of weak monitoring, which leads to opportunistic behaviour in financial reporting by the management, it is probable that the management will manipulate the financial statements by managing the earnings. However, it could also be the opposing situation. If a board is busy or becomes busier, it is expected that independent outside directors could use their increased abilities to perform better in monitoring the quality of financial reporting, which enable outside directors to find out whether the management manipulates the financial statements or manages the earnings. From Table 6 the reported findings indicate a positive relation between board busyness and meet/beat behaviour for the univariate and multivariate tests. However, all coefficients of board busyness proxies are not significant at the 5% level, which indicates that there is no association between becoming a

busy or busier board and manipulating the financial statements or managing the earnings by the management. Therefore, using meet/beat behaviour as a proxy for financial reporting quality, the composed hypothesis is rejected at the 5% significance level and the findings are not in line with the prediction based on prior literature.

Fourthly, the relation between board busyness and accounting restatements is examined. According to Archambeault et al. (2008), accounting restatements accurately measure the financial reporting failure. If a board is busy or becomes busier, this could indicate that outside directors put less effort in monitoring the management. In presence of weak monitoring, which leads to opportunistic behaviour in financial reporting by the management, it is probable that the management manipulates or misstates the financial statements, which could result in more accounting restatements. However, it could also be the opposing situation. If a board is busy or becomes busier, it is expected that independent outside directors could use their increased abilities to perform better in monitoring the quality of financial reporting, which enable outside directors to find out whether the management manipulates the financial statements. This will result in a lower likelihood of issuing accounting restatements for busy boards. In table 6 a negative relation is observed between board busyness and the likelihood of having a restatement for the univariate and multivariate tests. However, all coefficients of board busyness are not significant at the 5% level, which points out that being a busy board or becoming busier board is not associated with financial reporting failure. Therefore, using restatements as a proxy for financial reporting quality, the composed hypothesis is rejected at the 5% significance level and the findings are not in line with the prediction based on prior literature.

Lastly, the relation between board busyness and the effectiveness of a firm's internal reporting process is examined. According to Costello and Wittenburg-Moerman (2011), an internal control that is not effective over financial reporting process, which exists when a material weakness in internal control is disclosed by the SOX 302 disclosure or SOX 404 audit opinion, does increase the possibility that financial statements contain a material misstatement. If a board is busy or becomes busier, this could indicate that outside directors put less effort in monitoring the management. In presence of weak monitoring, which leads to opportunistic behaviour in financial reporting by the management, it is probable that the internal control process, which is settled by the board of directors and the management, cannot provide reasonable assurance regarding the reliability of financial statements. This will result in a higher likelihood of

disclosing a material weakness in internal control by the SOX 302/404. However, it could also be the opposing situation. If a board is busy or becomes busier, it is expected that independent outside directors could use their increased abilities to perform better in monitoring the quality of financial reporting, which enable outside directors to settle a more effective internal control process that provides more reasonable assurance regarding the reliability of financial statements. This will result in a lower likelihood of disclosing a material weakness in internal control by the SOX 302/404. The univariate tests for the relation between board busyness proxies and SOX 302/404 in Table 6A indicate a significant lower likelihood of having a material weakness in internal control by the SOX 302 disclosure when a board is busy or becomes busier, whereas a significant lower likelihood of having a material weakness in internal control by the SOX 404 audit opinion is only observed when the proportion of board busyness increases. However, adding control variables implies that there is no significant association between board busyness proxies and SOX 302/404 at the 5% level, which indicates that when a board is busy or becomes busier, the reliability of financial statements is not affected. Therefore, based on the multivariate tests, using internal control weakness as a proxy for financial reporting quality, the composed hypothesis is rejected at the 5% significance level and the findings are not in line with the prediction based on prior literature.

In summary, based on the results of the multivariate OLS and logistic regressions, there is no significant association observed between board busyness proxies and financial reporting quality proxies at the 5% level, except for audit fees. When using audit fees as a proxy for financial reporting quality, it turns out that board busyness has a significant negative effect on financial reporting quality. However, the small change in the magnitude of audit fees because of board busyness indicates that the effect of board busyness on audit fees is not economically significant. Therefore, the composed hypothesis, which predicts that board busyness of independent outside directors does have an effect on the financial reporting quality, is rejected at the 5% level and the findings are not in line with the prediction based on prior literature, except for audit fees when this proxy is used for financial reporting quality. Furthermore, with regard to the effect of board busyness on financial reporting quality, the findings of this study in the post-SOX period do support the findings of Ferris et al. (2003), whereas the findings of Beasley (1996) are contradicted. The sample of Beasley (1996) consists only of 150 listed firms, where 75 fraud

Table 6: Effect of board busyness on financial reporting quality**Table 6A: Univariate tests for the effect of board busyness on accruals quality (1), audit fees (2), meet and beat (3), restatements (4), SOX 302 (5), and SOX 404 (6)**

	(1) LN_STD_ RESIDUAL	(1) LN_STD_ RESIDUAL	(2) LN_ AUDITFEES	(2) LN_ AUDITFEES	(3) MEET/ BEAT	(3) MEET/ BEAT
BUSY_BOARD	-0.032 (-1.517)		0.616*** (19.211)		0.067 (0.530)	
%BUSY_BOARD		-0.063 (-1.594)		1.902*** (35.656)		0.099 (0.424)
Constant	-2.765*** (-314.895)	-2.754*** (-210.243)	0.685*** (57.075)	0.300*** (19.409)	-2.673*** (-49.997)	-2.687*** (-34.458)
Observations	6,985	6,985	6,985	6,985	6,985	6,985

	(4) RESTATEMENT	(4) RESTATEMENT	(5) SOX_302	(5) SOX_302	(6) SOX_404	(6) SOX_404
BUSY_BOARD	-0.180 (-1.290)		-0.385** (-2.238)		-0.171 (-0.853)	
%BUSY_BOARD		-0.169 (-0.713)		-1.030*** (-3.529)		-0.888** (-2.478)
Constant	-2.691*** (-49.943)	-2.676*** (-34.392)	-2.976*** (-48.661)	-2.787*** (-32.405)	-3.487*** (-45.039)	-3.300*** (-30.714)
Observations	6,985	6,985	6,985	6,985	6,985	6,985

Table 6B: Multivariate tests for the effect of board busyness on accruals quality (1), audit fees (2), meet and beat (3), restatements (4), SOX 302 (5), and SOX 404 (6)

	(1) LN_STD_ RESIDUAL	(1) LN_STD_ RESIDUAL	(2) LN_ AUDITFEES	(2) LN_ AUDITFEES	(3) MEET/ BEAT	(3) MEET/ BEAT
<i>Board of director-level characteristics</i>						
BUSY_BOARD	0.003 (0.097)		0.070*** (2.629)		0.014 (0.103)	
%BUSY_BOARD		0.069 (1.014)		0.255*** (4.173)		-0.106 (-0.389)
%OUTSIDERS	0.245* (1.922)	0.235* (1.844)	0.262*** (2.609)	0.227** (2.277)	-0.186 (-0.404)	-0.176 (-0.383)
BOARDSIZE	0.002 (0.188)	0.001 (0.114)				
%INSIDER_ OWNERSHIP	0.013 (0.096)	0.023 (0.167)	-0.018 (-0.153)	0.013 (0.110)	-0.672 (-1.235)	-0.692 (-1.267)
%INDEPENDENT_ AC	-0.174* (-1.776)	-0.171* (-1.746)				
CEO_DUAL	-0.027 (-1.071)	-0.027 (-1.068)			-0.021 (-0.199)	-0.021 (-0.197)
%FIN_EXPERTISE	0.011 (0.095)	0.008 (0.071)				

TABLE 6 (continued)

<i>Firm-level characteristics</i>						
LEVERAGE	0.012 (0.121)	0.003 (0.030)	1.223*** (13.001)	1.195*** (12.709)	-0.327 (-0.841)	-0.305 (-0.789)
FIRMSIZE	-0.022* (-1.726)	-0.025* (-1.906)	0.465*** (42.568)	0.457*** (41.180)	0.038 (1.015)	0.044 (1.135)
STD_CFO	6.987*** (12.825)	7.000*** (12.823)				
STD_SALES	0.614*** (4.545)	0.616*** (4.550)				
SOX_302	0.028 (0.566)	0.029 (0.584)	0.216*** (4.153)	0.217*** (4.194)		
SOX_404	-0.071 (-1.366)	-0.072 (-1.388)	-0.001 (-0.014)	0.000 (0.001)		
BM	-0.062 (-1.122)	-0.063 (-1.149)			-0.536** (-2.102)	-0.531** (-2.086)
WRITEOFF	0.058*** (2.753)	0.058*** (2.741)			-0.134 (-0.958)	-0.133 (-0.949)
GROWTH	0.106** (2.093)	0.109** (2.159)	-0.204*** (-4.355)	-0.200*** (-4.310)	0.109 (0.349)	0.101 (0.326)
INVENTORY	-0.098 (-0.541)	-0.099 (-0.548)	0.564*** (3.383)	0.559*** (3.381)		
MERGER	0.017 (0.645)	0.017 (0.659)	0.073*** (3.088)	0.074*** (3.115)		
RESTRUCTURE	0.021 (0.812)	0.019 (0.745)	0.248*** (9.684)	0.241*** (9.552)		
LOSS	0.086*** (2.723)	0.085*** (2.684)	0.110*** (3.989)	0.107*** (3.907)	-0.478** (-2.349)	-0.476** (-2.340)
ALTMAN_Z_SCORE	0.005 (1.081)	0.005 (1.107)			-0.007 (-0.325)	-0.007 (-0.331)
FOREIGN	0.038 (1.338)	0.038 (1.307)	0.176*** (6.783)	0.174*** (6.708)		
INT_INTENSITY	0.635*** (2.807)	0.624*** (2.755)	-0.494*** (-2.750)	-0.517*** (-2.884)		
NO_INT	0.047 (1.017)	0.046 (0.991)				
CAP_INTENSITY	-0.249** (-2.146)	-0.245** (-2.107)			-0.374 (-1.114)	-0.391 (-1.161)
BIG4	-0.095* (-1.719)	-0.094* (-1.715)	0.098** (2.028)	0.095** (1.989)		
EBITDA			-1.838*** (-3.235)	-1.841*** (-3.249)	2.634 (1.003)	2.710 (1.032)
DISCRETIONARY_ACCRUALS			0.202*** (2.992)	0.201*** (2.987)	-0.104 (-0.284)	-0.099 (-0.271)
DELTA_NET_INCOME					0.053 (0.513)	0.053 (0.506)
ROA			0.369 (0.659)	0.391 (0.702)	-3.454 (-1.284)	-3.536 (-1.314)

TABLE 6 (continued)

ROAVAR			-5.809*** (-2.938)	-5.659*** (-2.870)	-7.469 (-0.811)	-7.558 (-0.821)
PAST_EARNINGS_ SURPRISE					-1.346*** (-11.653)	-1.345*** (-11.657)
PAST_ RESTATEMENT			0.025 (1.012)	0.026 (1.048)	0.000 (0.000)	-0.000 (-0.001)
CURRENT_RATIO			-0.008 (-0.702)	-0.007 (-0.677)		
DELTA_ACCOUNT_ RECEIVABLES			-0.110*** (-5.022)	-0.105*** (-4.796)		
TOBIN'S_Q			-0.042*** (-8.658)	-0.042*** (-8.611)		
Constant	-2.336*** (-11.745)	-2.323*** (-11.644)	-3.731*** (-24.114)	-3.691*** (-23.969)	-1.675** (-2.555)	-1.700*** (-2.597)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,985	6,985	6,985	6,985	6,985	6,985
Chi ² test p-value	0.000	0.000	0.000	0.000	0.000	0.000
Pseudo/Adjusted R ²	0.247	0.247	0.760	0.761	0.058	0.058

	(4) RESTATEMENT	(4) RESTATEMENT	(5) SOX_302	(5) SOX_302	(6) SOX_404	(6) SOX_404
<i>Board of director-level characteristics</i>						
BUSY_BOARD	-0.136 (-0.803)		-0.099 (-0.465)		0.151 (0.660)	
%BUSY_BOARD		-0.025 (-0.081)		-0.161 (-0.381)		-0.042 (-0.093)
%OUTSIDERS	-0.062 (-0.107)	-0.047 (-0.082)	1.095 (1.378)	1.126 (1.413)	0.927 (1.042)	0.923 (1.030)
BOARDSIZE	0.037 (0.990)	0.037 (0.974)	-0.026 (-0.443)	-0.024 (-0.416)	-0.014 (-0.233)	-0.014 (-0.228)
%INSIDER_ OWNERSHIP	1.224** (2.203)	1.235** (2.217)	1.820** (2.376)	1.809** (2.343)	2.165*** (2.816)	2.144*** (2.758)
%INDEPENDENT_ AC	-0.029 (-0.055)	-0.035 (-0.066)	-0.844 (-1.395)	-0.849 (-1.404)	-0.315 (-0.427)	-0.318 (-0.430)
CEO_DUAL	0.013 (0.103)	0.012 (0.095)	-0.112 (-0.710)	-0.112 (-0.713)	-0.254 (-1.469)	-0.257 (-1.492)
%FIN_EXPERTISE	-0.024 (-0.052)	-0.037 (-0.080)	-1.288** (-2.011)	-1.293** (-2.021)	-1.216* (-1.681)	-1.190* (-1.649)
<i>Firm-level characteristics</i>						
LEVERAGE	0.426 (1.103)	0.399 (1.035)	1.092** (2.221)	1.100** (2.256)	1.133** (2.102)	1.169** (2.196)
FIRMSIZE	-0.078 (-1.499)	-0.084 (-1.625)	-0.446*** (-4.857)	-0.444*** (-4.841)	-0.437*** (-4.472)	-0.428*** (-4.343)

TABLE 6 (continued)

GROWTH	-0.037 (-0.100)	-0.030 (-0.080)	0.481 (1.149)	0.480 (1.150)	0.702 (1.407)	0.694 (1.395)
LOSS	0.056 (0.339)	0.052 (0.308)	-0.156 (-0.770)	-0.157 (-0.770)	-0.299 (-1.195)	-0.293 (-1.167)
INT_INTENSITY	-1.333 (-1.625)	-1.350* (-1.647)	1.412 (1.290)	1.422 (1.300)	1.131 (0.891)	1.155 (0.916)
DELTA_ACCOUNT_ RECEIVABLES	0.178 (0.856)	0.178 (0.862)	-0.263 (-1.184)	-0.266 (-1.197)	-0.381 (-1.324)	-0.382 (-1.323)
EBITDA	-2.166 (-0.816)	-2.225 (-0.836)	-0.090 (-0.023)	-0.103 (-0.027)	0.045 (0.012)	0.114 (0.030)
DISCRETIONARY_ ACCRUALS	0.048 (0.121)	0.037 (0.093)	-0.190 (-0.402)	-0.194 (-0.410)	-0.290 (-0.507)	-0.277 (-0.483)
TOBINS_Q	0.007 (0.302)	0.008 (0.322)	0.004 (0.152)	0.004 (0.151)	0.016 (0.627)	0.016 (0.621)
ROA	-1.847 (-0.690)	-1.780 (-0.663)	-3.052 (-0.758)	-3.058 (-0.759)	-3.940 (-0.979)	-4.036 (-1.008)
ROAVAR	-4.015 (-0.363)	-4.030 (-0.365)	14.744 (1.340)	14.627 (1.327)	11.232 (0.947)	11.185 (0.949)
PAST_ RESTATEMENT			1.219*** (7.714)	1.218*** (7.708)	1.285*** (7.357)	1.286*** (7.362)
Constant	-3.155*** (-4.192)	-3.114*** (-4.149)	-1.171 (-1.113)	-1.191 (-1.138)	-1.726 (-1.493)	-1.762 (-1.521)
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,985	6,985	6,985	6,985	6,985	6,985
Chi ² test p-value	0.000	0.000	0.000	0.000	0.000	0.000
Pseudo/Adjusted R ²	0.038	0.038	0.134	0.134	0.129	0.129

Table 6 presents the tests for the effect of board busyness on financial reporting quality proxies. The board busyness is operationalized by using two proxies, which are *BUSY_BOARD* and *%BUSY_BOARD*. The variable *BUSY_BOARD* is a binary variable and equals one when 50% or more of outside directors on the board have three or more outside directorships and zero otherwise. The variable *%BUSY_BOARD* is a continuous variable and measures the proportion of outside directors that hold three or more directorships. The financial reporting quality proxies are *LN_STD_RESIDUAL* (1), *LN_AUDITFEES* (2), *MEET/BEAT* (3), *RESTATEMENT* (4), *SOX_302* (5), and *SOX_404* (6). The variable *LN_STD_RESIDUAL* is a continuous variable and measures the natural logarithm of the standard deviation of accrual estimation errors. The variable *LN_AUDITFEES* is a continuous variable and measures the natural logarithm of audit fees. The variable *MEET/BEAT* is a binary variable and equals one if the estimated earnings per share by financial analyst are met or beaten by 0 or 0.01 by the announced earnings per share and zero otherwise. The variable *RESTATEMENT* is a binary variable and equals one if a firm is enforced to restate its misstated financial statements by the Securities Acts due to error or fraud and zero otherwise. The variable *SOX_302* is a binary variable and equals one if the firm is identified as having a material weakness in their internal control by the SOX 302 disclosure and zero otherwise. The variable *SOX_404* is a binary variable and equals one if the firm is identified as having a material weakness in their internal control by the SOX 404 audit opinion and zero otherwise. Table 6A presents the univariate two-tailed tests for OLS and logit regressions based on the main sample, which is 6,985 firm-year observations. Table 6B presents the multivariate two-tailed tests for OLS and logit regressions by including control variables based on the main sample, which is 6,985 firm-year observations. Definitions of control variables are provided in Table 1. Following variables are winsorized at the bottom and top one percent: *LN_STD_RESIDUAL*, *LN_AUDITFEES*, *STD_SALES*, *STD_CFO*, *BM*, *GROWTH*, *ALTMAN_Z_SCORE*, *CURRENT_RATIO*, *INTANGIBLE_INTENSITY*, *DELTA_ACCOUNT_RECEIVABLES*, *EBITDA*, *DISCRETIONARY_ACCRUALS*, *ROA*, *ROAVAR*, and *TOBIN'S_Q*. The standard errors are clustered by firm in order to obtain independence across firms * p<0.10, ** p<0.05, and *** p<0.01 indicate that p-values are significant at the 10%, 5%, and 1% level, respectively.

firms were compared to a comparison group (75 no-fraud firms). To identify a comparison group, fraud firms were matched to no-fraud firms by their firm size, stock exchange, industry, and time period. In this thesis, there is not a matching process performed to compare firms with high financial reporting quality to firms with low financial reporting quality based on specific characteristics. Therefore, the contradicting findings on the relation between board busyness of outside directors and financial reporting quality between this thesis and Beasley (1996) could be due to the small sample size of Beasley (1996) and the matching process.

5.4 Additional analysis

It is questionable whether a director with three directorships is a busy director. Therefore, the busyness of outside directors is modified by using the four-directorship benchmark. Using this criterion 96 firm-year observations are identified as being a busy board, where 50% or more of outside directors on the board have four or more outside directorships. Contrary to the identification of busy boards by following the definition of Fich and Shivdasani (2006), where 17,1% of firm-year observations were considered to be a busy board, the new classification identifies only 1.4% of firm-year observations as busy boards. By using a different definition for board busyness of outside directors, it is examined whether a greater extent of board busyness does strengthen the effect of board busyness on financial reporting quality.

Table 7 presents the multivariate two-tailed tests for OLS and logit regressions for the effect of board busyness on financial reporting quality by including control variables based on the main sample, which is 6,985 firm-year observations. First of all, it can be noticed that when a board is busy or becomes busier by a greater extent, it does not influence the accruals quality. Therefore, using accrual quality as a proxy for financial reporting quality, the composed hypothesis, which is board busyness of independent outside directors does have an effect on the financial reporting quality, is rejected at the 5% significance level and the findings are not in line with the prediction based on prior literature.

Secondly, with regard to the relation between being a busy board by a greater extent and audit fees, a positive association is observed. However, this association is not significant at the 5% level. The second proxy for board busyness indicates when a board becomes busier by a greater extent, the audit fees will increase on average, which is statistically significant at the 1% level. According to the second regression model, a 10% increase in the proportion of board busyness

does increase the audit fees on average with 6.8%. This result indicates that because of time-constraint effect, which implies a weak monitoring by outside directors, when a board becomes busier by a greater extent, the financial reporting process is riskier and less transparent, which are reflected in higher audit fees. Therefore, when using audit fees as a proxy for financial reporting quality, the effect of being a busy board by a greater extent on financial reporting quality is insignificant, which rejects the composed hypothesis. However, when the proportion of board busyness increases by a greater extent, a significant negative effect on financial reporting quality is observed, which accepts the composed hypothesis. The insignificant effect of *BUSY_BOARD* on audit fees contrary to the significant effect of %*BUSY_BOARD* on audit fees could be due to the small size of the experimental group that is identified as a busy board.

Thirdly, the reported findings indicate a negative relation between becoming a busy or busier board by a greater extent and the likelihood that the estimated earnings per share by financial analyst are met or beaten by 0 or 0.01 by the announced earnings per share. However, both board busyness coefficients are not significant at the 5% significance level. Therefore, when using meet/beat behaviours as a proxy for financial reporting quality, the composed hypotheses is rejected at the 5% significance level and the findings are not in line with the prediction based on prior literature.

Fourthly, contrary to Table 6B where a negative association was observed between board busyness and the likelihood of issuing an accounting restatement, Table 7 indicates a positive association between board busyness by a greater extent and the likelihood of issuing accounting restatements. However, the effect of both coefficients of board busyness proxies is not significant. Therefore, when using accounting restatements as a proxy for financial reporting quality, the composed hypotheses is rejected at the 5% significance level and the findings are not in line with the prediction based on prior literature.

Lastly, from Table 7 it is observable that there is a negative relation between a greater extent of board busyness proxies and the likelihood of disclosing a material weakness in internal control by the SOX 302 disclosure and SOX 404 audit opinion. However, all coefficients of board busyness proxies are not significant at the 5% level. Therefore, using the SOX 302 disclosure and SOX 404 audit opinion as a proxy for financial reporting quality, the composed hypothesis is rejected at the 5% significance level and the findings are not in line with the prediction based on prior literature.

Table 7: Multivariate tests for the effect of board busyness on accruals quality (1), audit fees (2), meet and beat (3), restatements (4), SOX 302 (5), and SOX 404 (6)

	(1) LN_STD_ RESIDUAL	(1) LN_STD_ RESIDUAL	(2) LN_ AUDITFEES	(2) LN_ AUDITFEES	(3) MEET/ BEAT	(3) MEET/ BEAT
BUSY_BOARD	-0.040 (-0.515)		0.075 (1.160)		-0.801 (-1.438)	
%BUSY_BOARD		0.067 (0.640)		0.310*** (3.289)		-0.532 (-1.178)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustered by gvkey	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,985	6,985	6,985	6,985	6,985	6,985
Chi ² test p-value	0.000	0.000	0.000	0.000	0.000	0.000
Pseudo/Adjusted R ²	0.247	0.247	0.759	0.759	0.059	0.059
	(4) RESTATEMENT	(4) RESTATEMENT	(5) SOX_302	(5) SOX_302	(6) SOX_404	(6) SOX_404
BUSY_BOARD	0.604* (1.650)		-1.351 (-1.472)		-0.745 (-0.810)	
%BUSY_BOARD		0.620 (1.415)		-1.248* (-1.784)		-0.531 (-0.700)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustered by gvkey	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,985	6,985	6,985	6,985	6,985	6,985
Chi ² test p-value	0.000	0.000	0.000	0.000	0.000	0.000
Pseudo/Adjusted R ²	0.039	0.038	0.135	0.136	0.129	0.129

Table 7 presents the multivariate two-tailed tests for OLS and logit regressions for the effect of board busyness on financial reporting quality by including control variables based on the main sample, which is 6,985 firm-year observations. The board busyness is operationalized by using two proxies, which are *BUSY_BOARD* and *%BUSY_BOARD*. The variable *BUSY_BOARD* is a binary variable and equals one when 50% or more of outside directors on the board have four or more outside directorships and zero otherwise. The variable *%BUSY_BOARD* is a continuous variable and measures the proportion of outside directors that hold four or more directorships. The financial reporting quality proxies are *LN_STD_RESIDUAL* (1), *LN_AUDITFEES* (2), *MEET/BEAT* (3), *RESTATEMENT* (4), *SOX_302* (5), and *SOX_404* (6). The variable *LN_STD_RESIDUAL* is a continuous variable and measures the natural logarithm of the standard deviation of accrual estimation errors. The variable *LN_AUDITFEES* is a continuous variable and measures the natural logarithm of audit fees. The variable *MEET/BEAT* is a binary variable and equals one if the estimated earnings per share by financial analyst are met or beaten by 0 or 0.01 by the announced earnings per share and zero otherwise. The variable *RESTATEMENT* is a binary variable and equals one if a firm is enforced to restate its misstated financial statements by the Securities Acts due to error or fraud and zero otherwise. The variable *SOX_302* is a binary variable and equals one if the firm is identified as having a material weakness in their internal control by the SOX 302 disclosure and zero otherwise. The variable *SOX_404* is a binary variable and equals one if the firm is identified as having a material weakness in their internal control by the SOX 404 audit opinion and zero otherwise. Same control variables are used as in Table 6B. Definitions of control variables are provided in Table 1. Following variables are winsorized at the bottom and top one percent: *LN_STD_RESIDUAL*, *LN_AUDITFEES*, *INTANGIBLE_INTNESITY*, *STD_SALES*, *STD_CFO*, *BM*, *GROWTH*, *ALTMAN_Z_SCORE*, *CURRENT_RATIO*, *DELTA_ACCOUNT_RECEIVABLES* *EBITDA* *DISCRETIONARY_ACCRUALS* *ROA*, *ROAVAR*, and *TOBIN'S_Q*. The standard errors are clustered by firm in order to obtain independence across firms * p<0.10, ** p<0.05, and *** p<0.01 indicate that p-values are significant at the 10%, 5%, and 1% level, respectively.

In summary, the significance of board busyness on financial reporting quality by using the four-directorship benchmark, which is presented in table 7, does not differ from table 6B where I used the three-directorship to capture director busyness. The only difference is that when the proportion of board busyness increases with 10%, the audit fees will increase from 2.6% to 6.8% on average. Therefore, a greater extent of board busyness does not strengthen the effect of board busyness on financial reporting quality and the finding are not in line with the predicted hypothesis based on prior literature, except for the relation between becoming a busier board by a greater extent and audit fees.

6. Conclusion and limitations

The aim of this research was to examine the relation between board busyness of outside directors and financial reporting quality. In order to answer this relation, the following research question is composed: “**Does the board busyness of independent outside directors affect the financial reporting quality?**”.

The content of financial statements, which is prepared by the management, is used by different stakeholders for contracting purposes between different parties and to estimate the value of an entity (Watts & Zimmerman, 1990, Holthausen & Watts, 2001). Corporate scandals in the earlier twenty-first century, such as Enron and WorldCom, show that the management could manipulate the financial statements in order to increase their compensation on behalf of stakeholders. To mitigate these agency costs, stakeholders settle outside directors to monitor the management. It is assumed that the monitoring process of financial statements could be executed more objectively, which should increase the financial reporting quality (Fama & Jensen, 1983).

Outside directors also have the possibility to take more supervisory roles in their company or outside the company on other boards. The additional directorships could increase the monitoring abilities of outside directors by learning other monitoring techniques used in other boards, which should result in higher quality of financial reporting. However, when outside directors become too busy, it could decrease their effectiveness in monitoring the management, because monitoring in different boards decreases the time that independent outside directors put in monitoring process. In presence of weak monitoring, the opportunistic behaviour of the management could decrease the quality of financial reporting when a board is busy or becomes busier.

Previous findings on the relation between director busyness and financial reporting quality indicate that is not clear whether the time-constraint effect is superior to the quality effect, which results in mixed empirical evidence. Beasley (1996) finds that the probability of having a deception in the financial statements is significantly lower, when outside directors decrease their additional directorships. On the other hand, there is no significant relation observed between being a busy board and the probability of being litigated for the falsification of financial statements (Ferris et al., 2003). Both studies are performed for U.S. firms in the pre-SOX period.

In order to answer the research question, the following hypothesis is composed: “*Board busyness of independent outside directors does have an effect on the financial reporting quality*”. In this study, the busyness of independent outside directors as a group is identified by using two

proxies for board busyness. The first proxy treats a board as busy when 50% or more of outside directors have three or more directorships. The second proxy defines board busyness by measuring the proportion of busy outside directors by board (Fich & Shivdasani, 2006). With regard to financial reporting quality, accruals quality, accounting restatements, internal control weaknesses, audit fees, and meet/beat behaviours are used to capture the financial reporting quality. The matched sample of this research consists of 6,985 firm-year observations between 2007 and 2016, where 1,193 observations are considered to be a busy board. It appears that on average the proportion of busy outside directors on the board is 25.8%, which is rather smaller than the 52.3% that is found by Fich and Shivdasani (2006). Therefore, it seems that in the post-SOX period there are less busy outside directors on the board compared to the pre-SOX period. Furthermore, by performing multivariate tests for OLS and logit regressions the effect of board busyness on financial reporting quality reporting is examined. The results of this study show there is no significant association observed between board busyness proxies and financial reporting quality proxies at the 5% level, except for audit fees. When using audit fees as a proxy for financial reporting quality, it turns out that board busyness has a significant negative effect on financial reporting quality. Therefore, the composed hypothesis is rejected at the 5% significance level and the findings are not in line with the prediction based on prior literature, except for audit fees when this proxy is used for financial reporting quality. The findings of this study in the post-SOX period do support the findings of Ferris et al. (2003), whereas the findings of Beasley (1996) are contradicted. Moreover, using the four-directorship benchmark to qualify outside directors as busy directors, it is examined whether a greater extent of board busyness does strengthen the effect of board busyness on financial reporting quality. The results indicate that a greater extent of board busyness does not strengthen the effect of board busyness on financial reporting quality and the findings are not in line with the predicted hypothesis based on prior literature, except for the relation between becoming a busier board by a greater extent and audit fees.

In conclusion, this research provides evidence that board busyness of outside directors does not affect the financial reporting quality significantly in the post-SOX period, except for audit fees when this proxy is used for financial reporting quality. Therefore, based on these empirical results it could not be recommended to restrict the board busyness of outside directors by regulators or stakeholders, because there is not a significant consistent effect of board busyness of outside directors on financial reporting quality observed.

This research contributes to the existing literature on the relation between board busyness and financial reporting quality in multiple ways. First of all, this research distinguishes from existing literature on the relation between board busyness and financial reporting quality by making a distinction between the roles of inside and outside directors because inside directors on the board do not fulfil monitoring roles. Furthermore, to capture the effect of board busyness of outside directors as a group on financial reporting quality, the definition of Fich and Shivdasani (2006) is used instead of the average number of directorships, which is a noisy measure to capture board busyness as a group. Moreover, the relation between board busyness of outside directors and financial reporting quality has mainly been examined in the pre-SOX period. However, it appears that corporate reforms have a significant impact on director busyness (Jiraporn et al, 2009). By examining the relation between board busyness of outside directors and financial reporting quality in the post-SOX period, the results of this research are more relevant for regulators. Lastly, by using different proxies for financial reporting quality, which are publicized in well-acknowledged journals, this research attempts to examine whether the association between board busyness of outside directors and financial reporting quality is consistent.

However, there are certain limitations regarding this research, which could be improved by future research. First of all, it is possible that endogeneity problems exist, which bias the results regarding the relation between board busyness and financial reporting quality. For example, because of reverse causality, when a firm has a high financial reporting quality there is less monitoring required by outside directors, which could increase the busyness of outside directors. Another endogeneity problem is omitted variable bias. If a specific board of director-level characteristic or firm-level characteristic, which is not included as a control variable, correlates with both the board busyness of outside directors and the financial reporting quality, then it impairs the reliability of the expected effect of board busyness proxy on financial reporting quality proxy. An example of an omitted variable is the directors' experience. If an outside director has a high experience level, he or she will be requested to supervise more companies, which increases the busyness of these outside directors. On the other hand, a high experience level increases the monitoring skills of outside directors, which enable them to detect whether the management manipulates or misstates the financial statements. Future research can attempt to reduce the endogeneity problems by using the propensity matching score or two-stage least squares.

Furthermore, as it is mentioned earlier, certain countries have regulated the board busyness of outside directors by implementing quotas. The sample of this research is a voluntary setting and contains only listed firms. Therefore, this research may not be representative for a mandatory setting or non-listed firms, which prevents it to generalize the results of this research for a mandatory setting and non-listed firms. By examining the relation between board busyness of outside directors and financial reporting quality in a mandatory setting or for non-listed firms by future research, it could be examined whether there are significant differences between a voluntary setting and mandatory setting or listed firms and non-listed firms.

Moreover, this research does not distinguish the type of busy boards. For example, busy boards could be classified into the level of information asymmetry. According to Richardson (2000), a significant positive relation exists between measures of information asymmetry and earnings management. By including interaction effects, future research could examine whether the effect of board busyness of outside directors with a high-level information asymmetry on financial reporting quality differs from the effect of board busyness of outside directors with a low-level of information asymmetry on financial reporting quality.

Lastly, normally, the board of directors settle an audit committee, which is a part of board of directors, to monitor the quality of financial reporting. Therefore, future research could examine the relation between audit committee busyness and financial reporting quality instead of the relation between board busyness of outside directors and financial reporting quality.

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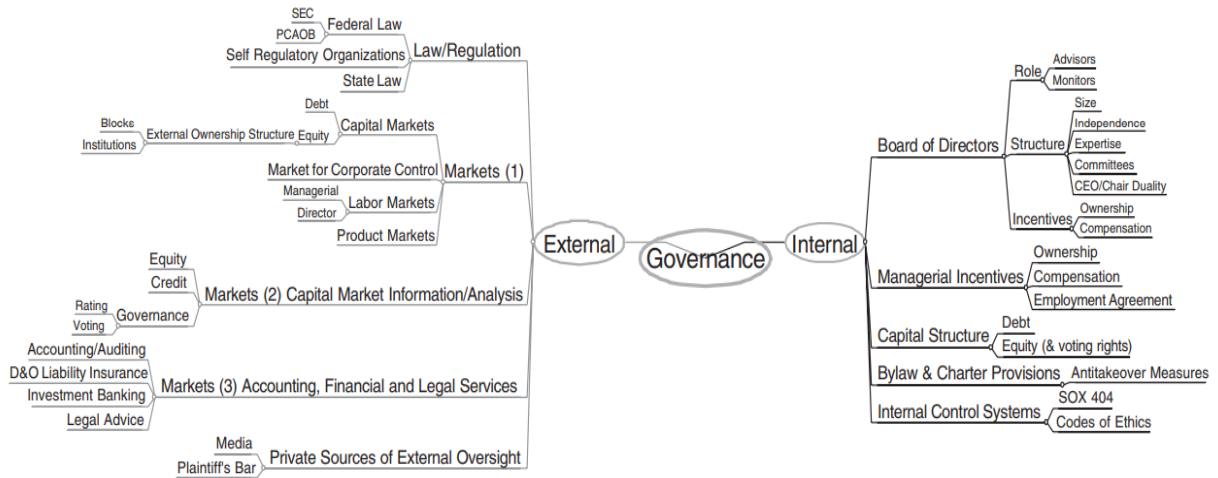
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Appendix

Appendix 1: Gillan (2006) Corporate governance framework



Appendix 2: The components within the company that play roles in composing financial statements from AICPA (1987)

