TILBURG UNIVERSITY

MASTER THESIS

Accounting

The impact of excess auditor remuneration on audit qualifications

The association between abnormal auditor fees and audit quality and the influence of investor protection

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11-07-2011

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Abstract

This study examines the association between abnormal auditor fees and the likelihood of an audit qualification. The economic theory of auditor independence (DeAngelo, 1981) argues that auditors' incentives to compromise its independence are related to client importance. In this study, client importance is measured by abnormal auditor fees. Auditors' propensity to issue a qualified opinion is used as a proxy for auditors' independence. As an important contribution to prior research, the influence of investor protection on the association between abnormal auditor fees and audit quality is examined. For a sample with 2.767 observations, no significant association is found between abnormal auditor fees and the likelihood of an audit qualification. The coefficient on the interaction term for the examination of the influence of investor protection also provides insignificant results. The results from the robustness check for observations with positive values of excess auditor remuneration, however, show significant results. For observations with positive values only, a positive relationship between abnormal auditor fees and audit quality is observed. The coefficient on the interaction term also becomes significant, and indicates that observations in weak investor protection countries are more likely to obtain a modified auditors' opinion.

Preface

This master thesis has been conducted during an internship at PwC Breda from April 2011 up and until June 2011. This thesis is a result of the final assignment for my study Accounting at Tilburg University. After graduation, I will start my professional career at PwC in Breda. Next year, I will also continue my study at the Tilburg University with the start of the post master study Register Accountant (RA).

The last couple of months, I found a lot of support from different people. First, I would like to thank my supervisors Dr. L.M.L Bruynseels and Dr. S van der Meulen, who provided me with very helpful comments, feedback and other suggestions. Second, I would like to thank my supervisor at PwC, Sharon Klijn-Ligtvoet, and other colleagues, who made me familiar with the organization. Third, I would also thank my fellow interns and friends for their helpful support and comments.

Thijs Boeijink,

Tilburg, 11 July 2011.

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1. Introduction

Audits already exist since the development of business corporations in 1200 (Watts and Zimmerman, 1983). Audit services are demanded as a monitoring mechanism because of the potential conflicts of interest between as well owners and managers as owners and other different classes of security holders (DeAngelo, 1981). This monitoring role means that auditors are used as a mechanism to enhance credibility of the financial statements. The quality of their services, audit quality, is defined by DeAngelo (1981) and Watts and Zimmerman (1981) as the probability that a discovered breach is reported. The willingness of auditors to report this breach depends on, for example, the economic importance of the client. Since auditors operate in a competitive market (Craswell et al., 1995) and audit quality is difficult to observe (Francis, 2004), they might have some incentives to acquiesce to client pressure and do not report a discovered breach. In this case, their independence is compromised. When auditors' independence is compromised, however, their value as assurance providers is essentially eliminated (Knechel, Salterio and Ballou, 2007). These doubts about independent auditing continue to be a hot topic nowadays, particularly after the accounting failures of the last decade. These concerns are based on the assumption that auditors are willing to compromise their independence in exchange for retaining clients which are economically significant to the client. On the other hand, however, DeFond et al. (2002) argue that loss of reputation and litigation costs are likely to provide strong incentives for auditors to maintain their independence. Therefore, this study investigates whether *abnormal auditor fees* result in decreased auditor independence, leading to impaired audit quality. Consistent with the argument that the audit opinion might be a better proxy for audit quality than earnings management (DeFond et al., 2002), an audit qualification is used as the dependent variable. Abnormal auditor fees are used as a proxy for the importance of the client to the auditor, which follows prior research (Frankel et al., 2002 and Larcker and Richardson, 2004, for example). As an important contribution to prior research, this study also investigates whether the association between abnormal auditor fees varies with the strength of investor protection. This issue relates to a large academic literature which documents substantial differences between legal protection of investor rights across countries (La Porta, Lopez-de-Silanes, Schleifer, and Vishny, 1997,1998, 2000).

Since regulators' concerns about auditors' independent behavior are not new, the academic literature provides a large battery of empirical analyses. These empirical analyses mainly focus on the association between several threats to independence and audit quality. Non-audit services are viewed as one of the most important threats to auditor independence, because these services are likely to increase the economic significance of the client to the auditor (Simunic 1984 and Beck et al. 1988a). The results in prior research (DeFond et al., 2002, Chung and Kallapur, 2003 and Frankel, Johnson and Nelson, 2002, for example), however, yield mixed support for the contention that non-audit services result in impaired independence. In comparison, DeAngelo (1981), Reynolds and Francis (2001) and Chung and Kallapur (2003) document that audit fees might create a similar economic bonding or reputational incentive as the provision of non-audit services.

Besides the provision of non-audit services, auditor tenure is also viewed as an important threat to

independent auditing. With the introduction of audit partner rotation in the United States, the general contention is that independence might be impaired when auditor tenure increases (Ryan et al., 2001 and Johnson, Khurana and Reynolds, 2002). The majority of academic research, however, shows results which are contrary to the prediction that independence impairs with auditor tenure (Ghosh and Moon, 2005, Johnson, Khurana and Reynolds, 2002 and Knechel and Vanstraelen, 2007).

Prior research about the relationship between *abnormal auditor fees* provides mixed findings. The results in DeFond et al. (2002) and Larcker and Richardson (2004) show insignificant results. The findings in Hope et al. (2008) show that independence is impaired in the case of abnormal auditor fees, but only in countries with strong investor protection. Literature particularly dealing with the relationship between auditor fees and the audit opinion also yields conflicting results. Reynolds and Francis (2001) document that auditor´s report more conservatively for larger clients. Craswell et al. (2002) fail to find an association between auditor fees and the propensity that a qualified opinion is issued. In contrast, Wines (1994) reports evidence that non-audit fee dependence is associated with a reduced likelihood of an audit qualification.

The second part of this research deals with the influence of investor protection in a specific country on the association between abnormal auditor fees and the likelihood of an audit qualification. Choi, Kim, Liu and Simunic (2005) document that when the underlying institutions are not in place to support and discipline the auditor, the auditor might have some incentives to compromise its independence. Consistently, Choi and Wong (2007) hypothesize that auditors are not able to supply the governance role in countries with weak investor protection. The results in Choi and Wong (2007), however, show that auditors do play a more important governance role in those countries. In contrast, Leuz et al. (2003) find that investor protection plays an important role to explain differences in earnings management. The results in Leuz et al. (2003) indicate that the pervasiveness of earnings management decreases with the strength of investor protection. These findings are in line with Francis and Wang (2004, 2006), who also document less earnings management in countries with strong investor protection. Hence, academic research regarding investor protection yields mixed evidence. Therefore, this study also investigates the influence of investor protection on the association between abnormal auditor fees and the likelihood of an audit qualification.

1.1 Relevance

Particularly after the accounting failures at Ahold, WorldCom and of course Enron, doubts about auditors' independence continue to be a hot topic. Academic research addressing independent behavior use abnormal auditor fees, fees for non-audit services and for example risk of litigation as incentives or disincentives for auditors to compromise its independence. These studies show mixed results. The contribution of the role of investor protection relates to a large literature, documenting substantial differences in the legal protection of investor rights across countries. (La Porta, Lopez-de-Silanes, Schleifer, and Vishny, 1997,1998, 2000). Until now, only Hope et al. (2008) investigated the influence of investor protection on the relationship between abnormal auditor fees and auditor independence. The study of Hope et al. (2008), however, relates to *perceived* audit quality. Their results indicate that *perceived* audit quality is negatively correlated with excess auditor remuneration, but only in firms with strong investor protection. Hence, as an important contribution to this

study, this thesis deals with the influence of investor protection on the relationship between excess auditor remuneration and *actual* audit quality. Similar to other academic studies (DeFond et al., 2002, Craswell et al., 2002, Reynolds and Francis, 2001 and Barkess and Simmet, 1994, for example), the audit opinion is used as a proxy for audit quality.

1.2 Methods and results

The academic theory (Watts and Zimmerman, 1981 and DeAngelo, 1981) argues that auditors' incentives to compromise its independence are related to the importance of the client to the auditor. Client importance, in turn, is measured by different proxies. DeFond et al. (2002) and Frankel et al. (2002), for example, use client total, audit and non-audit fee ranks as proxies for client importance. The empirical analyses also examine client importance on the local office level (Reynolds and Francis, 2001, Chung and Kallapur, 2003 and Choi, Kim, Kim and Zang, 2010, for example). The method to examine client importance in this study follows prior research (Frankel, Johnson and Nelson, 2002, DeFond, Raghunandan and Subramanyam, 2002, Larcker and Richardson, 2004, Hoitash, Markelevich and Barragato, 2005, Hope et al., 2008, Hope and Langli, 2009, Choi, Kim and Zang, 2010) and uses abnormal auditor fees as a proxy for auditors' incentive to compromise its independence. Second, the audit opinion is used as a proxy for audit quality. Finally, the investor protection measure is based on the studies of DeFond, Hung and Trezevant (2007), Leuz et al. (2003) and Hope et al. (2008). This means that the legal enforcement from La Porta et al. (1998) is calculated as the mean score across the following variables: (1) efficiency of the judicial system, (2) assessment of the rule of law, and (3) corruption.

An analysis is performed on 2767 observations in financial distress. Inconsistent with the first hypothesis, the insignificant results from the logistic regression provide no evidence that auditors' independence is impaired in the case of excess auditor remuneration. These insignificant results are consistent with DeFond et al. (2002) and Reynolds and Francis (2001), who show that current incentives with respect to reputation protection and litigation avoidance are sufficient to over-ride a possible impairment of independent behavior. Hypothesis 2 is also not supported since the interaction term variable provides insignificant results (with $p > 0{,}1$). Hence, the findings from the logistic regression do not support the prediction that the association between excess auditor remuneration is less pronounced in countries with stronger investor protection.

A sensitivity check is performed to determine whether an association exists between abnormal auditor fees and the likelihood of a modified audit opinion, for observations with *positive* values of excess auditor remuneration. The results from this robustness check provide evidence that excess auditor remuneration results in a *higher* propensity that a qualified auditors' opinion will be issued. This result does not support the first hypothesis that independence is impaired in the case of excess auditor remuneration. This finding, however, does support the results in Reynolds and Francis (2001), who report that client importance is positively associated with audit quality. The sensitivity check also provides evidence that observations in weaker investor protection countries are more likely to obtain a modified opinion. These results are inconsistent with the second hypothesis that the association between abnormal auditor fees and audit quality

is more pronounced in countries with weaker investor protection. In comparison, the findings are consistent with Choi and Wong (2007), who find evidence that auditors play a more important governance role in countries with weaker investor protection.

1.3 Thesis outline

The remainder of this thesis is structured as follows. The second chapter provides a literature review, including the description of the hypotheses. Chapter three and four includes the research methodology and the discussion of the results, respectively. The final chapter concludes the paper.

2. Literature review and hypotheses development

This study consists of two research questions. The first research question examines whether abnormal auditor fees lead to impaired audit quality, where audit quality is measured as the probability that a qualified auditors' report is issued. The second hypothesis investigates the influence of investor protection on the relationship between abnormal auditor fees and audit quality. This chapter provides a literature review and addresses the different aspects affecting auditors' independence and the relationship between auditor fees and audit quality. The second part also covers literature regarding the influence of investor protection on the association between auditor remuneration and audit quality.

2.1 Factors affecting auditor's independent behavior

This study deals with the question whether *independence* is impaired in the case of abnormal auditor fees. Therefore, this paragraph provides a literature review with the different kind of factors, which potentially affect auditors' independent behavior. The influence of auditor tenure, litigation risk, client-specific quasi-rents and non-audit services are addressed consecutively.

2.1.1 Auditor tenure

After the accounting scandals of the last decade, the relationship between the auditor and the client is often scrutinized, resulting in questions about auditor independence. Mandatory audit firm rotation is recommended as a solution to improve the quality of financial reporting. This view is consistent with the argument that audit quality impairs when auditor tenure increases. A reduction in audit quality might occur, because auditors are more likely to agree with managers on important decisions as the length of the relationship between the auditor and the client increases (Ryan et al., 2001). This view is in line with the argument made in Johnson, Khurana and Reynolds (2002) that the incentives of the auditor switch toward maintaining and profiting from the client. As a result, the auditor will be less concerned with litigation relating to the client.

An opposing view of audit firm rotation is that problems might occur more often for new clients. Johnson, Khurana and Reynolds (2002) argue that client-specific knowledge is a necessary input to the auditors' ability to detect substandard financial reporting. The authors also argue that knowledge about operations, the accounting system and the internal controls is crucial to detect financial reporting failures. Furthermore, Solomon et al. (1999) document that as the length of the relationship between the auditor and the client increases, the auditor has more client-specific knowledge. As a consequence, it is less likely that the auditor relies on managerial estimates and becomes thus more independent of firms' management. Geiger and Raghunandan (2002) also suggest that the practice of low balling[1] may increase the incentives of the auditor to

[1] DeAngelo (1981) describes *low balling* as the practice to set the initial audit fee below the total costs of the audit with the main goal to obtain the client.

employ less effort in the early years, in order to limit losses on the current engagement.

Several empirical analyses are available which examine the association between auditor tenure and audit quality. Ghosh and Moon (2005), for example, analyze the association between auditor tenure and audit quality as perceived by capital market participants. A focus on *perceived* audit quality is consistent with prior literature, emphasizing the importance of market perceptions of independence and audit quality (Ryan et al., 2001). Ghosh and Moon (2005) find evidence that investors perceive earnings quality as improving when the length of the relationship between the auditor and the client increases.

Johnson, Khurana and Reynolds (2002) present additional evidence regarding the debate about mandatory audit-firm rotation. Johnson et al. (2002) address the association between auditor tenure and audit quality and examine the absolute value of the unexpected accruals. The authors find that long audit-firm tenure is *not* associated with a decline in financial reporting quality. Myers, Myers and Omer (2003) investigate the extent to which auditor tenure is associated with the distribution of both income-increasing and income-decreasing accruals. They document that both income-increasing and income-decreasing accruals are lower when auditor tenure increases, suggesting that audit quality increases with auditor tenure. A more recent paper of Knechel and VanStraelen (2007) studies the relationship between auditor tenure and audit quality for private firms in the Belgian market. Knechel and VanStraelen (2007) argue that this is a very interesting contribution to the academic literature, because most companies in their sample are privately owned. These companies in the Belgian market do usually not have many shareholders to which they are accountable. They also argue that litigation risk in Belgium is very low. Hence, when auditor tenure results in lower audit quality, it is most likely to exist in an environment with low auditor litigation risk. Knechel and VanStraelen (2007), however, document that auditor's do *not* become less independent when auditor tenure increases.

In contrast to these studies, little empirical analyses are available providing evidence that auditor tenure is inversely related to audit quality. Davis, Soo and Trompeter (2000) examine the relation between auditor tenure and the magnitude of discretionary accruals and forecast errors. Consistent with their hypothesis, Davis, Soo and Trompeter (2002) find that discretionary accruals increase with auditor tenure. They also report a negative relationship between auditor tenure and absolute forecast errors, which is consistent with their argument that management is better able to meet earnings forecasts when auditor tenure increases. These findings are in line with the negative effects of an increase in auditor tenure, that auditors are more likely to agree with managers on important decisions (Ryan et al., 2001) and that the incentives of the auditor switch toward obtaining profits from the client (Johnson, Khurana and Reynolds, 2002).

Overall, a broad array of evidence is available, investigating the association between auditor tenure and audit quality. Based on the description of the studies above, the empirical analyses provide conflicting results. The majority of academic evidence, however, does not support the argument that audit quality decreases with the length of auditor tenure.

2.1.2 Litigation risk

DeAngelo (1981) and Simunic (1984) argue that the auditor faces substantial economic costs (litigation risk and loss of reputation) when audit failures are observed, creating a disincentive for the auditor to acquiesce to substandard reporting by the client. This argument is investigated by Heninger (2001), who examines the association between earnings management and litigation risk. In this case, audit failures are closely related to earnings management. When a client has manipulated financial statements and the auditor does not attenuate these manipulations, an audit failure occurs. Abnormal accruals are used as a proxy for earnings management, because any manipulation of accounting numbers will most likely appears in those abnormal accruals (Heninger, 2001). In this study, prior academic literature about auditor litigation is extended. These studies (Lys and Watts, 1994 and Stice, 1991) investigate the relationship between litigation risk and client characteristics. Lys and Watts (1994) and Stice (1991) provide inconclusive evidence that litigation risk is larger for auditor's of firms in financial difficulties.

Heninger (2001) provides empirical evidence that auditor litigation increases with the extent to which clients report higher income increasing abnormal accruals. The findings can be clarified by the fact that external shareholders hold auditor's responsible for failure of trustworthy financial reporting. This result is consistent with prior literature, showing that stakeholders are more likely to sue the auditor if they perceive a failure in financial reporting (Palmrose 1988, Stice 1991, Lys and Watts 1994). Hence, litigation risk creates an incentive for auditors' independent behaviour, making it less likely that the auditor acquiesces to client pressure for substandard reporting.

2.1.3 Client-specific quasi-rents

To determine how the auditor is able to compromise independence and thus audit quality, it is necessary to acknowledge what audit quality actually is. Audit quality is defined by DeAngelo (1981) as the market-assessed joint probability that the auditor will both (a) discover a breach in the clients' accounting systems, and (b) report the breach. Based on this definition, auditors' independence is measured as the likelihood of reporting a discovered breach (DeAngelo, 1981 and Watts and Zimmerman, 1981). They argue that audit quality depends on the incentives of the auditor to disclose selectively. DeAngelo (1981) suggests that an auditors' incentive to compromise independence relates to how economically significant the client is to the auditor, where the significance is usually measured in terms of revenues. The significance of the client to the auditor depends on client-specific quasi-rents, and these fees create an incentive for the auditor to compromise independence with respect to a specific client (DeAngelo 1981, DeFond et al. 2002 and Chung and Kallapur 2003). When client-specific quasi-rents exist, the auditor might be able to allow the client to engage in opportunistic earnings management. This is because; the benefits of permitting substandard reporting can outweigh the associated costs of substandard reporting (e.g. increased litigation risk, loss of reputation). Client-specific quasi-rents usually arise after the first audit(s), because of the presence of start-up and transaction costs in the first (few) audits. Hence, client-specific quasi-rents result in a bilateral relationship between the auditor and the client

(DeAngelo, 1981). Because costlessly available substitute auditors are generally not available, both parties have some incentives to continue the established relationship (DeAngelo, 1981). In other words, termination of the relationship between the auditor and the client imposes costs on both parties. Therefore, auditors may have incentives to allow the manager to engage in opportunistic earnings management. On the other hand, however, client-specific quasi-rents on other clients may also create a disincentive to allow opportunistic behavior. When the auditor is caught, the audit firm might lose some client-specific quasi-rents because of termination by other parties (DeAngelo, 1981).

2.1.4 Non-audit services

It is regularly argued that *non-audit services* result in client-specific quasi-rents, because consulting services can strengthen the economic bond with the client, increasing the auditors' incentives to allow earnings management (Simunic, 1984 and Beck et al., 1988a, for example). For the reason that non-audit services are regarded as one of the most important threats to auditors' independence, a lot of empirical analyses are available which focus on the provision of non-audit services. Time series evidence from Australia, for example, indicates that much of the growth is due to non-audit services being provided to the clients of audit firms (Wines, 1994). Also, when both auditing and consulting services are acquired from the same auditor, efficiencies may arise associated with the joint supply of these two services (Simunic, 1984 and Beck et al., 1988b). These efficiencies result in lower costs and thus in a higher profitability of a particular client, increasing the economic bonding between the auditor and the client. The increased economic importance, in turn, leads to a greater likelihood that the auditor allows the manager to engage in opportunistic behavior. With respect to those efficiencies, a distinction can be made between lower search costs and lower costs as a result of a knowledge spillover. First, if consulting services can be purchased from the auditor, search costs for a credible consultant, and other transaction costs could be reduced. Second, a knowledge efficiency arises since both types of services require knowledge about the company's operations, it's industry, the competitors etc.. Simunic (1984) and Beck et al. (1988b) call these synergies knowledge spillovers.

In contrast to these studies, however, Beck and Wu (2006) document that non-audit services may also positively affect audit quality, particularly as a result of learning on the job. The learning effect results in the accumulation of client-specific knowledge so that earlier beliefs about clients become more precise (Beck and Wu, 2006). Prior literature also shows that the learning effect has a positive effect on audit quality (Simunic, 1984 and Morgan and Stocken, 1998). Beck and Wu (2006) argue that this client-specific knowledge can be accumulated by providing non-audit services. Based on their analysis, Beck and Wu (2006) conclude that the benefits from an increase in audit quality, may actually outweigh the costs of providing non-audit services. They also argue that, in certain circumstances, auditors have incentives to provide non-audit services without billing for these services, which increases audit quality and reduces audit engagement risk[2]. Consistent with the

[2] *Audit engagement risk* is defined as *"the risk that the audit firm is exposed to litigation, adverse publicity or other events arising in connection with the audit of the financial statements"* (SAS 106, ISA 200).

negative effects of non-audit services on audit quality, however, Beck and Wu (2006) also document that non-audit services may lead to increased incentives to allow substandard financial reporting.

Because audit firms may find that the costs associated with reputational losess and litigation risk outweigh the benefits of a lack of independent behavior, Arruñada (1999) develops a model which shows that the provision of non-audit services to audit clients increases the audit firms' reputational capital. Dopuch et al. (2001) also provide analytical evidence that the increase in reputational capital resulting from the provision of non-audit services increases auditors' independence.

2.2 Non-audit services and perceived audit quality

As mentioned above, non-audit services are generally regarded as one of the most important threats to auditors' independence. Hence, the market expects the positive effects of providing non-audit services to be outweighed by the negative effects of providing consultancy services. Krishnan et al. (2005) address this argument, and investigate whether investors *perceive* the provision of non-audit services as impairing auditor independence. Krishnan et al. (2005) were able to investigate this relationship since the Securities and Exchange Commission (SEC) require companies to disclose, effective on February 5, 2001, the amounts of all audit- and non-audit fees paid to the auditor. The results in Krishnan et al. (2005) provide evidence that the non-audit fee ratio and the level of non-audit fees are negatively related to the Earnings Response Coefficient (ERC). This suggests that investors *perceive* non-audit services as impairing auditor independence, which is consistent with the findings in the studies of Simunic (1984), and Teoh and Wong (1993). Teoh and Wong (1993), for example, find a positive association between perceived audit quality and the earnings response coefficient. Thus, when investors believe that non-audit services impair auditor independence and thus audit quality, they will bid down share values of firms, which report unexpectedly large non-audit fees. These results are consistent with the expectation that the magnitude of the stock price return increases with the precision of the information (Holthausen and Verrecchia, 1988). In contrast to Krishnan et al. (2005), Higgs and Skantz (2006) find only limited support for the argument that non-audit engagements result in a reduced *perception* of auditor independence.

In contrast to those studies (Krishnan et al., 2005, Teoh and Wong, 1993 and Higgs and Skantz, 2006), using the earnings response coefficient as a proxy for perceived audit quality; Hope et al. (2008) use the implied required rate of return as a proxy for perceived audit quality. In their study, client importance is measured by abnormal auditor fees[3]. Where the studies discussed above only address non-audit fees, the abnormal auditor fees in Hope et al. (2008) include both audit- and non-audit fees. Consistent with the conclusion in Krishnan et al. (2005), Hope et al. (2008) report a negative association between abnormal auditor fees and *perceived* audit quality, but only in firms with strong investor protection. This finding is evidenced by the positive association

[3] *Abnormal auditor fees* are defined as the difference between actual auditor fees and the expected, normal level of auditor fees (Choi, Kim and Zang, 2005)

between abnormal auditor fees and the required rate of return. The results are in line with the suggestion that audit quality diminishes in the case of abnormal auditor fees. Finding evidence of a relation only in countries with stronger investor protection is consistent with the more prominent role of the financial statements in those countries (Ball, 2001).

2.3 The relationship between (non) audit fees and *actual* audit quality

This paragraph provides a literature review of studies which examine the association between (non) audit fees and *actual* audit quality. Within these studies, both discretionary accruals and audit qualifications are used as a proxy for audit quality. These studies are discussed separately.

2.3.1 Discretionary accruals

Most previous studies use earnings management as a proxy for earnings quality to investigate the relationship between (non) audit fees and audit quality. Schipper (1989) defines earnings management as " *a direct intervention in the external financial reporting process, with the intent of obtaining some private gain*". Dechow, Sloan and Sweeney (1995) document that the starting point for the examination of earnings management is total accruals, which can be divided in non-discretionary accruals and discretionary accruals. An analysis of earnings management often focuses on the latter, managements' use of discretionary accruals. The difference between discretionary and non discretionary accruals is that management has more flexibility to control the amount for discretionary accruals (Scott, 2009). Abnormal accruals might be a better proxy for audit quality than the audit opinion, because abnormal accruals capture the quality of financial accounting information in a more general sense, where modified audit opinions are related to only a few extreme situations (Myers et al., 2003). Hence, less variability is expected to exist in the audit opinion, which could result in a lack of statistical power in the empirical analysis (Choi et al., 2010).

Since several studies show that audit fees might create a similar bonding or reputational incentive as non-audit fees (DeAngelo, 1981, Reynolds and Francis, 2001 and Chung and Kallapur, 2003), Frankel et al. (2002) investigate the effect on audit quality for both audit- and non-audit fees. The results in Frankel et al. (2002) show a positive relation between the ratio of non-audit to total fees and earnings management, and a negative association between audit fees and earnings manipulation. Total auditor fees, however, are not associated with indicators of earnings management. Hence, these results provide evidence that audit and non-audit fees create different incentive effects. When these fees are combined into a single measure, the effects are masked.

The study of Ashbaugh et al. (2003) challenges the findings of Frankel et al. (2002). Consistent with Frankel et al. (2002), they document a positive association between the likelihood of reporting a small earnings surprise, the magnitude of absolute discretionary accruals, and the magnitude of income decreasing discretionary accruals and fee ratio, which is calculated as the non-audit fees divided by total fees. Ashbaugh et al. (2003) use

two different measures of discretionary current accruals that control for the impact of firm performance, because Kothari et al. (2002) argue that the measure used in Frankel et al. (2002) does not account for the impact of performance on accruals. When these two different measures are used, no significant association is observed between the fee ratio and income increasing discretionary accruals. The results of Ashbaugh et al. (2003) indicate that the association between the fee ratio and the absolute value of discretionary accruals is driven by income decreasing discretionary accruals. Ashbaugh et al. (2003) report that income *increasing* accruals can be interpreted as a form of biased financial reporting. In comparison, income *decreasing* accruals might also reflect a conservative application of Generally Accepted Accounting Principles (Ashbaugh et al., 2003). The doubts about the results in Frankel et al. (2002) are also confirmed by Chung and Kallapur (2003). Chung and Kallapur (2003) report that the association in Frankel et al. (2002) between the ratio of non-audit fees divided by total fees and abnormal accruals is not robust to the inclusion of industry controls.

Larcker and Richardson (2004) describe three different economic or econometric reasons for the conflicting results in prior literature. First, the role of corporate governance is generally ignored in prior research. When alternative mechanisms of corporate governance are not taken into account, empirical research provides an incomplete analysis of the determinants of earnings quality (Larcker and Richardson, 2004). Second, different measures are used to proxy for auditors' incentives to compromise independence: ratio of client non-audit to client total fees (DeFond et al. 2002 and Frankel et al., 2002), client total, audit and non-audit fee ranks (Frankel et al., 2002), total fees (Ashbaugh et al., 2003), the ratio of a clients' total fees to audit firms' total revenues (Chung and Kallapur, 2003) and abnormal auditor fees (Hoitash, Markelevich and Barragato, 2005, Choi, Kim and Zang, 2005 and Hope et al., 2008, for example). The final reason for the conflicting results in prior research deals with the monitoring role of the auditor. Larcker and Richardson (2004) propose that the relation between auditors' independence and earnings quality might be affected by the strength of corporate governance activities. In the presence of weak corporate governance, the auditor might mitigate aggressive accounting practices to protect the audit firms' reputation. These limitations are addressed by Larcker and Richardson (2004) by using latent class mixture models to examine the relation between several audit fee measures and accrual measures for a sample of firms for the fiscal years 2000 and 2001.

The results in Larcker and Richardson (2004) show a significantly positive relationship between the ratio of non-audit fees to total fees and accrual behavior. This positive relationship, however, exists in only 8,5% of the total sample. These firms are characterized as firms with a smaller market capitalization, lower book-to-market ratio, lower institutional holdings and higher insider holdings. These results are consistent with the view that weaknesses are an important determinant for understanding accrual behaviour. In comparison, firms with a negative association between audit fees and accruals choices are characterized by low market capitalization, high growth prospects, less independent boards, low institutional holdings, and high institutional holdings. For these firms, the auditor plays an important role in the governance process to limit abnormal accruals choices (Larcker and Richardson, 2004).

A more recent study by Choi, Kim, Kim and Zang (2010) uses abnormal accruals to investigate the association between as well office size and audit quality, as office size and audit fees. Consistent with their *economic dependence* perspective hypothesis, the results in Choi et al. (2010) show that office size is positively associated with audit quality. This finding can be clarified by the fact that larger offices are less likely to depend on a particular client, and are thus better able to resist from client pressure on substandard financial reporting (Choi et al., 2010). The results also report a positive association between office size and audit pricing, which can be clarified by the findings of Tirole (1990), who argues that service quality is priced in the market for professional services. Evidence by Craswell et al. (1995) and Carcello et al. (2002) also shows the existence of fee premiums for big four auditors and industry specialists. Hence, providers of high quality services are better able to charge higher audit fees.

2.3.2 Audit opinion

In comparison to those studies using discretionary accruals as a proxy for audit quality, the auditors' opinion is also used in prior academic literature. The audit opinion might be a more direct and less noisy proxy for audit quality than earnings management (discretionary accruals and the propensity to meet and beat earnings targets), because these studies face empirical problems in the measurement of discretionary accruals (Guay, Kothari, and Watts, 1996 and Dechow, Sloan, and Sweeney, 1995). DeFond et al. (2002) also argue that it could be the case that auditors are more likely to allow earnings management when they perform non-audit services, but draw the line of compromising its independence at the audit opinion.

Craswell et al. (2002) and Reynolds and Francis (2001) examine fee dependence on an individual local audit office. This is in line with the suggestions of a focus on fee dependence at the individual office level (Francis et al., 1999). To measure economic dependence, the practice office level is the most appropriate unit of analysis (Wallman, 1996) because this unit is also the decision making unit of the firm, where audit firms sign contracts with clients and issue audit reports. Craswell et al. (2002) fail to find an association between fee dependence and the likelihood that a qualified auditors' opinion is issued. Different from the study of Craswell et al. (2002), Reynolds and Francis (2001) examine auditors' incentives only within individual practice offices of big five accounting firms. The reason for this contribution is that Reynolds and Francis (2001) argue that one single client is usually not a significant source of firm-wide revenues for larger accounting firms, because they have larger portfolios. Thus, for firms with larger portfolios of clients, the problems with independent behavior are more likely to be mitigated. However, a single client can be very important for an individual office of a particular accounting firm (Francis et al., 1999). Reynolds and Francis (2001) find evidence that auditor's report more conservatively for larger clients in offices. These results are consistent with the notion that existing incentives (litigation and loss of reputation) are sufficient for auditors' independent behavior.

As additional research to the fee focus on the individual office level, Choi et al. (2010) point out that no studies paid attention to the question whether the *size* of a local practice office is associated with audit quality and fees paid to the auditor. Choi et al. (2010) measure office size in two different ways: based on the

number of clients and the other measure is based on total audit fees earned by each office. In their empirical analyses, Choi et al. (2010) use abnormal accruals as a proxy for audit quality, and their findings are reported in the previous paragraph.

Other prior literature which examines the relationship between non-audit fees and qualifications in opinions, are for example the studies of Craswell (1999), Barkess and Simmet (1994) and Wines (1994). Craswell (1999) and Barkess and Simmet (1994) examine the relation between non-audit fees and qualifications in the audit opinion, and do not find any association. Craswell (1999) and Barkess and Simmet (1994) argue that the results are in line with the view that audit firms use quality controls to protect their reputational capital. Wines (1994), however, reports evidence that non-audit fees are related to a reduced likelihood of an audit qualification. This result is consistent with the argument that client importance affects auditors' independent judgment, and as a result, auditors are less likely to issue a qualified opinion. Furthermore, DeFond, Raghunandan and Subramanyam (2002) attempt to provide additional evidence on the issue that non-audit services result in an impaired auditors' independence. They use the auditor's willingness to issue a going concern opinion, another indication of auditors' independence. DeFond et al. (2002) perform an analysis on 1,158 distressed firms with proxy statements that include audit fee disclosures, including 96 firms receiving first-time going concern audit reports. As in Reynolds and Francis (2001), financially distressed firms are defined as such when they report either negative earnings or operating cash flows during the current fiscal year. These firms are more likely to receive a going concern opinion. The insignificant results in DeFond et al. (2002) do not support the hypothesis that either non-audit- or total auditor fees are inversely related to the auditor's propensity to issue a going concern opinion. DeFond et al. (2002) argue that the results are consistent with the view that threats of litigation and loss of reputation outweigh the expected benefits of compromising auditors' independent behaviour.

2.4 Hypothesis 1: Abnormal audit fees and audit qualifications

The first hypothesis deals with the relationship between abnormal auditor fees and the likelihood of receiving an audit qualification. Knechel, Salterio and Ballou (2007) argue that a qualified auditors' opinion will be issued when the auditor believes that the financial statements are mostly, but not completely, fairly presented. The academic literature shows that the economic importance of a single client creates an incentive for the auditor to compromise independence (DeAngelo, 1981), leading to a reduced likelihood of receiving an audit qualification. On the other hand, DeAngelo (1981) and Simunic (1984) argue that the auditor faces substantial economic costs (litigation risk and loss of reputation for example) when audit failures are observed, creating a disincentive for the auditor to acquiesce to substandard reporting by the client.

Prior studies provide mixed evidence about the relation between abnormal auditor fees and audit quality. Empirical analyses from DeFond et al. (2002) and Larcker and Richardson (2004) show insignificant results. Hope et al. (2008), however, report that independence is impaired in the case of abnormal auditor fees. Literature particularly dealing with the relationship between auditor fees and the audit opinion also provide

mixed results. Reynolds and Francis (2001) find evidence that auditor's report more conservatively for larger clients in offices. Craswell et al. (2002) fail to find an association between auditor fees and the propensity that a qualified audit opinion is issued. In contrast, Wines (1994), reports evidence that non-audit fee dependence is related to a reduced likelihood of qualification. Since auditor independence is defined by DeAngelo (1981) as the likelihood that a discovered breach is reported, auditors with impaired independence are less likely to issue a qualified audit opinion. Hence, the following hypothesis is examined (in the alternative form):

Hypothesis 1: Abnormal auditor fees are inversely related to the propensity that a qualified audit opinion is issued.

2.5 Investor protection

The second hypothesis examines how the relationship between abnormal audit fees and audit quality varies with the strength of investor protection. This issue contributes to prior literature, reporting cross-country differences in the legal protection of investor rights (La Porta et al. 1997, 1998). This paragraph provides a literature review relating to investor protection and corporate governance, the importance of investor protection, the governance role of the auditor and investor protection and the role of financial accounting information.

2.5.1 Investor protection and corporate governance

The influence of investor protection on the relationship between abnormal audit fees and audit quality can be measured by focusing on corporate governance, because several studies find that corporate governance activities are positively related to investor protection (Klapper and Love, 2004). Corporate governance is defined by La Porta, Lopez-de-Silanes, Schleifer and Vishny (2000) as "*a set of mechanisms through which outside investors protect themselves against expropriation by the insiders".* These mechanisms should ensure that investors get a return on their investment (Shleifer and Vishny, 1997). La Porta et al. (1998) examine the differences between the strength of investor protection across countries, using different corporate governance characteristics. In the study of La Porta et al. (1998), a score of investor protection is linked to all countries included in their sample. The La Porta et al. (1998) index is used in this study to examine the influence of investor protection on the association between abnormal auditor fees and audit quality, and will be discussed in depth in paragraph 3.3.

2.5.2 Importance of investor protection

Since it is well-known that managers do not always act in the best interest of the stakeholders of a firm (Guay, 2008), investor protection is very important. Investors can be protected in different ways. Some of the investor rights include those to receive dividends, disclosure and accounting rules, to vote for directors, to participate in shareholders' meetings, to subscribe to new issues of securities on the same terms as insiders etc. (La Porta et

al., 1998). Without such a strong reputation of investor protection, investors are not willing to finance those firms (La Porta et al., 2000). When investor protection is very good, the incentives of insiders to expropriate from outside investors might be reduced. In these situations, insiders have to overpay themselves and have to undertake some wasteful projects to expropriate from outside investors (La Porta et al., 2000).

Doidge, Karolyi and Stulz (2007) argue that better governance, and thus stronger investor protection, results in obtaining better terms on the capital market. Hence, it is important for firms to implement higher quality governance (Doidge et al., 2007). In reality, however, different reasons exist why firms do not implement high quality governance. Empirical evidence for one of these reasons is provided by Doidge et al. (2007). Doidge et al. (2007) show that, due to a lacking institutional infrastructure, it is costly for firms in countries with weak development to improve investor protection. Firms in such countries might find that the costs of good corporate governance outweigh the expected benefits (Doidge et al. 2007). Ball (2001) goes one step further, and argues that firms in countries with poor investor protection might not be even able to commit itself credible to external verification.

2.5.3 The governance role of the auditor

Choi and Wong (2007) examine the governance role of the auditor in legal environments. The legal environment affects the governance role in different ways. First, Choi and Wong (2007) argue that there is a stronger demand for high quality auditing in countries with a weak legal environment, because the agency costs in those countries are higher. This stronger demand for high quality auditing is also supported by Copley, Gaver and Gaver (1995), who document a positive relationship external capital needs and the appointment of a big five auditor. Assuming that big five auditors deliver high quality auditing, Choi and Wong (2007) argue that high quality auditors play a stronger governance role in weak legal environments.

Second, high quality auditors can also serve as a *credible signal* to reduce information asymmetry (Datar, Feltham, and Hughes, 1991), which follows the findings of Clarkson and Simunic (1994). Clarkson and Simunic (1994) find that firms in Canada, a legal environment with lower litigation costs, are more likely to hire a high quality auditor than in the United States, a country with higher litigation costs for the auditor. Clarkson and Simunic (1994) argue that this credible signal might be necessary for the reason that the auditor may fail to serve as a governance role in weak legal environments.

In contrast, Choi, Kim, Liu and Simunic (2005) argue that when the underlying institutions, such as the legal system, are not in place to support and discipline the auditor, the auditor might have some incentives to compromise their independence. Furthermore, Choi and Wong (2007) hypothesize that, due to a lacking infrastructure, auditors are not even able to supply the demanded governance role. The results in Choi and Wong (2007), however, find evidence that auditors play a more important governance role in countries with weak legal investor protection. These results are consistent with other studies, finding that firm level substitutes are used in weak legal environments (La Porta et al. 1997 and Klapper and Love (2004). The results are inconsistent with Francis et al. (2003), who document that firms in countries with weaker legal

environments demand lower quality audits, suggesting that auditors play a smaller governance role in weaker legal environments.

Francis and Wang (2004) examine whether the governance role of the auditor varies across countries. They investigate whether big four auditors become more conservative in countries with stronger investor. Francis and Wang (2004) particularly focus on big four auditors, because they have higher reputational capital risk and are therefore less likely to acquiesce to client pressure for substandard financial reporting (DeAngelo, 1981). This research contributes to existing literature showing that big four auditors are more conservative in the United States, a country with extremely high litigation risk. Francis and Wang (2004) provide evidence that accruals of big four clients are smaller in those countries with stronger legal protection of investors. The results are consistent with their expectation that auditor conservatism is a rational response by auditors when the level of investor protection increases, including the ability to sue the auditor.

Francis and Wang (2006) examine whether earnings quality is increasing with the strength of investor protection in a specific country. Three characteristics of earnings quality are examined: the magnitude of abnormal accruals, the likelihood of reporting losses and earnings conservatism. Contrary to Francis and Wang (2004), Francis and Wang (2006) also examine earnings quality for non-big four auditors. The results in Francis and Wang (2006) show that earnings quality for firms with a big four auditor increases with the level of investor protection. In contrast, earnings quality of firms with a non-big four auditor is unaffected by different levels of investor protection.

These studies contribute to the existing literature that accounting and auditing activities are affected by a country's legal institutions and in particular the protection of investors' rights including the ability to sue auditors (Francis and Wang, 2004). In general, audit quality increases with the strength of investor protection for firms with a big four auditor. The results of these studies coincide with prior research documenting greater financial transparency in countries with stronger investor protection (Bushman and Smith, 2001). The results in Francis and Wang (2004, 2006) are also consistent with evidence showing less earnings management (Leuz et al., 2003) and more value relevant information in countries with stronger investor protection (Ball et al., 2001 and Hung, 2000).

2.5.4 Investor protection and the role of financial accounting information

Investor protection deals with the activities to ensure that investors get a return on their investments (Shleifer and Vishny, 1997). In paragraph 2.5.2 is already described that disclosure and accounting rules are one of the rights through which outside investors are protected. Bushman and Smith (2001) investigate the role of publicly reported financial accounting information, and find that the benefits of financial accounting information are affected by the legal environment of a firm. Leuz, Nanda and Wysocki (2003) confirm the argument of Bushman and Smith (2001) that the benefits of financial accounting information vary with the legal environment. Leuz et al. (2003) examine the relationship between earnings management and the strength of investor protection for firms across 31 countries around the world. This study is based on prior research that

indentifies investor protection as an important factor which affects corporate policy choices within firms (Shleifer and Vishny, 1997 and La Porta et al., 2000). Consistent with their prediction, Leuz et al. (2003) find that investor protection plays an important role to explain differences in earnings management. The findings show that earnings management is negatively associated with the level of investor protection. Hence, more earnings management is observed in countries with weak investor protection.

Ball (2001) provides additional evidence about the association between financial accounting information and investor protection, and confirms the findings in Leuz et al. (2003) and Bushman and Smith (2001). Ball (2001) documents that one of the most important characteristics of an economically financial reporting system, is the development of an independent legal system. This legal system should be effective in detecting and penalizing fraud and failure to comply with standards of financial reporting (Ball, 2001). The legal system should also include a provision for private litigation by stockholders and lenders who are negatively affected by poor financial reporting (Ball, 2001). Thus, investors are better protected in countries with a strong legal environment through higher quality accounting information. Legal environments protect investors as well by granting rights to discipline insiders, as by the enforcement of contracts (La Porta et al. 1998). These contracts are designated to limit expropriation by the firms' managers (La Porta et al. 1998).

Bushman and Smith (2001) also argue that the benefits of financial accounting information increase with the quality of the financial statement audit so that higher credibility of financial accounting information increases the reliance on the financial statements by external parties. This argument is confirmed by Ball (2001), who states that high quality auditing positively affects the quality of financial accounting information.

2.6 Hypotheses 2: Investor protection and qualified audit opinions

The second hypothesis examines how the relation between excess auditor remuneration and the likelihood of issuing a qualified auditors' opinion varies with the degree of investor protection across countries. The association between abnormal auditor fees and audit quality might be more severe for firms in countries with a weak legal environment, because auditors may fail to supply as a governance function (Choi and Wong, 2007). Furthermore, Choi, Kim, Liu and Simunic (2005) document that when the legal system is not in place to support and discipline the auditor, the auditor might have some incentives to compromise independence. This results in reduced incentives for the auditors to care about their reputational capital (Francis et al., 2003). Francis and Wang (2004, 2006) also provide empirical evidence that audit quality increases with the strength of investor protection. This result is consistent with their hypotheses that auditor conservatism is a response to an increasing level of investor protection. These results also coincide the view that higher accounting quality exists in countries with stronger investor protection (Bushman and Smith, 2001, Leuz et al., 2003 and Ball et al., 2001, and Hung, 2000). The hypothesis in this study also follows Hope et al. (2008). Hope et al. (2008) document a higher (perceived) audit quality in countries with stronger investor protection. Hence, the following hypothesis is examined (in the alternative form):

H2: The negative relation between audit quality and abnormal auditor fees is less pronounced for firms with strong investor protection.

3. Research methodology

3.1 Sample description

The empirical analysis is based on a sample of listed firms from 13 countries around the world between 2006 and 2008. With respect to the selection of the different countries, the same countries as in Hope et al. (2008) are used. Because Hope et al. (2008) findings indicate that the relationship between excess auditor remuneration and perceived audit quality varies with the strength of investor protection; the same countries are included in this study. These countries are included to determine whether the relationship between excess auditor remuneration and *actual* audit quality also varies with the strength of investor protection. The United States, however, is not included in this study. Without the inclusion of the United States in the sample, similar sample sizes for both strong- and weak investor protection countries are obtained. The necessary data is extracted from the DATASTREAM database. This process yields a total sample of 41.277 observations from 2006 until 2008. The observations with missing data are deleted from the sample. Financial institutions are also not included. The choice for audit qualifications instead of going concern opinions is motivated by the fact that going concern opinions cannot be obtained from the available databases. Since our analysis is based on a sample including qualified auditors' opinions, and since a considerable proportion of these qualified auditors' opinions contain going concern issues, the sample is limited to firms in financial distress. This approach follows prior research of Reynolds and Francis (2001), DeFond et al. (2002) and Mutchler, Hopwood and McKeown (1997) because firms in financial distress are more likely to obtain going concern audit opinions. As in Reynolds and Francis (2001) and DeFond et al. (2002), financially distressed firms are defined as such when they report either negative earnings or operating cash flows. Restricting our sample to firms in financial distress, results in a final sample of 2.767 observations, and 214 of these observations include an audit qualification. This sample comprises 1443 observations in strong investor protection countries and 1324 observations in weak investor protection countries.

3.2 Measure of abnormal auditor fees

In an attempt to examine the influence of client importance on auditors' independence, this study follows prior research (Frankel, Johnson and Nelson, 2002, DeFond, Raghunandan and Subramanyam, 2002, Larcker and Richardson, 2004, Hoitash, Markelevich and Barragato, 2005, Hope et al., 2008, Hope and Langli, 2009, Choi, Kim, Kim and Zang, 2010) and uses abnormal auditor fees as a measure for client importance. For the computation of EXCESSFEE, total auditor fees (TOTFEE) is regressed on a number of explanatory variables and the residuals of this regression model are used as a proxy for excess auditor remuneration. This means that total auditor fees comprises both audit- and non-audit fees. The explanatory variables are used to control for normal fees charged by the auditor, given a certain level of effort and risk. This approach is consistent with the suggestion that auditors' independence may be influenced by the amount of fees relative to their expected amount (DeFond et al., 2002). The explanatory variables are motivated by Simunic (1980) and those studies listed above, which predict that auditor fees are a function of (1) client characteristics such as firm size,

complexity and industry, and (2) auditor characteristics such as audit firm size.

First, a dummy variable for auditor size is included (BIGFOUR). Second, 11 firm variables are used. The natural log of total assets (LNASSETS) and (LNSALES) are included to proxy for firm size, because larger firms are more likely to be charged higher audit fees. The abnormal auditor fee model also consists of four variables relating to client complexity: indicator variables for acquisitions (ACQ) and non-zero foreign operations (FOROPS), intangible assets divided by total assets (INTANGIBLES), and inventories and receivables scaled by total assets (INVREC). The indicator variable for firms reporting losses (LOSSD), the operating cash flow divided by total assets (OPCASHFLOW), the return on equity (ROE), return on total assets (ROA), and leverage (LEV) are included as proxies for the financial condition and/or profitability. Finally, the abnormal auditor fee model controls for time period and country by the inclusion of both year- and country dummies. All variables are defined at year-end. Equation (1) is estimated and the error term is used to measure abnormal auditor fees:

$$\begin{aligned}\text{TOTFEE} = \beta_0 + \beta_1\ \text{LNASSETS} + \beta_2\,\text{LNSALES} + \beta_3\,\text{INTANGIBLES} + \beta_4\,\text{INVREC} + \beta_5\ \text{LOSSD} \\ + \beta_6\,\text{OPCASHFLOW} + \beta_7\text{FOROPS} + \beta_8\text{LEV} + \beta_9\,\text{BIGFOUR} + \beta_{10}\text{ACQ} + \beta_{11}\text{ROE} \\ + \beta_{12}\,\text{ROA} + \text{Year and country indicators} + \varepsilon\ (1)\end{aligned}$$

Where:

TOTFEE = Total fees paid to the auditor, including fees for both audit- and non-audit services

LN ASSETS = Natural logarithm of total assets measured in millions of dollars

LNSALES = Natural logarithm of sales revenue

INTANGIBLES = Total intangible assets divided by total assets

INVREC = Inventories and receivables divided by total assets

LOSSD = Indicator variable which equals 1 when a loss is reported

OPCASFLOW = Operating cash flow divided by firms' total assets

FOROPS = Indicator variable which equals 1 when foreign income tax is paid to other countries

LEV = Total liabilities divided by total assets

BIGFOUR = Indicator variable which equals 1 when the auditor is a member of a big four accounting firm (PwC, Deloitte, KPMG and Ernst & Young)

ACQ = An indicator variable equal to one when assets are acquired through pooling of interest or mergers. It does not include capital expenditures of acquired companies

ROE = Return On Equity

ROA = Return On Assets

3.3 Measure of legal environment

To investigate the influence of investor protection on the relationship between auditor fees and audit quality, it is important to recognize that differences in investor protection exist across countries. These differences in investor protection are described by La Porta et al. (1998), who discuss a set of key legal rules protecting shareholders and creditors and document the prevalence of these rules in 49 countries around the world. The La Porta index (1998) is still very popular nowadays and widely used by several studies, who examine the influence of investor protection, on for example, earnings management (Leuz et al., 2003). The starting point in the study of La Porta et al. (1998) is the recognition that laws in different countries arise from a few legal families or traditions (Watson, 1974). Legal scholars classify legal families in two general families: common law, which is English in origin, and civil law, which comes from Roman law. The civil, or Romano-Germanic legal tradition, is the most widely distributed around the world. Within the civil-law tradition, three common families can be identified: French, German and Scandinavian (La Porta et al. 1998). The common law family on the other hand, includes those laws based on English law and is formed by judges who have to solve specific disputes. Common law has spread to the British colonies and includes for example: The United States, Canada, Australia and India (La Porta et al. 1998).

La Porta et al. (1998) distinguish between shareholder rights, creditor rights and legal enforcement to draw an overall conclusion about the strength of investor protection and the differences across countries. To examine the influence of investor protection on the association between abnormal auditor fees and audit quality, the “Legal Enforcement” variable is used as a proxy for the level of investor protection in a specific country. La Porta et al. (1998) use the following five measures for the examination of the strength of the legal enforcement: efficiency of the judicial system, the rule of law, corruption, risk of expropriation and contract repudiation by the government. In this study, however, the legal enforcement variable is measured as the mean score across the following three legal variables: (1) efficiency of the judicial system, (2) assessment of the rule of law, and (3) corruption. This approach is earlier used by DeFond, Hung and Trezevant (2007), Leuz, Nanda and Wysocki (2003) and Hope et al. (2008). The calculation of the strength of investor protection is illustrated in table 1, it also shows the classification as a strong- or weak investor protection country.

In contrast, however, prior academic literature has also used alternative measures of investor protection. Francis and Wang (2004), for example, use a combination of five different measure of investor protection:(1) type of law (common law versus other), (2) antidirector rights’ index, which measures how easily minority stockholders can exercise their rights against managers and dominant insiders, (3) public enforcement index from La Porta et al. (2003), (4) the private enforcement index from La Porta et al. (2003), and (5) The auditor litigation index from Wingate (1997).

TABLE 1
Legal enforcement variables and investor protection

Country	*Efficiency of Judicial System*	*Rule of Law*	*Corruption*	*INVPRO*	*Weaker/Stronger INVPRO*
Australia	10	10	8,52	9,4	Stronger
Denmark	10	10	10	10	Stronger
Netherlands	10	10	10	10	Stronger
Norway	10	10	10	10	Stronger
Sweden	10	10	10	10	Stronger
Switzerland	10	10	10	10	Stronger
United Kingdom	10	8,57	9,1	9,2	Stronger
Hong Kong	10	8,22	8,52	8,9	Weaker
India	8	4,17	4,58	5,6	Weaker
Malaysia	9	6,78	7,38	7,7	Weaker
Singapore	10	8,57	8,22	8,9	Weaker
South Africa	6	4,42	8,92	6,4	Weaker
Spain	6,25	7,8	7,38	7,1	Weaker

INVPRO: Country-level investor protection scores from La Porta et al. (1998). INVPRO is measured as the mean score across three legal variables in La Porta et al. (1998): (1) The efficiency of the judicial system; (2) an assessment of the rule of law; and (3) the corruption index. All three variables range from zero to ten.

3.4 Research model

For the examination of the two hypotheses, the following *logistic* regression is estimated:

$$\begin{aligned}\text{OPINION} = \beta_0 &+ \beta_1 \text{LNASSETS} + \beta_2 \text{CR} + \beta_3 \text{LOSSD} + \beta_4 \text{OPCASHFLOW} + \beta_5 \text{PROBANKZ} \\ &+ \beta_6 \text{ROE} + \beta_7 \text{ROA} + \beta_8 \text{LEV} + \beta_9 \text{BIGFOUR} + \beta_{10} \text{ACQ} + \beta_{11} \text{DINVPRO} + \beta_{12} \text{EXCESSFEE} \\ &+ \beta_{13} \text{EXCESSFEE} * \text{DINVPRO} + \text{Year and country indicators} + \varepsilon \quad (2)\end{aligned}$$

Where:

OPINION = An indicator variable which equals 1 for observations with a qualified audit opinion, 0 otherwise

LNASSETS = Natural logarithm of total assets measured in millions of dollars

CR = Current ratio. Measured as current assets divided by current liabilities

LOSSD = Indicator variable which equals 1 when a loss is reported

OPCASFLOW = Operating cash flow divided by firms' total assets

PROBANKZ = Probability score of bankruptcy (Zmijewski, 1984)

ROE = Return On Equity

ROA = Return On Assets

LEV = Total liabilities divided by total assets

BIGFOUR = An indicator variable which equals 1 when the auditor is a member of a big four accounting firm (PwC, Deloitte, KPMG and Ernst & Young)

ACQ = An indicator variable equal to one when assets are acquired through pooling of interest or mergers. It does not include capital expenditures of acquired companies

DINVPRO = Dummy variable which equals 1 for observations in strong investor protection countries. 0 otherwise

EXCESSFEE = Abnormal auditor fees (paragraph 3.2)

EXCESSFEE*DINVPRO = Interaction term.

The first hypothesis would be supported if the coefficient on EXCESSFEE in equation (1) is negative and significant; suggesting that audit quality is impaired as a result of abnormal auditor fees. To examine whether the relationship between abnormal auditor fees and audit quality is more pronounced in countries with weak investor protection, an interaction variable is included. The second hypothesis would be supported if the coefficient of the interaction variable EXCESSFEE*DINVPRO is positive, indicating that the negative association between abnormal auditor fees and audit quality is more pronounced in countries with weak investor protection.

Since it is expected that a considerable proportion of the audit qualifications includes going concern opinions, the independent variables in this model are motivated by prior studies which examine both audit qualifications and going concern opinions. Dopuch, Holthausen and Leftwich (1987) and Bell and Tabor (1991) provide evidence that auditors' decisions about opinion qualifications are systematically related to financial and market variables. Dopuch et al. (1987) also show that the predictive ability of their model varies with the type of qualification. The greatest predictive accuracy, however, is achieved with going concern qualifications (Dopuch, Holthausen and Leftwitch, 1987). Dopuch et al. (1987) report that other audit qualifications are more difficult to predict. The results in Laitinen and Laitinen (1998) provide evidence that the qualification of an audit report is associated with low profitability, high indebtedness and low (negative) growth. The findings in these studies report that firms in financial distress are more likely to receive a qualified auditors' opinion. Hence, the variables in the logistic regression are closely linked to variables that explain a going concern auditors' report.

The choice for the independent variables in equation (2) is based on the contrary and mitigating factors and includes many variables in prior research (DeFond et al., 2002, Mutchler, Hopwood and McKeown, 1997). The contrary variables are predicted to result in a greater probability of an audit qualification, where the mitigating factors are those which (partially) offset contrary information (Mutchler et al., 1997). As already noticed, firms with financial difficulties are more likely to receive a qualified auditors' opinion (Dopuch et al., 1987 and Laitinen and Laitinen, 1998). For this reason, several financial and market variables are used to capture

financial distress. The first contrary factor is PROBANKZ, which is the probability score of bankruptcy from Zmijewski (1984). The variable ROE is included since Dopuch, Holthausen and Leftwitch (1987) report that the stock price return is negatively related to the likelihood of receiving an qualified auditors' opinion. The return on assets (ROA) is included because firms with a low profitability face a greater probability of receiving an audit qualification (Laitinen and Laitinen, 1998). The current ratio (CR) is included, because firms with liquidity problems are also more likely to obtain a modified auditors' opinion. LEV captures the probability of covenant violation, because firms close to covenant violation have higher leverage (Beneish and Press, 1993). As in Reynolds and Francis (2001), LOSSD is also included because firms reporting a loss are more likely to fail. OPCASHFLOW is used for the reason that poor operating cash flows are associated with a greater likelihood of bankruptcy, and the Zmijewski (1984) score does not include a cash-flow measure (DeFond et al., 2002).

In addition to the contrary factors, the regression model also includes factors that mitigate the probability of receiving a qualified auditors' opinion. Several studies show that large firms are less likely to receive a qualified auditors' opinion, because larger firms have more negotiating power in the case of financial difficulties and are thus less likely that they have to file for bankruptcy (Reynolds and Francis, 2001). Hence, LNASSETS is included as a mitigating factor. The variable ACQ (acquisition) is included as a mitigating factor, since an acquisition is expected to be negatively associated with a modified auditors' opinion. The model also includes the BIGFOUR variable to control for audit quality. Since larger audit firms have more reputational capital to protect, they have greater incentives to detect and reveal firms' opportunistic behavior (DeAngelo, 1981). DeFond and Jiambalvo (1993) also show that audit-client disagreements resulting from incentives to manipulate the financial statements are more likely to occur in firms with a larger auditor. Mutchler, Hopwood and McKeown (1997) also show that larger audit firms are also more likely to issue a going concern opinion. Based on this empirical evidence, BIGFOUR is expected to be positively related with audit quality.

Finally, the "Legal Enforcement" variable from La Porta et al. (1998) is used as a proxy for investor protection (DINVPRO). It is measured as the mean score across three legal variables: (1) the efficiency of the judicial system, (2) an assessment of the rule of law, and (3) the corruption index. This variable is also extensively discussed in paragraph 3.3. The dummy variable in EXCESS*DINVPRO equals 1 for firms with strong investor protection. The interaction term EXCESSFEE*DINVPRO measures whether the association between abnormal auditor fees and audit quality is less pronounced in countries with stronger investor protection.

4. Results

4.1 Estimation abnormal auditor fees

4.1.1 Descriptive statistics

As is common when samples are used from different countries, large differences in sample sizes exist across countries. This result is consistent with the findings in Hope et al. (2008), who also report just a few observations in The Netherlands, Spain and Switzerland. For this reason, the focus is not on country per se, but rather on stronger and weaker investor protection countries as groups. As already noticed, the total sample consists of 1443 observations in strong investor protection countries and 1324 observations in weak investor protection countries. For the examination of any differences in the association between abnormal auditor fees and the likelihood of a qualified opinion for different levels of investor protection, similar sample sizes are desirable. Hence, to obtain similar sample sizes, the United States is excluded. With respect to the 13 included countries, Australia, Denmark, The Netherlands, Norway, Sweden, Switzerland and the United Kingdom are classified as stronger investor protection countries. Hong Kong, India, Malaysia, Singapore, South Africa and Spain are classified as weak investor protection countries. From the 1443 observations in strong investor protection countries, 166 contain an audit qualifications (11,50%). In contrast, only 48 (3,63%) audit qualifications are observed in the sample with weak investor protection countries.

TABLE 2
Descriptive statistics
INVPRO, number of observations and audit qualifications

Country	*INVPRO*	*Weaker/Stronger INVPRO*	*N*	Qualifications	% Qualified
Australia	9,4	Stronger	407	95	23,10%
Denmark	10	Stronger	28	0	0,00%
Netherlands	10	Stronger	3	0	0,00%
Norway	10	Stronger	45	0	0,00%
Sweden	10	Stronger	47	0	0,00%
Switzerland	10	Stronger	15	0	0,00%
United Kingdom	9,2	Stronger	898	71	7,91%
			1443	166	11,50%
Hong Kong	8,9	Weaker	709	28	3,95%
India	5,6	Weaker	91	2	2,20%
Malaysia	7,7	Weaker	380	12	3,16%
Singapore	8,9	Weaker	83	4	4,82%
South Africa	6,4	Weaker	54	2	3,70%
Spain	7,1	Weaker	7	0	0,00%
			1324	48	3,63%
			2767	**214**	7,34%

INVPRO: Country-level investor protection scores from La Porta et al. (1998). INVPRO is measured as the mean score across three legal variables in La Porta et al. (1998): (1) The efficiency of the judicial system; (2) an assessment of the rule of law; and (3) the corruption index. All three variables range from zero to ten.

The descriptive statistics are displayed in table 3. As can be observed, the mean and median of EXCESSFEE report values of 0,000 and 0,0096400. These results are similar to the findings in prior research, investigating excess auditor remuneration (Hope et al., 2008, for example). The mean of INTANG is 0,1465, indicating that on average, 14,65% of total assets consists of intangible assets. The mean of INVREC is 0,2835, which provides evidence that 28,35% of the total assets consists of both inventories and receivables. Furthermore, a mean LOSS of 0,7253 is shown. This relatively high number of observations reporting a loss is not surprising since the total sample only contains firms in financial distress. As addressed in the description of the research methodology, firms in financial distress are defined as such when they report either a loss, or negative operating cash flow (Reynolds and Francis, 2001 and DeFond et al., 2002). Consequently, the mean and median OPCASHFLOW is -0,1517 and -0,0367, respectively. This finding indicates that firms on average report a negative operating cash flow. As evidenced by the ROA, firms in financial distress also face a negative profitability. The mean and median ROA report values of -16,14 and -4,56, respectively. This finding is not surprising since net income is the numerator in the calculation of ROA, and firms report on average a negative net income. Quite remarkable are the descriptive statistics of leverage. LEV report a mean and median of 0,2726 and 0,1680, respectively. This means that only 27,26% of the total assets are financed by short- and long term liabilities. In comparison to the study of DeFond et al. (2002), who also perform an analysis on firms in financial distress, they report a significantly higher mean leverage (48%). Also quite remarkable with respect to the descriptive statistics, is the relatively low percentage (51,46%) of observations with a big four auditor. DeFond et al. (2002), for example, document that 91% of the total observations are audited by a big four accounting firm. The differences in descriptive statistics, however, should be interpreted cautiously because prior research particularly focuses their analyses on a specific country, where this study addresses different countries around the world.

Table 3: Descriptive Statistics

	N	Minimum	Maximum	Mean	Median	Mode	Std. Deviation
LNASSETS	2767	3,14	19,21	11,7012	11,6608	7,46	2,60607
INTANG	2767	,00	,99	,1465	,0218	,00	,22514
INVREC	2767	,0000	,9717	,283591	,234600	,0000	,2298722
LOSSD	2767	,00	1,00	,7253	1,0000	1,00	,44643
OPCASHFLOW	2767	-51,43	1,77	-,1517	-,0367	-,06	1,09366
ROE	2767	-1,00	229,00	,2296	-,2017	,00	4,95582
ROA	2767	-580,48	331,00	-16,1405	-4,5600	1,84	42,94757
FOROPS	2767	,00	1,00	,3101	,0000	,00	,46261
LEV	2767	,00	48,12	,2726	,1680	,00	1,07466
BIGFOUR	2767	,00	1,00	,5146	1,0000	1,00	,49988
LNSALES	2767	,69	18,30	10,6870	10,8172	3,53	3,09492
ACQD	2767	,00	1,00	,2931	,0000	,00	,45526
EXCESSFEE	2767	-4,61348	7,79181	,0000000	,0096400	,46128	,97390052

4.1.2 Pearson correlations

The Pearson correlations for the independent variables are shown in table 4. The Pearson correlations are provided for three different significance levels ($p < 0,1$, $p < 0,05$ and $p < 0,01$). In the regression model for the estimation of abnormal auditor fees, two variables are included as proxies for firms' size. These variables are both the natural log of total assets and the natural log of sales revenue (LNASSETS and LNSALES). With the inclusion of those two variables, however, a potential problem with multicollinearity might occur. Gujarata (1988) states that correlations between independent variables should not be deemed harmful unless they exceed 0,8. As can be observed from the correlation matrix, a problem with multicollinearity does indeed exists. The variables LNASSETS and LNSALES are positively correlated (0,856), with $p < 0,01$. Hence, following Gujarata (1988), this correlation seems to be harmful. For the reason that LNASSETS yields a higher explanatory in the calculation of excess auditor remuneration, LNSALES is excluded. The correlations between the other independent variables do not exceed 0,440, so no further problems with multicollinearity are expected.

When the Pearson correlation matrix in Table 4 is observed, the highest correlations exist between LNASSETS and the other independent variables. First, the correlation between LNASSETS and BIGFOUR is 0,440 ($p < 0,01$), indicating that larger firms are more likely to hire a big four auditor. LNASSETS and FOROPS are also positively correlated (0,365 with $p < 0,01$), suggesting that larger firms operate on average more in foreign countries. Larger firms also appear to be less likely to report a loss. LOSSD is negatively correlated with LNASSETS (-0,306 with $p < 0,01$). Besides reporting a loss, the operating cash flow (0,201 with $p < 0,01$) is positively associated with firm size, and the correlation between LNASSETS and OPCASHFLOW report a positive coefficient (0,201 with $p < 0,01$).

Table 4: Pearson correlations independent variables

	LN ASSETS	INTANG	INVREC	LOSSD	OP CASHFLOW	ROE	ROA
LNASSETS	1						
INTANG	-,218***	1					
INVREC	,113***	-,258***	1				
LOSSD	-,306***	,163***	-,321***	1			
OPCASHFLOW	,201***	0,027	-,034*	-,041**	1		
ROE	0,008	-,037*	-0,015	-0,015	0,007	1	
ROA	,426***	-,064***	,162***	-,373***	,314***	0,022	1
FOROPS	,365***	-,050***	,122***	-,162***	,069***	-0,024	,154***
LEV	-0,027	-,048**	,056***	0,008	-,252***	-0,009	-,100***
BIGFOUR	,440***	-,143***	,058***	-,102***	,077***	-0,009	,152***
LNSALES	,856***	-,218***	,389***	-,321***	,175***	-0,027	,405***
ACQD	,208***	,237***	-,045**	-,070***	,048**	-0,021	,075***
EXCESSFEE	0	0	0	0	0	0	0

Table 4: Pearson correlations independent variables (continued)

	FOR OPS	LEV	BIG FOUR	LN SALES	ACQD	EXCESS FEE
LNASSETS						
INTANG						
INVREC						
LOSSD						
OPCASHFLOW						
ROE						
ROA						
FOROPS	1					
LEV	-0,028	1				
BIGFOUR	,195***	-,029***	1			
LNSALES	,369***	0,013	,392***	1		
ACQD	,174***	-0,023	,084***	,187***	1	
EXCESSFEE	0	0	0	,098***	0	1

4.1.3 Multivariate regression

In estimating excess or abnormal auditor fees, it is important that the regression model contains a considerable proportion of variables relating to normal auditor fees charged by the auditor (Hope et al., 2008). To determine abnormal auditor fees, the variable of interest is auditor fees which cannot be explained by the regression analysis, where the model controls for normal auditor fees. Table 5 shows the results of the linear regression model, in which the natural log of the total auditor fee is regressed on a large number of independent variables. As addressed in the description of the research methodology, the natural log of total auditor fees contain fees for both audit- and non-audit services.

Since the coefficient of the correlation between LNASSETS and LNSALES is 0,856 (with $p < 0,01$), problems with multicollinearity might occur (Gujarata, 1988). Therefore, one of those variables has to be excluded. When LNSALES instead of LNASSETS is included in the regression model, the results show an explanatory power of 78,7%. If the natural log of total assets (LNASSETS) is included, the regression analysis report an adjusted R^2 of 81,3%. Hence, LNASSETS appears to be a better proxy for firm size and is therefore included in the regression model.

Similar to prior academic literature, the results of the first regression model provide high explanatory power. The results in table 5 show that 81,3% of the variation in the natural log of total auditor fees is explained by the inclusion of the independent variables, and provides evidence that the explanatory power is even higher in comparison to prior academic research. Hope et al. (2008) also estimate excess auditor remuneration across different countries around the world. The results in Hope et al. (2008) show an adjusted R^2 of 0,72 for the sample including both strong- and weak investor protection countries. When the linear regression in Hope et al. (2008) is performed separately for both strong- and weak investor protection countries, the adjusted R^2's

report values of 0,74 and 0,75, respectively. DeFond, Raghunandan and Subramanyam (2002), Larcker and Richardson (2004) and Choi, Kim and Zang (2006) also report similar levels of explanatory power, with adjusted R^2's of 72%, 74,9% and 79,8%, respectively.

TABLE 5
Estimation of excess auditor remuneration
Controlling for both year- and country-level factors

Variables	Predicted sign	Value of coefficients	P-value	
(CONSTANT)	?	-,548	,000	***
LNASSETS	+	,464	,000	***
INTANG	+	,236	,002	***
INVREC	+	,480	,000	***
LOSSD	+	,088	,023	**
OPCASHFLOW	-	-,063	,000	***
ROE	-	-,004	,141	
ROA	-	-,002	,000	***
FOROPS	+	,271	,000	***
LEV	+	,022	,121	
BIGFOUR	+	,315	,000	***
ACQD	+	,208	,000	***

Dependent variable: LNFEE

N	2767	F-statistic	480,775
Adjusted R^2	**0,813**	Significance level	0,000

,* < 0,05 and < 0,01 (2-tailed), respectively

This model is comforted by the fact that the significant (with $p < 0,05$) variables in the regression model are significant in the predicted direction. The results from the regression analysis are consistent with the argument that firm size (LNASSETS) and complexity (INTANG, INVREC, FOROPS and ACQ) are positively associated with total auditor fees. The results in table 5 also provide evidence that poor performing firms (LOSS and OPCASHFLOW) are likely to be charged a higher total auditor fee. The BIGFOUR variable indicates that larger audit firms are likely to charge higher auditor fees. The value of the coefficient is 0,253 with $p < 0,01$. The stock price return (ROE) and leverage (LEV) appear to be insignificantly associated with total auditor fees.

4.2 hypotheses tests

4.2.1 Descriptive statistics

Table 6 presents the descriptive statistics on the full sample for the independent variables used in equation (2). Since a considerable proportion of the variables are also included in equation (1) for the estimation of excess auditor remuneration, they are not discussed in this section. The variable of interest for the first hypothesis test is EXCESSFEE. As already described in (sub) paragraph 4.1.0, the mean and median of EXCESS report values of 0,000 and 0,0096400, respectively. CR is a liquidity variable and is defined as the ratio between current

assets and current liabilities. Thus, a larger CR indicates a better liquidity. CR shows a mean value of 3,63 and a median of 1,58. The PROBANKZ variable is the probability score of bankruptcy by Zmijewski (1984). The mean and median PROBANKZ for the full sample show values of 1,50 and -2,6731, respectively. The mean of DINVPRO is 0,522, indicating that 52,2% of the total observations can be classified as strong investor protection.

Table 6: Descriptive Statistics Audit Qualification Model

	N	Minimum	Maximum	Mean	Median	Mode	Std. Deviation
LNASSETS	2767	3,140	19,210	11,701	11,661	7,460	2,606
CR	2767	0,020	146,330	3,633	1,586	0,500	8,023
PROBANKZ	2767	-24,800	547,440	-1,496	-2,673	-5,260	14,068
LOSSD	2767	0,000	1,000	0,725	1,000	1,000	0,446
OPCASHFLOW	2767	-51,430	1,770	-0,152	-0,037	-0,060	1,094
ROE	2767	-1,000	229,000	0,230	-0,202	0,000	4,956
ROA	2767	-580,480	331,000	-16,141	-4,560	1,840	42,948
LEV	2767	0,000	48,120	0,273	0,168	0,000	1,075
BIGFOUR	2767	0,000	1,000	0,515	1,000	1,000	0,500
ACQD	2767	0,000	1,000	0,293	0,000	0,000	0,455
DINVPRO	2767	0,000	1,000	0,522	1,000	1,000	0,500
EXCESSFEE	2767	-4,613	7,792	0,000	0,010	0,461	0,974

Table 7 and 8 classify the descriptive statistics from table 6 by type of opinion. The variable EXCESSFEE report a mean value of 0,000 and 0,079 for observations with an unqualified and qualified auditors´ opinion, respectively. This descriptive statistic means that the difference between *actual* auditor fees and *expected* auditor fees is slightly larger for observations receiving a modified opinion. However, when abnormal auditor fees result in impaired auditors' independence, a higher (positive) value is expected for observations with an unqualified auditors' opinion. In such situations, the auditor is less likely to qualify the accounts.

The tables also show that firms in the sample receiving a qualified auditors' opinion are slightly smaller than the observations receiving an unqualified auditors' opinion. Observations with a unqualified auditors' opinion report a mean value of 11,89, where the mean for observations with a qualified auditors' opinion is 9,48. Since the observations in the sample with a qualified opinion are expected to have a higher probability of bankruptcy, a higher score of bankruptcy (Zmijewski, 1984) is also expected for the sample with a modified auditors' opinion. And indeed, observations with an unqualified opinions present a mean and median PROBANKZ of -2,15 and -2,73, respectively. In contrast, the mean PROBANKZ score is 6,26 for observations with a qualified opinion. The median, however, shows a value -1,31. This finding indicates that the relatively high mean value is a result of some major outliers in the sample with a qualified auditors' opinion. Furthermore, the mean value of LOSSD is larger form observations with a qualified auditors' opinion. The mean value of LOSSD is 0,71 for observations with an unqualified auditors' opinion, and 0,90 for observations with a qualified auditors' opinion. The descriptive statistics on OPCASHFLOW, ROE and ROA also report a lower operating cashflow, lower stock price return and a more negative profitability for observations with a qualified opinion. Quite remarkable is the difference in leverage between observations with an unqualified and a qualified auditors' opinion. On average, observations with a clean auditors' opinion report a leverage (LEV) of only 0,2318. In

comparison, LEV (leverage) report a mean value of 0,76 for observations with a modified auditors' opinion, indicating that 76% of total assets is financed by short- and long term liabilities. Moreover, observations with a qualified auditors' are in 31,78% of the total observations audited by a big four auditor. The mean value of BIGFOUR is 0,5311 for the observations with an unqualified opinion. The dummy variable for investor protection (DINVPRO) shows that firms in strong investor protection countries are more likely to receive a qualified auditors' opinion. The mean value is 0,500 and 0,776 for observations with an unqualified and qualified opinion, respectively. This finding is not surprising since the descriptive statistics in paragraph already show that relatively more observations in strong investor protection countries receive a modified opinion (11,50%, and only 3,63% in weak investor protection countries).

Overall, the descriptive statistics seem support the suggestion that firms with a qualified auditors' opinion are associated with low profitability, high indebtedness and negative growth (Laitinen and Laitinen, 1998).

Table 7: Descriptive Statistics With Unqualified Opinions Only

	N	Minimum	Maximum	Mean	Median	Mode	Std. Deviation
LNASSETS	2553	4,490	19,210	11,887	11,901	8,610	2,548
CR	2553	0,020	146,330	3,723	1,616	0,500	8,150
PROBANKZ	2553	-24,800	50,040	-2,146	-2,733	-5,260	3,357
LOSSD	2553	0,000	1,000	0,711	1,000	1,000	0,453
OPCASHFLOW	2553	-8,830	0,950	-0,106	-0,032	-0,060	0,375
ROE	2553	-1,000	229,000	0,249	-0,185	0,000	5,128
ROA	2553	-580,480	132,830	-13,701	-3,850	1,840	39,239
LEV	2553	0,000	4,670	0,232	0,168	0,000	0,304
BIGFOUR	2553	0,000	1,000	0,531	1,000	1,000	0,499
ACQD	2553	0,000	1,000	0,302	0,000	0,000	0,459
DINVPRO	2553	0,000	1,000	0,500	1,000	1,000	0,500
EXCESSFEE	2553	-4,532	7,782	0,000	0,004	0,453	0,973

Table 8: Descriptive Statistics With Qualified Opinions Only

	N	Minimum	Maximum	Mean	Median	Mode	Std. Deviation
LNASSETS	214	3,140	15,230	9,481	9,270	7,210	2,242
CR	214	0,020	61,000	2,551	1,052	0,020	6,229
PROBANKZ	214	-7,100	547,440	6,265	-1,308	-7,100	48,676
LOSSD	214	0,000	1,000	0,897	1,000	1,000	0,304
OPCASHFLOW	214	-51,430	1,770	-0,700	-0,186	-51,430	3,677
ROE	214	-1,000	23,670	0,004	-0,411	-0,250	1,967
ROA	214	-462,400	331,000	-45,239	-26,470	-462,400	67,700
LEV	214	0,000	48,120	0,759	0,158	0,000	3,692
BIGFOUR	214	0,000	1,000	0,318	0,000	0,000	0,467
ACQD	214	0,000	1,000	0,187	0,000	0,000	0,391
DINVPRO	214	0,000	1,000	0,776	1,000	1,000	0,418
EXCESSFEE	214	-3,351	3,086	0,079	0,103	-3,351	0,735

4.2.2 Pearson correlations

The Pearson correlations for the independent variables are shown in table 9. The Pearson correlations are provided for three different significance levels (p < 0,1, p < 0,05 and p < 0,01). As already noticed, the independent variables are similar to the variables in the regression model for the estimation of excess auditor remuneration. Hence, most of those independent variables are already addressed in the discussion of the first regression analysis. As illustrated in the correlation matrix, a negative correlation of -0,882 (with p < 0,01) between PROBANKZ and OPCASHFLOW can be observed. This correlation suggests that when the operating cash flow decreases, a higher probability of bankruptcy exists. Since the correlation between those variables exceeds the threshold of Gujarata (1988), a potential problem with multicollinearity arises. Because the inclusion of OPCASHFLOW yields a higher explanatory power, the score of bankruptcy (Zmijewski, 1984) is excluded. Furthermore, a high and positive (0,629 with p < 0,01) association between PROBANKZ and LEV can be observed, indicating that firms with higher leverage, also have a higher score of bankruptcy (Zmijewski, 1984). The association, however, does not exceeds 0,8 and is therefore not deemed to be harmful. The other Pearson Correlations between the independent variables do not exceed the correlation between LNASSETS and DINVPRO (-0,583 with p < 0,01).

Table 9: Pearson Correlations

	LN ASSETS	CR	PRO BANKZ	LOSSD	OPCASH FLOW	ROE	ROA
LNASSETS	1						
CR	-,055***	1					
PROBANKZ	-,146***	-0,046	1				
LOSSD	-,306***	0,02	,075***	1			
OPCASHFLOW	,201***	0,014	-,882***	-,041**	1		
ROE	0,008	,153***	-0,014	-0,015	0,007	1	
ROA	,426***	0,028	-,288***	-,373***	,314***	0,022	1
LEV	-0,027	-,064***	,629***	0,008	-,252***	-0,009	-,100***
BIGFOUR	,440***	-0,019	-,060***	-,102***	,077***	-0,009	,152***
ACQD	,208***	-,060***	-,040**	-,070***	,048**	-0,021	,075***
DINVPRO	-,583***	-0,001	,036*	,250***	-,081***	-,067***	-,253***
EXCESSFEE	0	-,102***	-0,007	0	0	0	0

Table 9: Pearson Correlations (Continued)

	LEV	BIG FOUR	ACQD	DINVPRO	EXCESS FEE
LNASSETS					
CR					
PROBANKZ					
LOSSD					
OPCASHFLOW					
ROE					
ROA					
LEV	1				
BIGFOUR	-0,029	1			
ACQD	-0,023	,084***	1		
DINVPRO	-,046**	-,144***	-0,014	1	
EXCESSFEE	0	0	0	0,002	1

4.2.3 Logistic regression and tests of hypotheses

The first hypothesis examines whether abnormal auditor fees result in a lower propensity that a qualified auditors' opinion is issued. As discussed, the question is whether abnormal auditor fees reduce independent behavior, leading to a lower likelihood of a qualified auditors' opinion. Where the model for the estimation of excess auditor remuneration is performed for a continuous, quantitative dependent variable, the dependent variable for the examination of the hypotheses is characterized as a dummy variable. For this reason, a *logistic* regression is performed. The dummy variable equals 0 when an unqualified opinion is issued, and the dummy variable equals 1 in cases of a qualified auditors' opinion. The first hypothesis would be supported if the coefficient on EXCESSFEE is negative and significant (with $p < 0,10$). The second hypothesis examines whether the association between excess auditor remuneration and the propensity of a qualified opinion varies with the strength of investor protection. The dummy variable DINVPRO equals 1 for observations in strong investor protection countries, and 0 for observations in weak investor protection countries. Therefore, the second hypothesis would be supported if the coefficient on DINVPRO*EXCESSFEE is positive and significant (with $p < 0,1$). The results from the logistic regression are shown in table 10.

Initially, both independent variables PROBANKZ and OPCASHFLOW are included in the logistic regression model. However, since the correlation between these variables report a value of -0,882 (with $p < 0,01$), and this value exceeds the threshold of Gujarata (1988), one of these two variables has to be excluded. For the explanatory power of the logistic regression, it does not matter which one of these two variables is included. The final model includes OPCASHFLOW, PROBANKZ is excluded.

To determine whether independence is impaired in the case of excess auditor remuneration, the coefficient of EXCESSFEE should be observed. The insignificant coefficient (with $p > 0,1$) on EXCESSFEE implies that hypothesis 1 is rejected. Hence, auditors' independence is not impaired in the case of excess auditor remuneration. The interaction term variable EXCESSFEE*DINVPRO also appears to be insignificantly related to the propensity of a qualified auditors' opinion. Therefore, the results do not support the second hypothesis that the association

between abnormal auditor fees and the likelihood of a qualified opinion is less pronounced in countries with stronger investor protection.

TABLE 10
Estimation of the likelihood of an Audit Qualification
Controlling for both year- and country-level factors

Variables	Predicted sign	Value of coefficients	P-value	
(CONSTANT)	?	2,387	1,000	
LNASSETS	-	-0,357	0,000	***
CR	-	-0,051	0,012	**
LOSSD	+	0,645	0,013	**
OPCASHFLOW	-	-0,157	0,341	
ROE	-	-0,035	0,513	
ROA	-	0,001	0,425	
LEV	+	0,385	0,004	***
BIGFOUR	+	-0,033	0,853	
ACQD	-	-0,137	0,485	
DINVPRO	+	-0,769	1,000	
EXCESSFEE	-	0,328	0,144	
EXCESS*DINVPRO	+	-0,387	0,131	

Dependent variable: OPINION

N	2767
Nagelkerke R^2	**0,245**

,* is p < 0,05 and < 0,01 (2-tailed), respectively

As predicted, LNASSETS is negative and significant (with $p < 0,01$). This finding is consistent with prior research, documenting that larger firms have more negotiating power in the case of financial difficulties and are thus less likely that they have to file for bankruptcy (Reynolds and Francis, 2001). The current ratio (CR) is measured as the ratio between current assets and liabilities, and the coefficient appears to be significant (with $p < 0,05$), suggesting that firms with a higher current ratio are less likely to receive a qualified auditors' opinion. The independent LOSSD variable is significant, with $p < 0,05$. This finding indicates that firms reporting a loss are more likely to obtain a qualified opinion. LEV is included in the regression model, because high leverage is usually associated with covenant violation (Beneish and Press, 1993). These observations are thus more likely to obtain a qualified auditors' opinion. The results from the logistic regression do indeed support this prediction. LEV is statistically significant, with $p < 0,01$, and implies that firms with higher leverage also have a higher propensity to obtain a modified opinion. The results from these significant variables, are comforted by the fact that these independent variables are statistically significant (with $p < 0,05$) in the predicted direction.

The results from the regression analysis show that BIGFOUR is insignificantly (with p > 0,1) associated with the audit opinion, which is inconsistent with Mutcher, Hopwood and McKeown (1997), who find evidence that big four accounting firms provide higher quality audits. The other independent variables are also insignificant and provide no additional explanatory power.

4.3 Robustness check

4.3.1 Separate estimation with positive values of EXCESSFEE

If abnormal auditor remuneration creates an incentive for auditor's to compromise its independence, this negative relation is most likely to exist between *positive* EXCESSFEE and the propensity of a modified opinion. Therefore, the logistic regression in equation (2) is re-estimated for all observations with a *positive* EXCESSFEE. 1310 of the 2767 observations remain in the subsample with a *positive* value of EXCESSFEE.

TABLE 11
Estimation of the likelihood of an Audit Qualification
Only for positive EXCESSFEE
Controlling for both year- and country-level factors

Variables	Predicted sign	Value of coefficients	P-value	
(CONSTANT)	?	3,933	1,000	
LNASSETS	-	-,429	,000	***
CR	-	-,138	,005	***
LOSSD	+	,453	,203	
OPCASHFLOW	-	-,020	,920	
ROE	-	-,115	,239	
ROA	-	,001	,738	
LEV	+	,130	,459	
BIGFOUR	+	,063	,809	
ACQD	-	-,133	,652	
DINVPRO	+	-,809	1,000	
EXCESSFEE	-	,843	,060	*
EXCESS*DINVPRO	+	-,946	,055	*

Dependent variable: OPINION

N	1310
Nagelkerke R^2	**0,293**

*,*** is p < 0,1 and < 0,01 (2-tailed), respectively

For the subsample with *positive* EXCESSFEE, the coefficient EXCESSFEE becomes significant (with $p < 0,1$) and report a positive value of 0,843. This positive value indicates that excess auditor remuneration results in a higher propensity that a qualified auditors' opinion is issued. Thus, client importance appears to be positively associated with audit quality, where a *negative* association is expected. This finding does also support the results in prior research (DeFond et al., 2002, Craswell et al., 2002 and Barkess and Simmet, 1994, for example) that current incentives with respect to reputation protection are sufficient to over-ride the possible impairment of independent behavior. Moreover, this *positive* coefficient on EXCESSFEE is consistent with the findings in Reynolds and Francis (2001), who report that auditor's report more conservatively for larger clients. Hence, the robustness check does not support the first hypothesis that independence is impaired in the case of excess auditor remuneration.

The interaction term EXCESSFEE*DINVPRO also becomes significant (with a coefficient of -0,946 and $p < 0,1$), suggesting that observations in weaker investor protection countries are more likely to obtain a modified opinion, than in countries with stronger investor protection countries. These findings are inconsistent with the second hypothesis that the association between abnormal auditor remuneration and audit quality is more pronounced in countries with weaker investor protection. The results from the logistic regression, however, are consistent with Choi and Wong (2007), who find evidence that auditors play a more important governance role in countries with weak investor protection. The findings are also consistent with other prior studies, providing evidence that firm level substitutes are used in weak legal environments (La Porta et al. 1997 and Klapper and Love (2004).

5. Summary, limitations and future research

5.1 Summary

Previous auditing research has already examined whether audit quality is impaired in the case of excess auditor remuneration. Since prior literature reports cross-country differences in the legal protection of investor rights (La Porta et al. 1997, 1998), empirical analyses also investigated whether the association between abnormal auditor fees and *perceived* audit quality varies with the strength of investor protection. This line of research, however, has paid no attention to the influence of investor protection on *actual* audit quality. Therefore, this study investigates whether auditors' independence is impaired in the case of excess auditor remuneration, and whether this association varies with the strength of investor protection.

The academic theory (Watts and Zimmerman, 1981 and DeAngelo, 1981) argues that auditors' incentives to compromise their independence are related to the importance of the client to the auditor. Client importance in turn, is measured by different proxies. Frankel et al. (2002), for example, use client total, audit and non-audit fee ranks as a proxy for client importance. In comparison, Reynolds and Francis (2001) and Ashbaugh et al. (2003) use total auditor fees (both audit and non-audit) as a proxy for client importance. This study, however, follows prior research (Frankel et al., 2002, DeFond et al., 2002 and Larcker and Richardson, 2004, for example) and uses abnormal auditor fees as a proxy for auditors' incentive to compromise their independence. Abnormal auditor fees are defined as the difference between *actual* auditor fees and the *expected* level of auditor fees (Choi, Kim, Zang, 2006). This approach is consistent with the suggestion that auditors' independence may be influenced by the amount of fees relative to their expected amount (DeFond et al., 2002). The conclusion in this study is drawn from a research design that uses the auditors' propensity to issue a qualified auditors' opinion to proxy for independence. The "Legal Enforcement" variable from La Porta et al. (1998) is used to proxy for the level of investor protection.

Inconsistent with the expectation of the first hypothesis, the insignificant (with $p > 0,1$) results from the logistic regression provide no evidence that auditors' independence is impaired in the case of excess auditor remuneration. These insignificant results are consistent with DeFond et al. (2002), Reynolds and Francis (2001) and show that current incentives with respect to reputation protection and litigation avoidance are sufficient to over-ride a possible impairment of independent behavior. Hypothesis 2 is also not supported since the interaction variable provides insignificant results (with $p > 0,1$). Hence, the findings from the logistic regression do not support the prediction that the association between excess auditor remuneration is less pronounced in countries with stronger investor protection.

Since auditors' incentive to compromise their independence is most likely to occur in cases of *positive* values of excess auditor remuneration, a sensitivity check is performed. These results, however, show that excess auditor remuneration is positively associated with audit quality. These findings indicate that the potential costs of litigation and loss of reputation outweigh the expected benefits of compromising auditors' independence. The results of the robustness check for observations with positive excess auditor remuneration

show that auditors are more likely to issue a qualified opinion in countries with weaker legal investor protection, which is inconsistent with the second hypothesis. This finding, however, supports the results in Choi and Wong (2007), who find evidence that auditors play a more important governance role in countries with weak investor protection.

5.2 Limitations

This study is subject to a number of limitations. The first limitation deals with the inclusion of observations in financial distress, reporting either a loss or a negative operating cash flow (Reynolds and Francis, 2001 and DeFond et al., 2002). These firms require usually more audit work and are also more likely to be charged with an audit risk premium, resulting in higher audit fees. The second limitation deals with the type of qualification. Since Dopuch et al. (1987) argue that going concern opinions are easier to predict than other type of audit qualifications, a going concern opinion might be a better proxy to capture audit quality. This study is also subject to different sample sizes across countries. These different sample sizes are a result of the inclusion of both large and small countries. Moreover, the sample sizes are constrained by the availability of auditor remuneration data and the availability of other data for the independent variables. Finally, the results in this study might be driven by the likelihood of an audit qualification. Since prior research documents better financial accounting information in countries with strong investor protection, it seems reasonable to assume that the auditor does not even have to issue a qualified opinion in those countries. In comparison, the auditor might serve more as a governance role in countries with weak investor protection, leading to a greater likelihood of an audit qualification.

5.3 Further research

Because this study only examines the association between excess auditor remuneration and audit quality for firms in financial distress, future research could focus on the influence of investor protection on the association between abnormal auditor fees and audit quality for firms which are not in financial distress. This part of future research might use abnormal accruals to measure audit quality. In comparison to the audit opinion, abnormal accruals capture the quality of financial accounting information in a more general sense, where audit qualifications are related to only a few extreme situations (Myers et al., 2003). Where this study uses the “Legal Enforcement” as a proxy for the level of investor protection, future research could also focuses on different measures of investor protection. Finally, future research might use alternative measures of client importance. Where this study only uses abnormal auditor fees as a proxy for auditors’ incentive to compromise their independence, future research could use alternative measures for auditors’. These alternative measures are for example: the ratio of non-audit fees to total fees paid to the auditor, total auditor fees, total audit fees, and total non-audit fees (DeFond et al., 2002, Chung and Kallapur, 2003, Larcker and Richardson, 2004, and Frankel et al., 2002).

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