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**Master Thesis**

The influence of the audit committee’s composition and expertise on earnings quality in the European Union

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# Abstract

My master’s thesis focuses on the transformation of the audit committee structure regarding the audit committee directors’ composition and expertise requirements that is being proposed in the audit reform by the European Commission (2011). I use data on 205 European public interest entities spread across 17 European Union member states to study the relationship among audit committee characteristics with earnings quality, proxied by benchmarking approaches. I find that certain audit committee characteristics changed considerably between 2008 and 2011. EU public interest entities’ audit committees became larger in size, more active and employed more financial experts. The results from logistics regressions suggests that audit committees who are currently meeting the European Commission’s (2011) proposed audit reform requirements, the frequency in which the audit committee meets, and larger audit committees increases the likelihood of higher earnings quality. The evidence provided by my master’s thesis supports the European Commission’s actions of reforming the audit committee to improve financial reporting quality. The results could be of further use to policy makers, regulators, management and stakeholders who are concerned whether the transformation of the audit committee structure, in the form of a fully (100%) independent audit committee consisting out of at least two directors with experience and knowledge in auditing or one director with experience and knowledge in auditing and another one in accounting, improves the supervision capability of the audit committee.

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# I Introduction

The financial crisis in the years 2007-2009 that affected the global markets led the European Commission to urgently stabilize the financial system in the European Union member states. The European Commission believes that more attention needs to be given to the role that auditors have or should have played before and during the financial crisis, seeing as unqualified opinions were given to public-interest entities[[1]](#footnote-1) (such as banks) that went into financial distress during or after the crisis period.

The European Commission believes that in order for trust and market confidence to be re-established in the European Union, the audit profession has to be reformed, given that auditors are entrusted by law to give an opinion on the fairness of the financial statements. Similar to the Sarbanes-Oxley act introduced a decade ago in the United States, the proposed audit reform of the European Commission (2011) will bring a new chapter to the audit profession in the European Union. A lot of controversy and lobbying has taken place in Brussels due to the changes that the proposed audit reform will bring onto the European audit market. Although the proposed audit reform will bring heaps of changes onto the audit market, the following are the most discussed topics in the audit community:

* The cooling off period for employing former statutory auditors or key audit partners by the public-interest entity that has been audited.
* The prohibition of non-audit services to clients if the statutory auditor or audit firm has carried out a statutory audit.
* The transformation of the duties, structure and responsibilities of the audit committee.
* Mandatory rotation of the statutory auditor.

The above mentioned topics are all interesting and might have a major effect on how the audit market operates, but for my master’s thesis I will be focusing on the transformation of the audit committee structure regarding the composition and expertise requirements of the audit committee directors. I will investigate whether the audit committee structure requirements of the proposed audit reform improves financial reporting quality.

In short the audit committee can be defined as the independent governance body in charge with the oversight of the financial reporting – and internal control process. The proposed audit reform of the European Commission (2011) will transform the audit committees from having one independent / outside director with financial expertise to two independent / outside directors with financial expertise. However the European Commission goes even further in requiring that all directors serving on the audit committee to be independent and defines the expertise requirements for the “EU financial expert” as an independent / outside director with experience and knowledge in either accounting or auditing.

Prior empirical studies examine audit committee structures and its effectiveness on financial reporting. The evidence suggests that certain audit committee characteristics, such as director’s expertise, meeting frequency or independence, have an impact on the quality of financial reporting. My master’s thesis will contribute in extending the audit committee literature by evaluating how the audit committee structure transformation proposed by the European Commission will impact the quality of financial reporting of the European Union member states’ public interest entities. Policy makers, regulators (such as the European Commission), management (both executives and non-executives) and stakeholders will gain important insights whether the transformation of the audit committee structure improves the supervision capability of the audit committee in order to attain better financial reporting quality for EU public-interest entities.

Abbott, Parker & Peters (2004) investigate whether audit committee director’s financial expertise and several other audit committee characteristics, such as independence and meeting frequency, impacts the likelihood of financial restatements. They provide empirical evidence that a significant negative association exists between an audit committee that includes at least one financial expert with the likelihood of financial restatement. Furthermore, other audit committees’ characteristics such as the director’s independence and meeting frequency exhibit a highly significant negative association with the likelihood of financial restatements. Public-interest entities with financial restatements are considered to have a lower quality of financial reporting due to the presence of material omissions or misstatements in their former financial statements. Results of Abbott et al. (2004) suggest that by including at least one independent director with financial expertise on the audit committee improves the audit committee’s effectiveness in limiting the occurrence of financial restatements, therefore these public-interest entities are providing their stakeholders with a higher quality of financial statements. Another interesting empirical study on audit committee’s effectiveness is a paper by Carcello & Neal (2000) who investigate whether the composition of financially distressed entity’s audit committees are related to the likelihood of receiving going-concern reports from their statutory auditor. The evidence provided by Carcello & Neal (2000) suggests that the probability that the statutory auditors will issue a going-concern report is lower for public-interest entities with a high percentage of outside / independent directors serving on the audit committee.

Empirical evidence (Carcello & Neal 2000; Klein 2002; McDaniel, Martin & Maines 2002; Xie, Davidson & Dadalt 2003; Abbott et al. 2004) on the composition of the audit committee structure reveals consistent results, suggesting that the audit committee should consist exclusively out of independent / outside directors with at least one independent / outside director with financial expertise in order to increase its effectiveness in monitoring the public-interest entity’s financial reporting – and internal control process. This evidence supports regulators’ concern, such as the European Commission, that the audit committee will perform better when they consist out of at least one independent/outside directors with financial expertise and be fully independent.

I expect that the audit committee structure transformation of the European Commission’s proposed audit reform (2011) will increase the audit committee’s ability to be more effective in their oversight duties and responsibilities, therefore providing their stakeholders with higher quality of financial reporting.

In order to examine how the audit committee transformation will impact the quality of financial reporting my master’s thesis will focus on the earnings quality of public-interest entities. According to Dechow, Ge & Schrand (2010) earnings quality proxies can be organized into three broad proxy categories[[2]](#footnote-2): (1) properties of earnings, (2) investor responsiveness to earnings and (3) external indicators of earnings misstatements. Prior empirical studies (Carcello & Neal 2000; Klein 2002; Xie, et al. 2003; Abbott et al. 2004; Vafeas 2005; Carcello, Klein & Neal 2006) investigating audit committee performance vary between the earnings quality proxy categories. Whereas Carcello & Neal (2000) and Abbot et al. (2004) focused on external indicators of earnings misstatements, Klein (2002), Xie et al. (2003), Vafeas (2005) and Carcello, Klein & Neal (2006) focus on properties of earnings in order to identify a link to audit committee structures. Abnormal accruals-based measurements are commonly used by empirical researchers to measure earnings quality and the evidence from the studies consistently suggests a positive association between audit committee monitoring performance and earnings quality (Dechow et al. 2010).

For my master’s thesis I will use benchmarking approaches to measure earnings quality. The earnings quality proxies used in my models capture the likelihood of avoiding negative earnings surprises and the likelihood of small earnings increases. By utilizing these uncommonly used approaches my master’s thesis will contribute in extending the literature studying audit committee characteristics and earnings quality. I expect to find consistent evidence as prior literature that the audit committee characteristics that are increasing the audit committee’s monitoring performance are related with higher earnings quality. Therefore, I expect that the current EU public-interest entities, that are already meeting the new audit committee structure requirements of the European Commission’s proposed audit reform, are providing financial statements of higher quality to their stakeholders.

Finally, my master’s thesis covers a time span of four years from 2008 till 2011 and will be examining 205 EU public interest entities spread across 17 European Union member states. My sample suggests that EU audit committees’ composition, meeting frequency and expertise changed noticeably between 2008 and 2011. Audit committees became larger in size, more active and employed more financial experts. The increase in financial experts serving on the audit committee is due to the significant increase in employment of more directors with knowledge and experience in auditing. Furthermore, my sample contains 154 public interest entities in 2008 and 145 public interest entities in 2011 with 100% independent audit committee. However, 67 public interest entities in 2008 and 69 public interest entities in 2011 are meeting the European Commission’s proposed audit committee composition and expertise requirements. While the 2008 sample included more fully independent audit committees than 2011, more public interest entities met the European Commission’s audit committee composition and expertise requirements in 2011 due to the increase of independent directors with knowledge and experience in auditing serving on the audit committee.

My results suggests that EU public interest entities with audit committees who are currently meeting the proposed European Commission’s audit committee composition and expertise requirements significantly increases the likelihood of higher earnings quality. Furthermore, the evidence suggests that also the frequency in which the audit committee meets and larger audit committees significantly increase the likelihood of higher earnings quality. The evidence provided by my Master’s thesis supports the European Commission’s actions of reforming the audit committee to improve financial reporting quality.

My master’s thesis is divided into several sections, with this introduction being the first. The second section will provide the theoretical background on the audit committee and earnings quality. In section III I will discuss the empirical literature review. Section IV contains the hypotheses that will be tested in my master’s thesis. The fifth section provides the research methodology. In section VI I will discuss the main results of my hypotheses and additional tests are also presented and examined. Finally, the conclusion is presented in section VII.

# II Theoretical background

In this section I will discuss the relevant background surrounding audit committee and earnings quality.

## Audit committees

A public-interest entity’s audit committee is the independent governance body in charge with the oversight of the entity’s financial reporting – and internal control process. The primary duties and responsibilities of the audit committee include the following: (EC 2006)

* Monitoring of the financial reporting process;
* Monitoring of the effectiveness of the company's internal control, internal audit where applicable, and risk management systems;
* Monitoring of the statutory audit of the annual and consolidated accounts;
* Reviewing and monitoring of the independence of the statutory auditor or audit firm, and in particular the provision of additional services to the audited entity;
* Proposing and recommending the statutory auditor to the board of directors.

The proposed audit reform of the European Commission (2011) will provide new guidance on how public interest entities should structure their audit committee’s composition and responsibilities of the audit committee. The proposed composition and expertise requirements of the audit committee are defined as follows in the European Commission’s proposed audit reform (2011):

(EC 2011): “In order to reinforce the independence and capacity of the audit committee, it should be composed of non-executive members; at least one member should have experience and knowledge in auditing and another one in accounting and/or auditing.”

The proposed changes for the European Union’s audit committee composition and expertise requirements differ from the existing audit committee composition and expertise requirements for EU public interest entities. The current audit committee’s duties, responsibilities and structure requirements are Directives (Directive 2006/43/EC) from the European Commission. Directives establish a common goal for all European Union member states; however every European Union member state is responsible for achieving the goals of the Directive in their own way. This implies that the European Union member states can choose to go further in adding more duties, responsibilities and / or structure requirements than those mentioned in the directives in order for audit committees to be more effective in monitoring the entity’s financial reporting and internal control processes. The audit committee composition and expertise requirements for public interest entities in the United States and European Union are as follows:

United States: The Sarbanes-Oxley Act of 2002 requires the members of the audit committee to be independent and at least one director of the audit committee to be a “financial expert”.

European Union: (EC 2006) “At least one member of the audit committee shall be independent and shall have competence in accounting and / or auditing.”

Noticeably the European Commission requires that at least two “professional experts” serve on the audit committee and defines the expertise needed for the audit committee directors as having experience and knowledge in auditing and / or accounting (here after: EUFE). Therefore it is not possible for the audit committees in the European Union member states to consist out of a mixture of professionals with experience and knowledge in only block holding, law, finance, banking and investment banking. The audit reform will mandate that the audit committees consist of at least two independent directors that have experience and knowledge in auditing (hereafter: EUFE-Auditing) or at least one director should have experience and knowledge in auditing and another director should have experience and knowledge in accounting (hereafter: EUFE-Accounting). Furthermore, the audit reform also mandates that the entire audit committee should be independent. An audit committee is independent when all the directors serving on the audit committee are “non-executive members” which can be classified as directors with no financial or family ties to the executive directors or public-interest entity.

In short the European Commission is introducing with the EC 2011 more regulations on the expertise and independence requirements for the audit committee directors in order to improve audit committee performance. In the past the Blue Ribbon Committee (BRC 1999) has investigated desirable audit committee structures in order for the public-interest entities in the United States of America to improve their financial reporting quality. While the European Commission only focuses on improving expertise and independence, the Blue Ribbon Committee highlights more audit committee characteristics that are important for improving audit committee monitoring performance.

The Blue Ribbon Committee recommends that the audit committee must have a minimum of three independent / outside directors, who must be financial literate[[3]](#footnote-3) and that at least one of the directors must be an expert in accounting or related financial expertise. The Blue Ribbon Committee also recommends at least four audit committee meetings annually because an audit committee that meets frequently devotes more time monitoring the financial reporting – and internal control processes. Empirical evidence (Klein 2002; Xie et al. 2003; Hooghiemstra et al. 2008) suggests that the presence of independent / outside directors serving on the audit committee is related to higher audit committee performance in monitoring the financial reporting – and internal control processes. Additionally, empirical evidence (McDaniel et al. 2002; Xie et al. 2003; Carcello, Hollingsworth & Neal 2006) on the expertise of the audit committee directors suggests that the presence of financial literate (both accounting and non-accounting types) directors is related to higher audit committee monitoring performance; however the typical audit committee director lacks experience in accounting and finance. Furthermore, Carcello, Klein & Neal (2006) support regulators concern by providing empirical evidence that financial literate[[4]](#footnote-4) directors are more effective in monitoring the public interest entity’s financial reporting – and internal control processes when they are independent.

Audit committee size might have non-linear effects on the committee’s performance due to the trade-off between having more or less directors. A larger audit committee can monitor better due to its ability to distribute tasks and / or responsibilities to more directors, but with an increases in size the audit committee may lose performance due to higher decision makings – and coordination costs (Yermack 1996).

The literature on audit committee performance has identified that the focus on improving the director’s characteristics (independence and expertise) by the European Commission are linked to audit committee structures with better monitoring capabilities and are good proxies in determining audit committee monitoring performance. However the literature on director’s performance (Ferris, Jagannathan & Pritchard 2003; Yermack 2004; Fich & Shivdasani 2006; Hwang & Kim 2009) also highlights other director characteristics that can measure director’s performance, which in turn can determine audit committee performance. The evidence suggests that director performance can be measured by several other characteristics[[5]](#footnote-5) such as: equity incentives / ownership, total executive / supervisory board seats, other committee service seats and social ties.

Equity is regularly granted by public-interest entities to their executive and non-executive directors in order to generate incentive for better performance and to align their interest with that of the entity’s stakeholders. Audit committee directors with equity ownership should decrease the likelihood of collusion with management in order to commit actions that would eventually harm shareholders’ interest because audit committee directors with equity ownership share common interests with the shareholders. However, the literature does not provide any significant evidence if audit committee directors with equity ownership are more effective in protecting the shareholders’ interests by being more motivated in monitoring the effectiveness of the public-interest entities financial reporting – and internal control processes.

Ferris et al. (2003), Yermack (2004) and Fich & Shivdasani (2006) investigate the relationship between directors holding multiple committee seats and the oversight quality of financial reporting – and internal control processes. Ferris et al. (2003) and Yermack (2004) suggest that directors holding multiple committee seats are very sensitive to reputation effect for the reason that being employed as a director on a public-interest entity’s supervisory board depends to a great extent on your reputation. Therefore, audit committee directors who have been involved in frauds and scandals are less likely to be employed on another supervisory or executive board due to the damage done to the director’s reputation. This reputation effect increases the audit committee director’s performance to be more effective in monitoring the public-interest entity’s financial reporting and internal control processes. Furthermore, directors holding multiple committee seats on multiple supervisory boards should improve the monitoring effectiveness of the audit committee due to its director(s) having more experience and / or having greater knowledge of the public interest entity’s associations. However Fich & Shivdasani (2006) provide contradicting evidence that public-interest entities with “busy boards”[[6]](#footnote-6) are associated with weaker performance, while Ferris et al. (2003) do not find evidence that director’s holding multiple seats on audit and/or other committees compromises the directors’ performance in monitoring the public-interest entity’s financial reporting – and internal control processes in any way. Hwang & Kim (2009) adds another dimension to the independence of directors with the introduction of “social ties”[[7]](#footnote-7). The evidence provided by Hwang & Kim (2009) suggests that these “social ties” matter since they negatively affect the way that directors monitors and discipline the CEO causing agency problems that will lead to weaker performance.

The focus of my master’s thesis is on the European Commission’s proposed audit reform of the audit committee structure. This transformation of the audit committee focuses on the improvement of two director’s characteristics: independence and expertise. The literature surrounding audit committees suggests that besides the independence and expertise of the audit committee director there are several characteristics available that can determine audit committee performance such as independence, director’s characteristics (Independence, expertise, equity ownership, total board seats, other committee seats and social ties), size and meeting frequency.

However for my master’s thesis I will focus on the following characteristics to measure audit committee quality:

* Audit committee’s / director’s independence;
* Director’s expertise;
* Audit committee size;
* Audit committee meetings frequency.

The main motive why characteristics such as equity ownership, total board seats, other committee seats and social ties will not be examined is due to the significant amount of effort it takes to collect the data for the different public-interest entities across European Union member states since the data is unavailable on databases.

## Earnings quality

In order to explain the relevant background information on earnings quality I will refer to a paper by Dechow, Ge & Schrand (2010), who reviewed over 300 published empirical studies of characteristics or attributes of earnings in order to understand the proxies, determinants and consequences that are related to earnings quality. Dechow et al. (2010) uses Statement of Financial Accounting Concepts No. 1 to define earnings quality as follows:

SFAS No. 1: “Higher quality earnings provide more information about the features of a firm’s financial performance that are relevant to a specific decision made by a specific decision-maker.”

The earnings quality proxies can be organized into three broad proxy categories: (1) properties of earnings, (2) investor responsiveness to earnings and (3) external indicators of earnings misstatements. Exhibit 1, which can be found in the appendix, presents the earnings quality proxies summarized by Dechow et al. (2010) in a table organized according to the category that the proxy falls in.

According to Dechow et al. (2010) there is no single measurement of earnings quality that is superior to others due to the fact that all the earnings quality proxies have the reported accrual-based earnings number at their core. Furthermore, earnings quality is affected by the entity’s fundamental performance and by the measurement (entity’s accounting system) of this performance. Managements’ reputation, compensation and ownership are positively affected by the entity’s performance, for that reason management has strong incentives to influence / manipulate the entity’s accounting system (managing earnings). The supervision performance of the audit committee should limit management’s opportunity or ability to influence the entity’s accounting system in order to manage earnings[[8]](#footnote-8). Hence the focus of empirical studies on audit committee structures as determinant of earnings quality has been on properties of earnings and external indicators of earnings misstatements. While accrual based measurements[[9]](#footnote-9) are the typical approach used by prior empirical researchers (Klein 2002; Xie et al. 2003; Carcello et al. 2006; Hooghiemstra 2008), the focus has also been on benchmarking approaches (Vafeas 2005) and external indicators of earnings misstatements (Carcello & Neal 2000; Abbot et al. 2004; Karamanou & Vafeas 2005) to determine the relation among audit committee characteristics and earnings quality. The evidence from empirical literature consistently suggests that audit committee performance is positively associated with earnings quality.

The focus of my master’s thesis will be on public interest entities in different European Union member states, therefore it will be very difficult to measure earnings quality using external indicators of earnings misstatements approaches due to the fact that the gathering of data may take a significant amount of effort to collect because essential data for these approaches may be unavailable on databases data for certain European Union member states. To measure earnings quality I will be utilizing benchmarking approaches instead of the most commonly used accrual based measurements approach. Because there is no earnings quality measurement that is definitively superior to others (Dechow et al. 2010), using an uncommonly used approach to measure earnings quality will provide evidence that will extend the current empirical literature examining audit committee characteristics and earnings quality for European public interest entities. Furthermore, benchmarking approaches take both mechanisms into account that management exploit to decrease earnings quality: manipulating earnings upwards and guiding analysts’ forecasts downwards.

Empirical literature (Burgstahler & Dichev 1997; Kinney, Burgstahler & Martin 2002; Matsumoto 2002; Skinner & Sloan 2002; Burgstahler & Eames 2003; Burgstahler & Eames 2006) identifies three benchmarking approaches to measure earnings quality: (i) The likelihood of public interest entities reporting small profits and avoiding small losses, (ii) the likelihood of public interest entities reporting small earnings increases and avoiding small earnings decreases, and (iii) the likelihood of public interest entities meeting or barely beating analysts’ earnings forecasts. The three approaches analyze different benchmarking aspects: earning level, small earnings change and analysts’ forecasts. The earnings level benchmark focuses on public interest entities that are avoiding losses in order to report positive income (profit) and analyzes entities around the zero income level. The small earnings change benchmark focuses on public interest entities that are avoiding negative earnings change in order to report a marginal earnings growth for all reporting periods and analyzes entities around the zero earnings change level. The analysts’ forecasts benchmark analyzes public interest entities that just meet or beat the forecast by a few cents and analyzes entities around the zero earnings surprise level. The avoidance of bad news in the form of small losses, small earnings decline or negative earnings surprises causes an irregularity in the earnings distribution around zero. This irregularity in the earnings distribution can be identified as having (i) an unusually high frequency of zero income, zero earnings change, or negative earnings surprises; (ii) an unusually low frequency of small negative income (losses), small earnings decline or small negative earnings surprises; and (iii) an unusually high frequency of small positive income (profit), small earnings growth or small positive earnings surprises.

Empirical literature provides consistent evidence that the public-interest entities’ share price is affected when the entity reports losses, earnings declines or negative earnings surprises. DeAngelo, DeAngelo & Skinner (1996) present evidence that a public-interest entity’s share price will suffer a decline when they report a break in their pattern of *persistent* earnings growth. Skinner & Sloan (2002) and Kinney, Burgstahler & Martin (2002) present evidence that public-interest entities suffer significant share price decline when negative earnings surprises, even if they are small, are reported. Furthermore, Kasznik & McNichols (2002) present evidence that *persistently* meeting or beating analysts’ forecasts leads to higher share price valuations, while meeting or beating analysts’ forecast on an *ad hoc* basis does not. With prior empirical literature suggesting that the public interest entity’s share price is negatively affected when bad news is reported. Management has strong incentives to influence the entity’s fundamental performance and the entity’s accounting system to avoid reporting bad news to their stakeholders seeing as the consequences of bad news (lower share prices) will have negative effects on their reputation and compensation.

As I have already mentioned in the prior paragraphs, the theory behind the approaches suggests that the management of public-interest entities who are avoiding bad news can use two mechanisms that decrease earnings quality: manipulating earnings upwards or guiding analysts’ forecasts downwards. Manipulating earnings upwards is done in the form of ‘real’ operating actions[[10]](#footnote-10) and / or ‘bookkeeping’ actions[[11]](#footnote-11). The upwards manipulation of earnings is difficult for management due to the constant supervision of auditors, board of directors and / or audit committee that will question their actions if doubtful accounting practices are discovered. Furthermore, it is unlikely that management is able to use earnings manipulation, in the form of abnormal accruals, to increase earnings upwards in order to avoid reporting bad news in every reporting period because accruals must reverse in the following periods. Guiding analysts’ forecasts downwards requires management to adjust the public interest entity’s initial performance expectation downwards to a more ‘beatable’ level. However setting an initial lower performance expectation is also costly for the public interest entity given that this will be reflected as lower share price for a long time span. For either of the above mentioned mechanisms to be beneficial, the cost of manipulation (e.g. management’s reputation) or the cost of an initially lower performance expectation (e.g. lower share prices) must not surpass the cost of the bad news (e.g. small loss, small earnings increase, negative earnings surprise).

Several empirical studies (Durtschi & Easton 2004, 2005, 2009; Beaver, McNichols & Nelson 2007) identified that the irregularity present in the earnings distribution around zero may be caused by several other alternative explanations than earnings manipulation. Beaver et al.’s (2007) findings suggest that the asymmetric effect[[12]](#footnote-12) of income taxes and special items contributes to the irregularity present in the earnings distribution around zero for the earnings level of public interest entities. However their findings suggest that income taxes and special items do not cause public interest entities to move from small loss position to small profit positions. Durtschi & Easton’s (2004, 2005, 2009) findings suggest that the irregularities present around zero are caused by other plausible explanations such as scaling, sample selection, statistical bias issues, or a combination of these effects. The results from Durtschi & Easton (2004, 2005, 2009) and Beaver et al. (2007) suggests that when using benchmarking approaches it is difficult to distinguish the public interest entities that are present into the irregularity area by chance versus those that used earnings manipulation or forecast guidance. However, Dechow et al. (2010) suggest that the avoidance of earnings surprises is more “persuasive” than the other benchmarking approaches due to the stronger evidence that analysts’ forecasts targets can be influenced. Furthermore, the empirical literature reviewed by Dechow et al. (2010) suggests that public interest entities that meet or barely beat analysts’ forecast targets are likely doing so by manipulating[[13]](#footnote-13) the public interest entity’s fundamental performance or accounting system. Matsumoto (2002) finds a relation between meeting and beating analysts’ forecasts and the public interest entity’s equity market incentives. Furthermore, the results of Matsumoto’s (2002) study suggests that both mechanisms (earnings manipulation and forecast guidance) are associated with avoiding negative earnings surprises, but only forecast guidance is associated with avoiding negative earnings surprises after controlling for other variables[[14]](#footnote-14) that are likely associated with the probability of meeting or just beating analysts’ forecasts. Donelson, McInnis & Mergenthaler (2012) study a sample of public interest entity containing the original reported financial statement (with manipulated earnings) and the restated prior financial statements (without manipulated earnings) as a result of securities litigation, therefore the amount of earnings management is measurable. Donelson et al.’s (2012) result[[15]](#footnote-15) suggest that earnings management and / or forecast guidance seems to be the driver behind the irregularity present around zero and that the irregularity present for public interest entities is more visible when analyzing analysts’ forecasts.

My master’s thesis will therefore focus on the analysts’ forecasts benchmarking approach. To test if EU public interest entities are manipulating their earnings upwards to avoid reporting bad news to their stakeholders I will also test the sample using the small earnings change benchmarking approach to determine if the results are consistent with the analysts’ forecasts benchmarking results.

# III Relevant literature

In this Section I will discuss the prior empirical literature related to audit committee performance and earnings quality. After reviewing several empirical studies investigating the effect of directors’ and audit committees’ characteristics as determinants of earnings quality, I can conclude that the prior empirical literature’s focus has been more on audit committee characteristics such as independence, meeting frequency and ownership as determinants of earnings quality. While the literature does focus to some extent on director’s expertise as determinants, to my knowledge there is no empirical study investigating the effects of the audit committee composition and expertise requirements transformation that is being proposed by the European Commission in the proposed audit reform (EC 2011).

What separates my master’s thesis from other empirical studies is that audit committee director qualifying as financial experts will be documented as directors with knowledge and experience in accounting or auditing instead of directors that are experts in accounting, auditing or non-accounting (such as: block holding, finance, banking and investment banking) topics. Furthermore, most empirical studies examined public-interest entities in the United States that are currently using different institutional settings than those in the European Union member states. While US public-interest entities are following the Sarbanes-Oxley act for audit committee structure requirements, the EU public-interest entities are following the rules and regulations that are applicable in the EU member states. Therefore my master’s thesis will contribute in extending the audit committee literature by providing evidence on EU public-interest entities in different EU member states and identifying the effect that the EUFE will have on the audit committee performance. Policy makers, regulators (such as the European Commission), management (both executives and non-executives) and stakeholders will gain important insights whether the transformation of the audit committee structure improves the supervision capability of the audit committee in order to attain better financial reporting quality for EU public-interest entities.

Using the earnings quality proxies identified by Dechow et al. (2010), exhibit 2 summarizes the objective, sample, and proxy of the relevant empirical studies on audit committee and director’s characteristics. The results from the empirical studies provide consistent evidence suggesting that independence, financial literate directors[[16]](#footnote-16) and meeting frequency have a positive relationship with earnings quality. Prior empirical literature studying the relationship among audit committee structures and earnings quality can be divided into two broad proxy categories of earnings quality: (1) external indicators of earnings misstatements and (2) properties of earnings.

## Empirical literature using External indicators of earnings misstatements

I have reviewed empirical studies from Carcello & Neal (2000), Abbot, Parker & Peters (2004) and Karamanou & Vafeas (2005) who focused on external indicators of earnings misstatements to measure earnings quality. Carcello & Neal (2000) investigate whether the composition of financially distressed entity’s audit committees are related to the likelihood of receiving going-concern reports from their statutory auditor. The evidence provided by Carcello & Neal (2000) suggests that the probability that the statutory auditors will issue a going-concern report is lower for public-interest entities with a high percentage of outside / independent directors serving on the audit committee. Abbott, Parker & Peters (2004) investigate whether audit committee characteristics impacts the likelihood of financial restatements; they provide empirical evidence that audit committees that are more independent, meet more frequently and include at least one financial literate director exhibit significant negative association with the likelihood of financial restatements. Karamanou & Vafeas (2005) investigate the impact of corporate board and audit committees on voluntary financial disclosure practices, proxied by the likelihood of management making or updating earnings forecasts. The result of Karamanou & Vafeas (2005) suggest that public interest entities employing have “more effective corporate boards and audit committees, managers are more likely to make or update earnings forecast, and their forecast is less likely to be precise, it is more accurate, and it elicits a more favorable market response”. Karamanou & Vafeas (2005) define the audit committee as being more effective when it’s more independent, employs at least one financial expert and meets more frequently.

## empirical literature using Properties of earnings

I have also reviewed several empirical studies (Klein 2002; Xie et al. 2003; Vafeas 2005; Carcello et al. 2006; Hooghiemstra 2008) that focused on properties of earnings as their earnings quality proxy. The properties of earnings literature can be split into studies that used (a) accrual based measurements and (b) benchmarking approaches.

Accrual based measurement approaches

First I will discuss the empirical studies (Klein 2002; Xie et al. 2003; Carcello et al. 2006; Hooghiemstra 2008) using accrual based measurements to proxy for earnings quality. The objectives from prior empirical studies investigate the impact of different audit committee characteristics’ combinations[[17]](#footnote-17) on earnings manipulation (Klein 2002; Xie et al. 2003; Hooghiemstra et al. 2008). Furthermore, the earnings quality measurements for the above mentioned empirical studies vary from Jones (1991) model, modified Jones model (Dechow et al. 1995) and performance matched (Kothari et al. 2005). The results suggest that earnings quality is higher when the audit committee is more independent, employs more financial literate directors and meets more frequently.

Benchmarking approaches

For my master’s thesis I will be using benchmarking approaches to measure earnings quality, therefore my methodology will be very similar to the study of Vafeas (2005). Vafeas (2005) studies the relationship between corporate board – and audit committee characteristics with earnings quality and uses two benchmarking approaches, (1) the likelihood of meeting or barely beating analysts’ forecasts and (2) the likelihood of small earnings increases, to proxy for earnings quality. The audit committee characteristics employed as explanatory variable in Vafeas’ (2005) model include: “percentage of committee insiders, percentage of active business executives, percentage of members with other audit committee experience, audit committee size, audit committee meetings, stock ownership of committee members, mean tenure per committee member, mean directorships per committee member, mean committee memberships per committee member, inside ownership, percentage of board outsiders, and board size”. Furthermore, Vafeas’ (2005) model includes fixed effects for time and includes five control variables: loss dummy, a litigation risk dummy, entity size (proxied by Ln equity capitalization), institutional holdings, and entity growth (proxied by the market-to-book ratio). Vafeas (2005) examines a time-span of seven years from 1994 to 2000 and the sample consists out of public interest entities that are listed on the 1995 fortune 500 survey. The evidence from Vafeas (2005) suggests that audit committees employ more independent directors and meets frequently are associated with higher earnings quality. Vafeas (2005) used benchmarking approaches to measure earnings quality and his results are consistent with the reviewed empirical literature using accrual based measurements and external indicators of earnings misstatements as earnings quality measurements.

What separates my master’s thesis from Vafeas’ (2005) study is the different classification of director’s expertise, model, time-span and sample. For my master’s thesis I am classifying the financial expert of the audit committee as a director with knowledge and experience in either accounting or auditing as recommended by the European Commission in the proposed audit reform (EC 2011), while Vafeas (2005) classifies the financial expert in his study as business executives and directors who serve on the audit committee of another public interest entity. Furthermore, I will be examining public interest entities from different European Union member states during 2008-2011, while Vafeas (2005) studied US public interest entities during 1994-2000. My model is somewhat different with that of Vafeas (2005) because I am only focusing on the effects of the audit committee characteristics instead of corporate board – and audit committee characteristics. The data on certain audit committee characteristics (such as tenure, ownership, total audit committee seats and other committee seats) are difficult to obtain for EU public interest entities due to data unavailability on databases, therefore my model will not employ corporate board – and certain audit committee characteristics used by Vafeas (2005).

In sum the reviewed empirical literature provides the following relationships among audit committee characteristics and earnings quality: Earnings quality is higher when the audit committee consists out of more directors who are independent or financial literate (Klein 2002; Xie et al 2003; Vafeas 2005). Furthermore, Carcello, Klein & Neil (2006) suggest that audit committees are more effective in limiting earnings manipulation when the financial literate directors (either in accounting or non-accounting) are independent. In addition Hooghiemstra et al.’s (2008) study suggest that audit committee’s independence limits the occurrence of earnings manipulation. The frequency in which the audit committee meets is associated with higher earnings quality: empirical evidence (Xie et al. 2003; Vafeas 2005; Hooghiemstra et al. 2008) suggests that meeting frequency is associated with lower levels of earnings manipulation. Xie et al.’s 2003 study provides evidence suggesting that the size of the audit committee is not a reasonable proxy to determine audit committee performance due to the trade-offs (non-linear effect) that large audit committee size has on the audit committee’s performance, which is consistent with the findings from Yermack (1996) that large committees lose performance due to higher decision makings – and coordination costs. The frequency in which the audit committee meets is associated with higher earnings quality, empirical evidence (Xie et al. 2003; Hooghiemstra et al. 2008) suggests that meeting frequency is associated with lower levels of earnings manipulation.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Exhibit 2.**  |   |   |   |   |   |   |   |   |   |   |
| Panel A. Empirical Studies focusing on audit committee / director characteristics as determinants of earnings quality  |   |   |   |   |   |
| Authors | Objective of study | Sample | Proxy | Characteristics |
| Independence | Meeting Frequency | Size | Expertise | Ownership | Total / Other Seats |
| Properties of earnings |
|  |  |  |  |  |
| Accrual based measurements: |  |  |  |
| Klein (2002) | Impact of audit committee's effects on EM | S&P500 entities listed in 1992–1993 |  Jones (1991) Model |
| X |   |   |   | X |   |
| Xie, Davidson & DaDalt (2003) | Impact of audit committee's effects on EM | 110 S&P 500 listed entities in 1996 |  Jones (1991) Model | X | X | X | X |   |   |
| Carcello, Klein & Neil (2006)  | Impact of audit committee financial expertise on EM | 350 US non financial entities in 2003 | Performance matched (Kothari et al. 2005)  | X |   | X | X | X |   |
| Hooghiemstra, Lammerink & Marra (2008) | Impact of audit committee's effects on EM | 108 Dutch listed entities in 2004 |  Jones (1991) Model | X | X | X |   |   |   |
| Target beating or benchmarking: |  |  |  |  |  |  |  |  |  |
| Vafeas (2005) | Examining the relationship between audit committee and EQ | Entities on the 1995 fortune 500 survey | Likelihood of a small earnings increase and the likelihood of meeting or just beating analyst's expectation. | X | X | X | X | X | X |
| External indicators of earnings misstatements |  |  |  |  |  |  |
| Carcello & Neal (2000) | Impact of audit committees on going-concern reports. | Entities experiencing financial distress during 1994 | AAERs identified by SEC: Likelihood of receiving going-concern reports from the auditor | X |  |   |   |   |   |
| Abbot, Parker & Peters (2004) | Impact of audit committee on financial restatements | 88 US listed firms with restatements between 1991-1999 | Likelihood of financial Restatements | X | X | X | X | X |   |
| Karamanou & Vafeas (2005) | Impact of audit committees on voluntary financial disclosure practices | Entities on the 1995 fortune 500 survey | Likelihood of management to make or update an earnings forecast. | X | X | X | X |   |   |
| Panel B. Studies focusing on audit committee characteristics, director's expertise and earnings quality |
| Authors | Objective of study | Sample | Results | Characteristics |
| Blue Ribbon Committee (BRC) (1999) | Examination of audit committee structures to improve financial reporting quality |  | The BRC highlights that following characteristics strengthens audit committee performance: Independence, meeting frequency, size and expertise | Independence | Meeting Frequency | Size | Expertise |
|   | X | X | X | X |
| McDaniel, Martin & Maines (2002) | Impact of financial experts' judgment on financial reporting quality | Survey of 20 financial experts and 18 financial literates | ACFE is likely to change the structure and focus of audit committee discussions about financial reporting quality and may affect the committee’s overall assessment of the quality of a company’s financial report |  | X |
| Carcello Hollingsworth & Neal (2006) | Closer examination of the audit committee financial experts |  100 entities in 2003 | Transparency of the disclosure regarding the ACFE background is limited. Most ACFEs do not have a background in accounting or finance |  | X |
| Dechow, Ge & Schrand (2010) | Review of EQ proxies, determinants and consequences. | 300+ published empirical studies  | There is no single measurement of EQ that is superior to others. EQ proxies are affected by both the firm’s fundamental earnings process and by the measurement of that process.  |

# V Hypothesis development

The European Commission has proposed in 2011 to reform the audit profession in order to re-establish trust and market confidence in the European Union. Not only will the audit reform introduce a new chapter in how auditors will perform their tasks in the European Union member states, but the audit reform will also bring changes to the audit committee structure. The goal of my master’s thesis is to provide evidence whether the new requirements proposed by the European Commission will improve the audit committee’s monitoring capabilities. The new structure will require that audit committees consist fully out of independent directors of which at least one director has to have knowledge and experience in auditing and another director that has to have knowledge and experience in either accounting or auditing. I expect that the proposed changes to the composition and expertise requirements will improve the audit committee’s monitoring capabilities because evidence from empirical literature (Xie et al. 2003; Vafeas 2005; Carcello et al. 2006) suggests that audit committee structures with directors who are independent and have accounting / auditing expertise are associated with higher earnings quality.

The relation between the audit committee characteristics and earnings quality will be examined using two benchmarking approaches: the likelihood of public-interest entities meeting or barely beating analysts’ earnings forecasts (negative earnings surprise avoidance) and the likelihood of a public-interest entity reporting small earnings increases. The literature suggests that public-interest entities that are meeting or barely beating analysts’ earnings forecast or reporting small earnings increases are likely able to do so by manipulating their earnings upwards and / or guiding analysts’ forecasts downwards, thus providing their stakeholders with a financial statement with low earnings quality. Donelson et al.’s 2012 results suggest that the irregularity present around zero is observable when analyzing the sample using the small earnings change benchmarking approach, but is more visible when analyzing analysts’ earnings forecasts. The audit committee is responsible in monitoring the financial reporting – and internal control processes, therefore the prevention of earnings surprises and small earnings increases will be higher for the audit committee structures that are the most effective in limiting the occurrence of earnings manipulation or forecast guidance. For that reason I expect that the audit committee performance is inversely related to the likelihood that a public-interest entity will report earnings surprises or small earnings increases.

Main Hypothesis (H1): The likelihood of EU public-interest entities meeting or barely beating analysts’ earnings forecasts or reporting small earnings increases will be negatively associated with audit committees that are currently meeting the proposed European Commission’s audit committee composition and expertise requirements.

Besides the audit committee composition and expertise requirements that have been the focus of the proposed audit reform (EC 2011), there are other audit committee characteristics that can influence the monitoring capabilities of the audit committee. Prior empirical literature on audit committee performance (Klein 2002; Xie et al. 2003; Vafeas 2005; Hooghiemstra et al. 2008) has identified links between earnings quality and certain audit committee characteristics, such as meeting frequency and independency. The independency – and the meeting frequency of the audit committee are positively associated with earnings quality. Additionally, the focus of prior empirical literature has been on public interest entities from one country, whereas my master’s thesis studies public interest entities from different European Union member states. Therefore I will also test if the links between independency and meeting frequency with earnings quality hold in a European setting for the following hypotheses:

Hypothesis 2 (H2): The likelihood of EU public-interest entities meeting or barely beating analysts’ earnings forecasts or reporting small earnings increases will be negatively associated with the audit committee’s meeting frequency.

Hypothesis 3 (H3): The likelihood of EU public-interest entities meeting or barely beating analysts’ earnings forecasts or reporting small earnings increases will be negatively associated with the independence of the audit committee.

# V Research methodology

This section contains the approach used to test the hypotheses. First, I will describe the sample & data and thereafter the methodology applied to obtain the main results of the master’s thesis.

## Sample & Data

My initial sample consist out of EU public interest entities that are listed on the Thompson One[[18]](#footnote-18) (T1) database with a turn over greater than 5 billion US dollars in year-end 2011. Financial institutions (GIC codes 4000) and utility companies (GIC code 5510) are excluded from the initial sample because the special regulatory environment present in these industries influences the public-interest entity’s corporate governance and as a result the role of the audit committee.

From Thompson One (T1) I was able to collect an initial sample of 230 public-interest entities spread across 19 European Union member states. I obtained financial data for the years 2008-2011 from DATASTREAM using the public-interest entity’s SEDOL obtained from the initial sample in Thompson One (T1). From the initial sample 8 public-interest entities are eliminated due to data unavailability in DATASTREAM. Data on analysts’ forecasts and the corresponding actual earnings per share (EPS) data was collected using Institutional Brokers Estimate System (I/B/E/S). The information on the audit committee characteristics, such as independency, composition and meeting frequency, was obtained manually from the public-interest entity’s 2008 and 2011 annual report. I gathered the public interest entity’s annual reports for 2008 and 2011 from company.info or from the public interest entity’s web site. Because the audit committee data has to be hand collected, I collected audit committee data for the years 2008 and 2011. After collecting the audit committee data another 17 public interest entities were eliminated from the sample due to data unavailability[[19]](#footnote-19), leaving my master’s thesis with a final sample consisting out of 205 public-interest entities spread across 17 European Union member states. Public interest entities are allowed to exit the sample creating an unbalanced sample of data ranging from 194 public interest entities in 2008 and 193 public interest entities in 2011 with audit committee characteristics data. A table of the sample construction is presented in exhibit 3, while a list of the public interest entities that represent the 2008 and 2011 sample can be found in the appendix.

|  |
| --- |
| Exhibit 3. Sample |
| Criteria | Eliminated | Sample |
| **1** | All Entities |   |   |   |   | 1,219,523 |
| **2** | Country: AUT, BGR, BEL, CHE, CYP, CZE, DEU, DNK, ESP, EST, FIN, FRA, GRC, HUN, IRL, ITA, LVA, LTU, LUX, MLT, NLD, NOR, POL, PRT, ROU, SVN, SVK & SWE | (985,324) | 234,199 |
|  |
| **3** | Sales USD >= 5000 | (233,209) | 990 |
| **4** | GICS = 10, 15, 20, 25, 30, 35, 45 & 50 | (760) | 230 |
| **5** | Financial data available on DATASTREAM | (8) | 222 |
| **6** | Audit Committee data available on public interest entity's annual report or website | (17) | 205 |
|  |

Due to the changes in audit committee composition (e.g. new directors) a short time-span is chosen to investigate whether the composition and expertise of the audit committee in the year 2008 and 2011 will affect earnings quality. Thus, I extend the sample period one annual reporting period forward of 2008 and one annual reporting period prior of 2011, creating a four year sample period from 2008 to 2011. I have not collected audit committee characteristics data for the extended period, but employed the same audit committee characteristics for the year 2009 as the year 2008, and likewise for the year 2010 and 2011.

The data for the audit committee characteristics, such as independency and expertise, was obtained by searching for the director’s credentials on the public interest entity’s annual report / website or on Bloomberg’s Business Week website [investing.businessweek.com](http://www.business-week.com). As suggested by the proposed European Commission’s audit reform (EC2011), audit committee directors classify for EUFE when they are independent and either have experience and knowledge in auditing (EUFE-Auditing) or accounting (EUFE-Accounting). Directors classifying for the EUFE-Auditing must have held a position as senior staff, manager or partner in the auditing or assurance department of an accounting firm, served as the Chief Financial Officer or internal auditor/controller for a public-interest entity and holds a Chartered Accountant, Certified Public Accountant or similar background. Directors classifying for the EUFE-Accounting expertise must had served as the Chief Executive Officer for a public-interest entities or other similar position and holds a degree in accountancy, MBA, business administration, business economics or other similar background.

## Methodology

I will employ two logistic regression models to capture the relationship between the audit committee characteristics and earnings quality.

The model employed for my master’s thesis is the following:

P (1 = low earnings quality) = α + β1 Independent dummy + β2 #EUFE + β3 AC size +
β4 AC meetings + β5 Audit reform dummy + δ1 Loss dummy + δ2 Litigation risk dummy +
δ3 Entity size (MV) + δ4 Entity growth + δ5 CGV SCORE + ε (1)

Dependent variables

The earnings quality proxy used as dependent variable captures the likelihood of public interest entities avoiding earnings surprises and the likelihood of small earnings increases (scaled by beginning of the year market value of common equity).

The earnings quality proxy is set to 1 for public interest entities that are likely avoiding earnings surprises or small earnings increases, and 0 otherwise. Public interest entities avoid earnings surprises if they meet or beat the mean analysts’ forecast by two cents, measured as the latest forecast prior to the announcement of quarterly earnings. A small earnings increase is a positive earnings change (profit) of up to two percent of previous year’s net income before extraordinary items / preferred dividends divided by beginning-of-the-year market value of common equity.

Explanatory variables

The audit committee characteristics used as explanatory variables in the models are: a independent dummy, total directors qualifying as EUFE that are serving on the audit committee, audit committee size, audit committee meeting frequency score and a audit reform dummy.

The independent dummy is set to 1 for audit committees with 100% independent / outside directors, and 0 otherwise. The audit committee meeting frequency score is computed in the following way: meetings that are scheduled to be held onsite are given one full point and meetings that are held offsite (ad hoc meetings such as phone conferences) are given half point*.* By adding up these points a public-interest entity will have their total audit committee meeting frequency score. The reason offsite meetings are rewarded with a lower score is due to the productivity that can be achieved with such meeting in comparison with an onsite meeting. The audit reform dummy indicates whether the public interest entity is meeting the European Commission’s proposed audit committee composition and expertise requirements (EC 2011) and is set to 1 for audit committees that are fully (100%) independent and has either two directors with knowledge and experience in auditing or one director with knowledge and experience in accounting and another in auditing, and 0 otherwise.

Control variables

The two logistic regression models employed to capture the relationship between the audit committee characteristics and earnings quality will also include five control variables. Following the research models from Matsumoto (2002) and Vafeas (2005) I will include the following five control variables to proxy for losses, high litigation risk industries, size, growth opportunities and the level of the public interest entity’s corporate governance structure in the model: a loss dummy, a litigation risk dummy, entity size, entity growth and corporate governance score (CGV Score).

First, the public interest entity’s performance is likely to influence managements’ desires to manage earnings when losses are incurred. Prior empirical studies from Degeorge, Patel & Zeckhauser (1999), Brown (2001) and Matsumoto (2002) suggest that earnings surprises avoidance and reporting small earnings increases becomes less important for management of public interest entities that incur losses. I control for losses by using a loss dummy, which is set to 1 for public interest entities with negative earnings (losses), and 0 otherwise.

Second, management of public interest entities in high litigation risk industries are more likely using forecast guidance in order to keep analysts’ expectations low to decrease the risk of stakeholder lawsuits (Matsumoto 2002). I control for high litigation risk industry by using a litigation risk dummy, which is set to 1 for public interest entities operating in high risk industries such as biotech (SIC: 2833-2836), computers (SIC: 3570-3577 and 7370-7374), electronics (SIC: 3600-3674) and retailing (SIC: 5200-5961), and 0 otherwise.

Third, audit committee characteristics and performance may vary due to the size of the public interest entities. Thus, I control for public interest entity’s size by using the log of the market value of equity.

Fourth, Collins & Kothari (1989) present evidence showing that the market reaction to earnings announcements is greater for public interest entities with high growth opportunities. Therefore, management of high-growth public interest entity has strong incentive to manage earnings in order to avoid negative earnings surprises and report small earnings increases. A public interest entity’s growth opportunity is proxied by market-to-book ratio.

Finally, the corporate governance score (CGV Score) measures an entity's internal control systems and processes. Public interest entities with high CGV Score have a better corporate governance structure which ensures that its board members and executives act in the best interests of its long term stakeholders. It may be the case that public interest entities with better corporate governance structures are more effective in limiting the occurrence of earnings manipulations. Thus, limits the likelihood of public interest entities avoiding earnings surprises and reporting small earnings increases. I obtained the data for the corporate governance score from DATASTREAM[[20]](#footnote-20).

A short time span is chosen to examine the relationship among the audit committee characteristics and control variables with the likelihood of low earnings quality, additionally my models employ a random effect for public interest entities, but fixed effects for time (year – and quarter dummies) and country[[21]](#footnote-21) (ISO country code dummies). The two models are estimated using the final sample of 205 public interest entities. Public interest entities are allowed to enter or exit the sample as they merge, go bankrupt, start doing business or cease to exist. Thus, the sample contains an unbalanced number of observations for the four year time-span, ranging 1359 observations for the model capturing negative earnings surprise avoidance and 593 observations for the model capturing small earnings increases.

# VI Results

First, I observe the audit committee characteristics for the years 2008 and 2011 to understand audit committee structures, director’s expertise, meeting frequency and how many audit committees are meeting the EC 2011 audit reform requirements.

Second, I study the relation among the audit committee characteristics and control variables to the likelihood of low earnings quality, proxied by the likelihood of avoiding earnings surprises and the likelihood of small earnings increases.

Finally I will perform additional tests by splitting the total number of EUFE serving on the audit committee in EUFE-Auditing and EUFE-Accounting, and using different methods of scaling.

## The trend in EU audit committee characteristics

The trend in audit committee characteristics for my sample of EU public interest entities are presented in table 1 for the years 2008 and 2011. Whereas, table 2, presents the observations of audit committee characteristics such as percentage of outside / independent directors, audit committee size, total / percentage EUFE, meeting frequency score and director’s expertise for the years 2008 and 2011.

First, I observe an increase in the audit committee size from 3.86 to 4.03 (*t* = 1.41; *p* = 0.080). While the increase in audit committee size is not significant at the five percent level, the number of EUFE serving on the audit committees experienced a highly significant increase from 1.62 in 2008 to 1.93 in 2011 (*t* = 3.52; *p* = 0.000). Also, the increase in EUFE is highly significant when looking at the EUFE as a percentage of the audit committee size (*t* = 7.45; *p* = 0.000).

My sample of EU public interest entities suggests a highly significant increase in the number and percentage of EUFE serving on the audit committee from 2008 to 2011. Furthermore, when comparing the changes for directors with knowledge and experience in accounting and auditing, the audit committee composition experienced a highly significant increase in EUFE-Auditing from 0.59 in 2008 to 0.83 in 2011(*t* = 3.01; *p* = 0.001). Whereas EUFE-Accounting had no significant changes from 1.03 in 2008 to 1.10 in 2011 (*t* = 0.86; *p* = 0.175). The change in the composition of EUFE suggests that that many public interest entities were already focusing on increasing the monitoring capabilities of the audit committees by employing more directors with knowledge and experience in auditing.

|  |
| --- |
| Table 1. Trend in audit committee characteristics among the years 2008 & 2011 |
| Audit committee characteristic | 2008 | 2011 | *t*-test  |
| (*p*-value) |
| % independence directors | Mean | 0.91 | 0.90 | -0.54 |
| Median | 1 | 1 | (.293) |
| Std Dev | 0.19 | 0.19 |  |
| n | 194 | 193 |   |
| Audit committee size | Mean | 3.86 | 4.03 | 1.41 |
| Median | 3.5 | 4 | (.080) |
| Std Dev | 1.147 | 1.231 |  |
| n | 194 | 193 |   |
| # EUFE | Mean | 1.62 | 1.93 | 3.52 |
| Median | 1 | 2 | (.000) |
| Std Dev | 0.81 | 0.92 |  |
| n | 193 | 192 |   |
| % EUFE | Mean | 0.44 | 0.64 | 7.45 |
| Median | 0.33 | 0.67 | (.000) |
| Std Dev | 0.22 | 0.31 |  |
| n | 193 | 192 |   |
| # EUFE - Auditing | Mean | 0.59 | 0.83 | 3.01 |
| Median | 0 | 1 | (.001) |
| Std Dev | 0.72 | 0.85 |  |
| n | 193 | 192 |   |
| # EUFE - Accounting | Mean | 1.03 | 1.10 | 0.86 |
| Median | 1 | 1 | (0.175) |
| Std Dev | 0.69 | 0.84 |  |
| n | 193 | 192 |   |
| Meeting frequency score | Mean | 5.39 | 5.71 | 1.00 |
| Median | 4.0 | 5.0 | (0.160) |
| Std Dev | 3.09 | 2.59 |  |
| n | 161 | 175 |   |
| Full independent audit committees |
|   |   | 154 | 145 |   |
| Audit committees meeting EC 2011 requirements |
|  |  | 67 | 69 |  |

|  |
| --- |
| Table 2. Audit committee characteristics |
|   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | ≥7 | n |
|   | 2008 |   |
| AC with n size | 0 | 0 | 4 | 93 | 50 | 27 | 17 | 3 | 194 |
| AC with n EUFE | 4 | 95 | 71 | 18 | 4 | 1 | 0 | 0 | 193 |
| AC with n meeting frequency score | 0 | 2 | 12 | 19 | 48 | 25 | 20 | 35 | 161 |
|   | 2011 |   |
| AC with n size | 0 | 0 | 0 | 82 | 63 | 20 | 22 | 6 | 193 |
| AC with n EUFE | 1 | 71 | 72 | 40 | 5 | 3 | 0 | 0 | 192 |
| AC with n meeting frequency score | 0 | 1 | 6 | 9 | 44 | 43 | 27 | 45 | 175 |
|   |   |   |   |   |   |   |   |   |   |
|   | Audit Committees with n financial expert with knowledge and experience in auditing |
|   |   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | n |
|   |   | 2008 |   |
| Audit Committees with n financial expert with knowledge and experience in accounting | 0 | 4 | 19 | 14 | 0 | 0 | 1 |   | 38 |
| 1 | 76 | 39 | 2 | 0 | 0 |   |   | 117 |
| 2 | 18 | 14 | 1 | 0 |   |   |   | 33 |
| 3 | 2 | 3 | 0 |   |   |   |   | 5 |
|   | n | 100 | 75 | 17 | 0 | 0 | 1 | 0 | 193 |
|   |   | 2011 |   |
| Audit Committees with n financial expert with knowledge and experience in accounting | 0 | 1 | 25 | 12 | 7 | 1 | 0 |   | 46 |
| 1 | 46 | 37 | 10 | 1 | 0 |   |   | 94 |
| 2 | 23 | 17 | 1 | 1 |   |   |   | 42 |
| 3 | 6 | 2 | 0 |   |   |   |   | 8 |
| 4 | 0 | 2 |   |   |   |   |   | 2 |
|   | n | 76 | 83 | 23 | 9 | 1 | 0 | 0 | 192 |

The percentage of independent / outside directors serving on the audit committee experienced no significant changes (*t* = -0.54; *p* = 0.293) and the meeting frequency score increased from 5.39 in 2008 to 5.71 in 2011, also insignificant. My sample contains 154 public interest entities in 2008 and 145 public interest entities in 2011 with 100% independent audit committee. Furthermore 67 public interest entities in 2008 and 69 public interest entities in 2011 are meeting the European Commission’s proposed audit committee composition and expertise requirements (EC 2011). While the 2008 sample included more fully independent audit committees than 2011, more public interest entities met the European Commission’s audit committee composition and expertise requirements in 2011 due to the increase of independent directors with knowledge and experience in auditing serving on the audit committee.

## The relation among the audit committee characteristics and earnings quality proxies.

Table 3, which can be found in the appendix, presents Pearson (Spearman’s Rho) pair wise correlations below (above) the diagonal among the audit committee characteristics, control variables and the likelihood of avoiding earnings surprises, while table 4, which can be found in the appendix, presents pair-wise correlations among the audit committee characteristics, control variables and the likelihood of small earnings increases. The correlations table suggests that the majority of effective audit committee characteristics are positively correlated with each other, therefore enhancing audit committee’s performance in monitoring the public interest entity.

Next I estimate the relation among the audit committee characteristics and control variables with the likelihood of negative earnings surprise avoidance and small earnings increases in a logistic regression model using equation (1):

P (1 = low earnings quality) = α + β1 Independent dummy + β2 #EUFE +
β3 AC size + β4 AC meetings + β5 Audit reform dummy + δ1 Loss dummy +
δ2 Litigation risk dummy + δ3 Entity size (MV) + δ4 Entity growth + δ5 CGV SCORE + ε (1)

The results are presented in table 5.

The model on negative earnings surprise avoidance and small earnings increases are both highly significant at the one percent level, as signified by Chi-Square statistic. Furthermore the model on negative earnings surprise avoidance (small earnings increases) has a predictive capacity of 0.148 (0.180), signified by Nagelkerke’s R-Square.

For the main hypothesis (see audit reform dummy), the results from the model capturing negative earnings surprise avoidance suggests that audit committees who are currently meeting the proposed European Commission’s audit committee composition and expertise requirements significantly (B = -.609, *p* = .028) increases the likelihood of higher earnings quality. My findings justifies the European Commission’s actions to improve financial reporting quality by mandating that audit committees become fully independent and consist out of at least two independent directors with experience and knowledge in auditing or at least one director with experience and knowledge in auditing and another in accounting.

In line with the second hypothesis, the results from both models suggest that the frequency in which the audit committee meets significantly increases the likelihood of higher earnings quality. The result is significant (B = -.141, *p* = .024) at the five percent level for the model capturing small earnings increases and significant (B = -.073, *p* = .075) at the ten percent level for the model capturing negative earnings surprise avoidance. This result is also consistent with prior empirical research from Xie et al. 2003, Vafeas 2005 and Hooghiemstra et al. 2008 suggesting that audit committee meeting frequency has a positive relation with earnings quality.

|  |
| --- |
| Table 5. Logistic regression of the relationship among audit committee characteristics and control variables with the likelihood of low earnings quality |
|  | Earnings Surprise Avoidance | Small Earnings Increases |
|  | B | B |
| Explanatory Variables | (*p*-value) | (*p*-value) |
| Intercept | -6.658 | -.459 |
|  | (.000) | (.684) |
| Audit Committee characteristics |
| Independent dummy (H3) | .677 | .447 |
|  | (.181) | (.199) |
| # EUFE  | .556 | .047 |
|  | (.001) | (.674) |
| AC size | -.294 | .121 |
|  | (.008) | (.492) |
| AC meetings (H2) | -.073 | -.141 |
|  | (.075) | (.024) |
| Audit reform dummy (H1) | -.609 | -.272 |
|  | (.028) | (.377) |
| Control Variables |
| Loss dummy | -.111 | -2.296 |
|  | (.704) | (.000) |
| Litigation risk dummy | .492 | .062 |
|  | (.044) | (.838) |
| Entity size (Log MV) | .261 | -.215 |
|  | (.303) | (.443) |
| Entity growth | .032 | .012 |
|  | (.423) | (.847) |
| CGV SCORE | .014 | -.002 |
|   | (.016) | (.739) |
| Year dummies included | YES | YES |
| Quarter dummies included | YES | N/A |
| Country dummies included | YES | YES |
| Sample Size | 1359 | 593 |
|  | χ2 | χ2 |
|   | (*p*-value) | (*p*-value) |
| Model Significance | 103.7 | 74.50 |
|  | (.000) | (.000) |
| Nagelkerke R-Square | .148 | .180 |

For the third hypothesis the results from both models are contradicting the evidence from prior empirical research (Xie et al. 2003, Vafeas 2005 and Hooghiemstra et al. 2008) that the presence of independent / outside directors enhances the monitoring capabilities of the audit committee. The results suggest that the independency of audit committee directors decreases the likelihood of higher earnings quality. However, the results from both models are insignificant. The results from both models remain very similar when I alter the independent dummy as reported in table 5 with percentage of independent / outside directors serving on the audit committee.

Results from the model capturing negative earnings surprise avoidance suggests that larger audit committees significantly (B = -.294, *p* = .008) increases the likelihood of higher earnings quality. The result contradicts my expectation, given that audit committees should have higher decision making – and coordination costs when audit committees become larger (Yermack 1996). However, larger audit committees have a greater chance of employing more EUFE which should increase the monitoring capability of the financial reporting – and internal control process. In addition, I have observed that larger audit committees are employing a combination of EUFE, lawyers and directors with expertise in the public interest entity’s industry. It may be the case that employing the above mentioned combination of directors with EUFE will result in audit committees being more effective in their monitoring capabilities due to having greater knowledge of the public interest entity’s association in a variety of fields. Therefore, my results may be suggesting that employing a larger audit committee with various expertise fields increases the likelihood of higher earnings quality.

Prior empirical research (McDaniel et al. 2002; Xie et al. 2003; Carcello and Hollingsworth & Neal 2006) suggests that the presence of independent financial experts on the audit committee is positively related to higher earnings quality. However, the results from the model capturing negative earnings surprise avoidance suggests that the total number of EUFE serving on the audit committee significantly decreases the likelihood of higher earnings quality. The overall results remain very similar when I alter total number of EUFE serving on the audit committee as reported in table 5 with percentage of EUFE serving on the audit committee.

Interestingly, table 5 suggests that independency of the audit committee and the number of EUFE decreases the likelihood of higher earnings quality at the individual level, but using the combination of EUFE and independency as suggested by the European Commission (EC 2011) increases the likelihood of reporting higher earnings quality. It may be the case that the audit reform dummy in my equation is jointly explaining the effects of independency and financial expert on the likelihood of low earnings quality, thus giving contradicting results at the individual level for independency, # EUFE, #EUFE-Auditing and # EUFE-Accounting.

Finally, among the control variables the litigation risk dummy and the public interest entity’s corporate governance score have a significant positive effect on the likelihood of avoiding earnings surprises. Whereas the loss dummy has a highly significant negative effect on the model capturing the likelihood of small earnings increases. The overall results differ for both models when I alter the proxy for entity size from log market value to log sales and log assets. The signs for entity size using log assets and log sales for proxies are the contrary of what is reported in table 5 for both models using log market value as proxy. The result using entity size proxied by log sales does provide consistent results for the main hypothesis, but not for the second hypothesis. Whereas, the main and second hypothesis does not yield consist results when using entity size proxied by log assets. By using log sales and log assets to proxy for entity size my sample size decreases, given that financial data to compute log sales and log assets are unavailable for certain public interest entities. Therefore using these alternative measurements of entity size are providing results that have the same sign for all audit committee characteristics variables but the betas have higher *p*-values due to the lower sample size causing a different set of classifications for the dependent variable measuring lower earnings quality. Furthermore, DATASTREAM provides annual data for quarterly data on assets and sales, while quarterly data was provided for market value. Therefore the log entity size outcome is the same for the public interest entities that have more than one observation in a reporting period for the model capturing negative earnings surprise avoidance. The use of annual data for entity size in the model capturing negative earnings surprise avoidance might be causing the sign of entity size proxied by log assets and log sales to be the contrary of entity size proxied by log market value for both models.

A possible explanation for the difference in results between the two models is due to the variation in sample size. The model capturing negative earnings surprise avoidance contains more observations due to studying quarterly data. However, the model capturing small earnings increases is studying a larger sample of public interest entities. Both models are using different samples and a different set of classifications to determine the likelihood of low earnings quality, therefore a possible explanation for the difference in results can be caused by either scaling (The models provide inconsistent results when scaling is altered for entity size from log market value to log assets or log sales), sample selection, statistical issues, or a combination of these effects (Durtschi & Easton 2005). Second, the two models used to capture the likelihood of earnings quality in my master’s thesis measure different mechanisms that decrease earnings quality: manipulating earnings upwards and / or guiding analysts’ forecasts downwards. Therefore a possible explanation for the difference in results between the two models might be due to management’s desire to meet analysts’ expectation or the desire to report small earnings increases. Finally, most audit committee characteristics employed for equation (1) are significantly correlated with one another, which can lead to insignificant results for audit committee characteristics at the individual level. However, the models utilizing the audit committee characteristics and control variables are jointly explaining the likelihood of the low earnings quality at a highly statistically significant level.

## Additional tests

In this section, I will discuss a number of additional tests by altering two variables of equation (1):

P (1 = low earnings quality) = α + β1 Independent dummy + β2 #EUFE + β3 AC size +
β4 AC meetings + β5 Audit reform dummy + δ1 Loss dummy + δ2 Litigation risk dummy +
δ3 Entity size (MV) + δ4 Entity growth + δ5 CGV SCORE + ε (1)

#EUFE will be split into #EUFE-Auditing and #EUFE-Accounting, while two additional proxies, log assets and log sales, will be used to measure entity size. Therefore, transforming equation (1) into the following equation:

P (1 = low earnings quality) = α + β1 Independent dummy + β2 #EUFE-Auditing +
β3 #EUFE-Accounting + β4 AC size + β5 AC meetings + β6 Audit reform dummy +
δ1 Loss dummy + δ2 Litigation risk dummy + δ3 Entity size (Log assets, log sales & log MV) +
δ4 Entity growth + δ5 CGV SCORE + ε (2)

I estimate the relation among the audit committee characteristics and control variables with the likelihood of negative earnings surprise avoidance in a logistic regression model using equation (2). The results are presented in table 6.

The models on negative earnings surprise avoidance are all highly significant at the one percent level, as signified by Chi-Square statistic. Furthermore the models on negative earnings surprise avoidance have predictive capacity between 0.151 and 0.157, signified by Nagelkerke’s R-Square.

For the main hypothesis (see audit reform dummy) table 6 provides consistent results that meeting the European Commission’s audit committee composition and expertise requirements significantly increases the likelihood that a public interest entity will report higher earnings quality.

The results for the second hypothesis are consistent with that of table 5 and prior literature suggesting that the meeting frequency increases the likelihood of higher earnings quality. However for the models using log assets and log sales for entity size the results are significant at the ten percent significance level.

The results from table 6 still provide contradicting results for the relation of independency with the likelihood of low earnings quality. However all three models deliver insignificant results. The overall results from the models are very similar when I alter the independent dummy with percentage of independent / outside directors serving on the audit committee.

The results from the table 6 are consistent with the model capturing negative earnings surprise avoidance from table 5 suggesting that a larger audit committee increases the likelihood of higher earnings quality. Compared to being highly significant in table 5, audit committee size is still significant at the ten percent significant level for the models using log assets and log sales as entity size proxy, while the model using log market value is significant at the five percent level.

By splitting #EUFE into #EUFE-Auditing and #EUFE-Accounting the results from the models still contradict the evidence from prior empirical research (McDaniel et al. 2002; Xie et al. 2003; Carcello, Hollingsworth & Neal 2006) suggesting that the presence of independent financial experts serving on the audit committee is related to higher earnings quality.

|  |
| --- |
| Table 6. Logistic regression of the relationship among audit committee characteristics and control variables with the likelihood of earnings surprise avoidance |
|  | B | B | B |
| Explanatory Variables | (*p*-value) | (*p*-value) | (*p*-value) |
| Intercept | -1.785 | -1.840 | -6.494 |
|  | (.397) | (.331) | (.000) |
| Audit Committee characteristics |
| Independent dummy (H3) | .695 | .751 | .672 |
|  | (.163) | (.130) | (.183) |
| # EUFE – Auditing | .646 | .635 | .672 |
|  | (.000) | (.001) | (.000) |
| # EUFE – Accounting | .397 | .376 | .443 |
|  | (.025) | (.035) | (.014) |
| AC size | -.196 | -.192 | -.283 |
|  | (.087) | (.092) | (.011) |
| AC meetings (H2) | -.077 | -.075 | -.091 |
|  | (.076) | (.086) | (.034) |
| Audit reform dummy (H1) | -.565 | -.585 | -.697 |
|  | (.050) | (.041) | (.015) |
| Control Variables |
| Loss dummy | -.244 | -.206 | -.102 |
|  | (.402) | (.477) | (.728) |
| Litigation risk dummy | .724 | .751 | .521 |
|  | (.002) | (.002) | (.036) |
| Entity size (Log Assets) | -.607 |  |  |
|  | (.043) |  |  |
| Entity size (Log Sales) | -.649 |  |
|  |  | (.022) |  |
| Entity size (Log MV) |  |  | .244 |
|  |  |  | (.339) |
| Entity growth | .018 | .019 | .029 |
|  | (.646) | (.624) | (.462) |
| CGV SCORE | .018 | .019 | .013 |
|   | (.001) | (.001) | (.024) |
| Quarterly dummies included | YES | YES | YES |
| Country dummies included | YES | YES | YES |
| Sample Size | 1356 | 1353 | 1358 |
|  | χ2 | χ2 | χ3 |
|   | (*p*-value) | (*p*-value) | (*p*-value) |
| Model Significance | 109.133 | 110.348 | 105.703 |
|  | (.000) | (.000) | (.000) |
| Nagelkerke R-Square | .156 | .157 | .151 |

# VII Conclusion

For my master’s thesis I have studied the relationship among audit committee characteristics and the likelihood of low earnings quality[[22]](#footnote-22).

First, I find that certain audit committee characteristics changed considerably between 2008 and 2011. EU public interest entities’ audit committees became larger in size, more active and employed more EUFE. Noticeably, EU public interest entities were already taking actions to increase the monitoring capabilities of their audit committees by employing more directors with knowledge and experience in auditing. The actions to employ more EUFE-Auditing has led to more audit committees meeting the proposed European Commission’s proposed audit committee composition and expertise requirements for the year 2011 than 2008.

Second, my master’s thesis has provided evidence from logistic regressions that a relationship exists among the audit committee characteristics and the likelihood of low earnings quality. The evidence provided from the models capturing negative earnings surprise avoidance suggests that audit committees who are currently meeting the European Commission’s (2011) proposed audit reform requirements, the frequency in which the audit committees meets, and larger audit committees increases the likelihood of higher earnings quality.

Finally, the models capturing negative earnings surprise avoidance provides contradicting evidence with prior empirical literature. The evidence from Xie et al. (2003), Abbot et al. (2004) Vafeas (2005), Carcello et al. (2006) and Hooghiemstra et al. (2008) suggests that independency and financial literacy is positively related to earnings quality. Whereas, the results from my master’s thesis suggest that independency, # EUFE, # EUFE-Auditing and # EUFE-Accounting increases the likelihood of lower earnings quality. however, the results suggest that when public interest entities are using the combination of EUFE and independency in the form suggested by the European Commission the likelihood of low earnings quality decreases. It may be the case that the audit reform dummy in my equation is jointly explaining the effects of independency and financial expert on the likelihood of low earnings quality, thus giving contradicting results at the individual level for independency, # EUFE, # EUFE-Auditing and # EUFE-Accounting.

The evidence provided by my master’s thesis supports the European Commission’s actions of reforming the audit committee to improve financial reporting quality. The results could be of further use to policy makers, regulators, management and stakeholders who are concerned whether the transformation of the audit committee structure, in the form of a fully (100%) independent audit committee consisting out of at least two directors with experience and knowledge in auditing or one director with experience and knowledge in auditing and another one in accounting, improves the supervision capability of the audit committee.

## Limitation

For my master’s thesis I employed benchmarking approaches to capture the relationship between the audit committee characteristics and earnings quality. My master’s thesis is limited by the use of imperfect but observable proxies.

First, the models used for the results of my master’s thesis capture the likelihood of low earnings quality; as a result earnings quality is not directly observable.

Second, the audit committee directors’ true productivity in monitoring the financial reporting – and internal control process during the meetings remains unobserved. Finally, the audit committee’s true independency of the public interest entity and management is difficult to measure therefore I have relied on disclosures made in the public interest entity annual reports or information found on the Bloomberg’s Business Week website [investing.businessweek.com](http://www.business-week.com).

Another limitation encountered is data unavailability for EU public interest entities for the audit committee characteristics –, financial – and analysts’ forecasting data. For that reason the model capturing small earnings increases contends with external invalidity because some member states have less than five observations for the entire time span. Furthermore, I was expecting around 3.000 observations with my small time-span using quarterly data for the model capturing negative earnings surprise avoidance, but was disappointed to acquire around half of my expected observations due to the data unavailability for the analysts’ forecast data of EU public interest entities. The data unavailability has also resulted in a smaller sample size for two entity size proxies: log assets and log sales. The smaller sample size causes a different set of classification to determine the likelihood of low earnings quality when using different scaling methods for the models. Furthermore, DATASTREAM provides annual data for quarterly data on assets and sales making the calculation for log assets and log sales the same for public interest entities containing at least one quarterly observation in a reporting period.

Finally, my master’s thesis also faces sample selection bias given that I focused on public interest entities with a fairly large turnover of more than five billion US dollars in the year 2011. Therefore, my Master’s thesis’ conclusions should be used with caution for structuring audit committees of small public interest entities.

In short my master’s thesis is limited by imperfect but observable proxies, data unavailability, scaling, sample selection bias, and statistical bias issues.

## Future Research

While collecting the director’s expertise data I stumbled across audit committee composition consisting out of directors with law, EUFE and public interest entity’s industry expertise. My results suggest that larger audit committee increases the likelihood of higher earnings quality. Future research should provide evidence whether public interest entities employing a combination of directors with knowledge and experience in several fields, such as accounting, auditing, law and industry, would enhance the monitoring capabilities due to the audit committee having greater knowledge of the public interest entity’s association in several expertise fields.

Motivated to improve the attainability of empirical research for EU public interest entities I would like to urge policy makers and regulators to improve the data availability for the EU public interest entities given that it is difficult to collect the data necessary for conducting empirical research on EU public interest entities. If ownership, tenure or directorships of the executive and supervisory board information was available in databases, more variables [[23]](#footnote-23) could have been added to my research model. Future research should provide very interesting results if ownership, tenure or directorships of the audit committee directors can be added to my equation.

# Appendix

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Exhibit 1.**  |  |  |  |  |
| Source: Dechow, Ge & Schrand (2010) |  |  |
| Exhibit 1 lists the earnings quality proxies summarized by Dechow et al. (2010). The earnings measures listed in this table are commonly used proxies (indicators) for (of) earnings quality. |
|
| Empirical proxy |   | Theory |   | Pros and Cons |
| Earnings quality category 1: Properties of earnings |
| Earnings persistence:  |  |  |  |  |
| • Earningst+1 = α + βEarningst + εt. |  | Public-interest entities that report persistent earnings throughout consecutive reporting periods are considered to have a high quality of earnings because earnings persistence contains a more “sustainable” earnings/cash flow stream.  |  | **Pros:** Fits well with a Grahamand Dodd view of earnings as a summary metric of expected cash flows useful for equity valuation. |
| • Earningst+1 = α + β₁CFt + β₂Accrualst + εt  |  |  |
| • Earningst+1 = α + δ₁Earningst + δ₂Financial statement components + δ₃Other Information t + εt |  |  | **Cons:** Persistence depends both on the firm’s fundamental performance as well as the accounting measurement system. Disentangling the role of each is problematic. Persistence may be achieved in the short run by engaging in earnings management |
| β measures persistence.  |  |  |
|  |  |  |
| Magnitude of accruals:  |  |  |  |  |
| Accruals = Earningst – CFt |  | Public-interest entities with large amounts of accruals are considered to have a lower earnings quality because accruals represent a less persistent component of earnings.  |  | **Pros:** The accrual-based accounting measurements used for abnormal accrual proxies are very reliable with measuring the presence of abnormal accruals.  |
| Accruals = ∆ (noncash working capital) |  |  |
| Accruals = ∆ (net operating assets) |  |  | **Cons:** The likelihood exists that the presence of abnormal accruals is caused by the public-interest entity’s performance and measurement rules. |
| Specific accrual components |  |  |
|  |  |  |  |  |
| Residuels from accrual models:  |  |  |
| Error term from regressing accruals on their economic drivers using: |  | Residuals from accrual models represent management discretion or estimation errors, both of which reduce decision usefulness |  | **Pros:** The measure attempts to isolate the managed or error component of accruals. |
| • Jones (1991) model |  |  |  | **Cons:** Correlated omitted variables associated with fundamentals are of concern given the dependence of normal accruals on fundamentals and the endogeneity of the hypothesized determinants / consequences with the fundamentals |
| • Modified Jones model (Dechow et al. 1995)  |  |
| • Performance matched (Kothari et al. 2005)  |  |
| • Dechow and Dichev (2002) approach  |  |
| • Discretionary estimation errors (Francis et al. 2005a) |  |
|  |  |  |  |  |
| Earnings Smoothing: |  |  |  |  |
| σ (Earnings) / σ (Cash flows) |  | Smoothing transitory cash flows can improve earnings persistence and earnings informativeness. However, managers attempting to smooth permanent changes in cash flows will lead to a less timely and less informative earnings number. |  | **Pros:** Smoothing of income is very common practices making the earnings smoothness approach a good measurement for earnings quality in cross-country studies. |
| Earnings smoothing occurs when there is a low ratio of the earnings stream in relation to cash flows. |  |  |
|  |  |  | **Cons:** The methodology behind earnings smoothness makes it complicated to separate if the public-interest entity’s earnings process, accounting system, or earnings manipulation is the cause of smoothing. |
|  |  |  |
|  |  |  |  |
| Timely loss recognition (TLR): |  |  |  |  |
| Earningst+1 = α₀ + α₁Dt + β₀Rett+ β₁Dt · Rett + εt. where Dt=1 if Rett < 0. A higher β₁ implies more timely recognition of the incurred losses in earnings. |  | There is a demand for TLR to combat management’s natural optimism. TLR represents high quality earnings  |  | **Pros:** Aims at disentangling the measurement of the process from the process itself by assuming that returns appropriately reflect fundamental information. |
|  |  | **Cons:** The net effect of TLR on earnings quality is unknown because TLR results in lower persistence during bad news periods than during good news periods (Basu 1997). Both persistence and TLR affect the decision usefulness of earnings. TLR is a return-based metric: see comments on ERCs. |
|  |  |  |  |  |
| Empirical proxy |   | Theory |   | Pros and Cons |
| Target beating or benchmarking: |  |  |  |
| • Kinks in earnings distribution |  | Unusual clustering in earnings distributions indicates earnings management around targets. Observations at or slightly above targets have low quality earnings |  | **Pros:** The measure is easy to calculate, the concept is intuitively appealing, and survey evidence suggests earnings management around targets. |
| • Changes in earnings distribution |  |  |
| • Kinks in forecast error distribution |  |  | **Cons:** In addition to statistical validity issues, evidence that kinks represent opportunistic earnings management is mixed, with credible alternative explanations including non- accounting issues. It is difficult to distinguish firms that are at kinks by chance versus those that have manipulated their way into the benchmark bins. |
| • String of positive earnings increases |  |  |
|  |  |  |
|  |  |  |  |
|  |  |  |  |
| Earnings quality category 2: Investor responsiveness to earnings |
| ERCs: |  |  |  |  |
| Rett= α + β(EarningsSurpriset) + εt.  |  | Investors respond to information that has value implications. A higher correlation with value implies that earnings better reflect fundamental performance. |  | **Pros:** The measure directly links earnings to decision usefulness, which is quality, al beits specifically in the context of equity valuation decisions  |
| More informative components of earnings will have a higher β.  |  |  |
| More value relevant earnings will have a higher R2 |  |  | **Cons:** Assumes market efficiency. In addition, inferences are impaired by correlated omitted variables that affect investor reaction (including endogenously determined availability of other information), measurement error of unexpected earnings, and cross-sectional variation in return-generating processes. |
| Earnings quality category 3: External indicators of earnings misstatements |
| • AAERs identified by SEC |  | Firms had errors (AAERs and restatement firms) or are likely to have had errors (internal control deficiencies) in their financial reporting systems, which implies low quality. |  | **Pros:** Pros: Unambiguously reflect accounting measurement problems (low Type I error rate). There searcher does not have to use a model to identify low quality firms |
| • Restatements |  |  |
| • SOX reports of internal control deficiencies |  |  |
|  |  |
|  |  |  | **Cons:** For AAERs: small sample sizes, selection issues, and matching problems due to Type II error rate. For restatements and SOX firms: problems with distinguishing intentional from unintentional errors or ambiguities in accounting rules that lead to errors  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |  |

Public interest entities that represent the 2008 and 2011 sample:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Entity Name** | **Country** | **2008** | **2011** |  |  | **Entity Name** | **Country** | **2008** | **2011** |
| 1 | Andritz AG | AUT | x | x |   | 105 | Lafarge SA | FRA | x | x |
| 2 | OMV AG | AUT | x | x |   | 106 | Lagardere Groupe | FRA | x | x |
| 3 | Strabag SE | AUT | x | x |   | 107 | Legrand | FRA | x | x |
| 4 | Telekom Austria AG | AUT | x | x |   | 108 | LVMH | FRA | x | x |
| 5 | Voestalpine AG | AUT | x | x |   | 109 | Michelin | FRA | x | x |
|   |   |   |   |   |   | 110 | Nexans SA | FRA | x | x |
| 6 | Anheuser-Busch Inbev | BEL |   | x |   | 111 | Pernod-Ricard | FRA | x | x |
| 7 | Belgacom SA | BEL |   | x |   | 112 | Peugeot SA | FRA |   | x |
| 8 | Colruyt | BEL | x | x |   | 113 | Plastic Omnium | FRA | x |   |
| 9 | D'ieteren SA | BEL | x | x |   | 114 | PPR SA | FRA |   | x |
| 10 | Delhaize Group | BEL | x | x |   | 115 | Publicis Groupe SA | FRA | x | x |
| 11 | Solvay SA | BEL | x | x |   | 116 | Rallye | FRA | x | x |
| 12 | Umicore SA | BEL | x | x |   | 117 | Renault SA | FRA | x | x |
|   |   |   |   |   |   | 118 | Rexel | FRA | x | x |
| 13 | Adidas AG | DEU | x | x |   | 119 | Safran SA | FRA | x | x |
| 14 | Air Berlin PLC | DEU | x | x |   | 120 | Sanofi | FRA | x | x |
| 15 | Andreae-Noris Zahn AG | DEU | x | x |   | 121 | Schneider Electric SA | FRA | x | x |
| 16 | Arcandor AG | DEU | x |   |   | 122 | SEB SA | FRA | x | x |
| 17 | Audi AG | DEU | x | x |   | 123 | Sequana | FRA | x | x |
| 18 | Aurubis AG | DEU | x | x |   | 124 | Sodexo | FRA | x | x |
| 19 | BASF SE | DEU | x | x |   | 125 | Technip | FRA | x | x |
| 20 | Bayer AG | DEU | x | x |   | 126 | Thales SA | FRA | x | x |
| 21 | Baywa AG | DEU | x | x |   | 127 | Total SA | FRA | x | x |
| 22 | Beiersdorf AG | DEU | x | x |   | 128 | Valeo | FRA | x | x |
| 23 | Bertelsmann AG | DEU | x | x |   | 129 | Vallourec | FRA | x | x |
| 24 | Bilfinger Berger SE | DEU | x | x |   | 130 | Vinci SA | FRA | x | x |
| 25 | BMW AG | DEU | x | x |   | 131 | Vivendi | FRA | x | x |
| 26 | Brenntag AG | DEU |   | x |   |   |   |   |   |   |
| 27 | Celesio AG | DEU | x | x |   | 132 | Coca Cola Hellenic | GRC | x | x |
| 28 | Continental AG | DEU | x | x |   | 133 | Hellenic Telecom | GRC | x | x |
| 29 | Daimler AG | DEU | x | x |   | 134 | Opap SA | GRC | x | x |
| 30 | Deutsche Lufthansa AG | DEU | x | x |   |  |  |  |  |  |
| 31 | Deutsche Post AG | DEU | x | x |   | 135 | MOL PLC | HUN | x | x |
| 32 | Deutsche Telekom AG | DEU | x | x |   |  |  |  |  |  |
| 33 | Fresenius Medical | DEU | x | x |   | 136 | CRH PLC | IRL | x | x |
| 34 | Fresenius SE | DEU | x | x |   | 137 | DCC PLC | IRL | x | x |
| 35 | GEA Group AG | DEU | x | x |   | 138 | Ingersoll-Rand PLC | IRL | x | x |
| 36 | Heidelbergcement AG | DEU | x | x |   | 139 | Kerry Group PLC | IRL | x | x |
| 37 | Henkel AG | DEU | x | x |   | 140 | Ryanair Holdings PLC | IRL | x | x |
| 38 | Hochtief AG | DEU | x | x |   | 141 | Smurfit Kappa Group | IRL | x | x |
| 39 | Infineon Technologies | DEU | x | x |   |  |  |  |  |  |
| 40 | Kloeckner & Co SE | DEU | x | x |   | 142 | Atlantia | ITA | x | x |
| 41 | Lanxess AG | DEU | x | x |   | 143 | Autogrill | ITA | x | x |
| 42 | Linde AG | DEU | x | x |   | 144 | CIR | ITA | x | x |
| 43 | Man SE | DEU | x | x |   | 145 | Cofide Spa | ITA | x | x |
| 44 | Merck Kgaa | DEU |   | x |   | 146 | ENI | ITA | x | x |
| 45 | Metro AG | DEU | x | x |   | 147 | ERG Spa | ITA | x | x |
| 46 | Rheinmetall AG | DEU | x | x |   | 148 | Fiat Spa | ITA | x | x |
| 47 | Salzgitter AG | DEU | x | x |   | 149 | Finmeccanica Spa | ITA | x | x |
| 48 | SAP AG | DEU | x | x |   | 150 | Italcementi | ITA | x | x |
| 49 | Siemens AG | DEU | x | x |   | 151 | Luxottica | ITA | x | x |
| 50 | Suedzucker AG | DEU | x | x |   | 152 | Mediaset Spa | ITA | x | x |
| 51 | Thyssenkrupp AG | DEU | x | x |   | 153 | Parmalat Spa | ITA | x | x |
| 52 | TUI AG | DEU | x | x |   | 154 | Pirelli & C | ITA | x | x |
| 53 | Volkswagen AG | DEU | x | x |   | 155 | Prysmian | ITA | x | x |
| 54 | Wacker Chemie AG | DEU | x | x |   | 156 | Saipem | ITA | x |   |
|   |   |   |   |   |   | 157 | Saras | ITA | x | x |
| 55 | A.P. Moeller-Maersk | DNK | x | x |   | 158 | Telecom Italia | ITA | x | x |
| 56 | Carlsberg AS | DNK |   | x |   |  |  |  |  |  |
| 57 | Novo Nordisk A/S | DNK | x | x |   | 159 | Arcelormittal | LUX | x | x |
| 58 | Vestas Windsystems | DNK | x | x |   | 160 | RTL Group | LUX | x | x |
|   |   |   |   |   |   | 161 | Tenaris SA | LUX | x | x |
| 59 | Abengoa SA | ESP | x | x |   |   |   |   |   |   |
| 60 | Acerinox SA | ESP | x | x |   | 162 | Akzo Nobel NV | NLD | x | x |
| 61 | ACS | ESP | x | x |   | 163 | CNH Global | NLD | x | x |
| 62 | Ferrovial SA | ESP | x |   |   | 164 | Eads NV | NLD | x | x |
| 63 | Fomento Construccion | ESP | x | x |   | 165 | Heineken NV | NLD | x | x |
| 64 | Inditex SA | ESP | x | x |   | 166 | Koninklijke Ahold NV | NLD | x | x |
| 65 | Obrascon Huarte Lain  | ESP | x | x |   | 167 | Koninklijke BAM | NLD | x | x |
| 66 | Repsol YPF SA | ESP | x | x |   | 168 | Koninklijke DSM | NLD | x | x |
| 67 | Sacyr Vallehermoso SA | ESP | x | x |   | 169 | Koninklijke KPN NV | NLD | x | x |
| 68 | Telefonica SA | ESP | x | x |   | 170 | Koninkklijke Philips | NLD | x | x |
|  |  |  |  |  |   | 171 | Nutreco NV | NLD | x |   |
| 69 | Kesko OYJ | FIN | x | x |   | 172 | Postnl NV | NLD | x | x |
| 70 | Kone OYJ | FIN | x | x |   | 173 | Randstad Holding NV | NLD | x | x |
| 71 | Metso OYJ | FIN | x | x |   | 174 | Royal Dutch Shell | NLD | x | x |
| 72 | Neste Oil OYJ | FIN | x | x |   | 175 | Royal Imtech | NLD | x | x |
| 73 | Nokia Corporation | FIN | x | x |   | 176 | Stmicroelectronics NV | NLD | x | x |
| 74 | Outokumpu OYJ | FIN | x | x |   | 177 | Unilever NV | NLD | x | x |
| 75 | Stora Enso 'A' OYJ | FIN | x | x |   |  |  |  |  |  |
| 76 | UPM-Kymmene OYJ | FIN | x | x |   | 178 | Aker Solutions ASA | NOR | x | x |
| 77 | Wartsila OYJ | FIN | x | x |   | 179 | Norsk Hydro ASA | NOR | x | x |
| 78 | YIT OYJ | FIN | x | x |   | 180 | Orkla ASA | NOR | x | x |
|  |  |  |  |  |   | 181 | Statoil ASA | NOR |   | x |
| 79 | Accor | FRA | x | x |  | 182 | Statoil Fuel & Retail | NOR | x |   |
| 80 | Air France-KLM | FRA | x | x |  | 183 | Telenor ASA | NOR |   | x |
| 81 | Air Liquide | FRA | x | x |  | 184 | Yara International ASA | NOR | x | x |
| 82 | Alcatel-Lucent | FRA | x | x |  |   |   |   |   |   |
| 83 | Alstom SA | FRA | x |   |  | 185 | Kghm Polska Miedz | POL | x |   |
| 84 | Areva | FRA | x | x |  |   |   |   |   |   |
| 85 | Arkema | FRA | x | x |  | 186 | Jeronimo Martins SA | PRT | x | x |
| 86 | Atos | FRA | x | x |  | 187 | Portugal Telecom | PRT | x | x |
| 87 | Bollore | FRA |   | x |  | 188 | Sonae Sgps SA | PRT | x |   |
| 88 | Bongrain | FRA | x | x |  |   |   |   |   |   |
| 89 | Bouygues SA | FRA | x | x |  | 189 | Assa Abloy AB | SWE | x | x |
| 90 | Cap Gemini SA | FRA | x | x |  | 190 | Atlas Copco AB | SWE | x | x |
| 91 | Carrefour SA | FRA | x | x |  | 191 | Boliden AB | SWE | x | x |
| 92 | Casino Guichard-P | FRA | x | x |  | 192 | Electrolux AB | SWE | x | x |
| 93 | Christian Dior SA | FRA | x | x |  | 193 | Ericsson 'B' AB | SWE | x | x |
| 94 | Ciments Francais | FRA | x | x |  | 194 | H & M AB | SWE | x | x |
| 95 | Colas SA | FRA | x |   |  | 195 | PEAB AB | SWE | x | x |
| 96 | Compagnie De St-Gobain | FRA | x | x |  | 196 | Sandvik AB | SWE | x | x |
| 97 | Danone | FRA | x | x |  | 197 | SAS AB | SWE | x | x |
| 98 | Eiffage | FRA | x | x |  | 198 | SCA AB | SWE | x | x |
| 99 | Essilor International | FRA |   | x |  | 199 | Scania AB | SWE | x | x |
| 100 | Esso | FRA | x |   |  | 200 | Securitas AB | SWE | x | x |
| 101 | Faurecia | FRA | x | x |  | 201 | Skanska AB | SWE | x | x |
| 102 | Fonciere Euris SA | FRA | x |   |  | 202 | SKF AB | SWE | x | x |
| 103 | France Telecom | FRA | x | x |  | 203 | SSAB AB | SWE | x | x |
| 104 | L'Oreal | FRA | x | x |  | 204 | Teliasonera AB | SWE | x | x |
|  |  |  |  |  |  | 205 | Volvo AB | SWE | x | x |
|  |  |  |  |  |  |   |   |   | 194 | 193 |

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| Table 3. Pearson (Spearman’s Rho) pair wise correlations below (above) the diagonal among the audit committee characteristics, control variables and the likelihood of avoiding earnings surprises for 1359 public interest entities for the years 2008 and 2011. |
|   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 1. Earnings Surprise Avoidance | 1 | **0.06** | **0.06** | **0.07** | **-0.07** | 0.02 | -0.02 | 0.02 | **0.06** | 0.02 | **0.10** | **0.09** | **0.09** | -0.02 | **0.07** |
| 2. %Independent | 0.05 | 1 | **1.00** | 0.00 | **-0.10** | **-0.10** | **-0.10** | -0.04 | **0.09** | **0.24** | **0.16** | -0.02 | -0.05 | -0.02 | **-0.08** |
| 3. Independent dummy | **0.06** | **0.89** | 1 | -0.01 | **-0.10** | **-0.10** | **-0.10** | -0.04 | **0.09** | **0.24** | **0.16** | -0.02 | -0.04 | -0.01 | **-0.08** |
| 4. #EUFE-Auditing | **0.10** | **0.06** | 0.01 | 1 | **-0.44** | **0.55** | **-0.06** | **0.54** | **0.26** | **0.65** | **-0.06** | **0.16** | -0.04 | **-0.06** | **0.31** |
| 5. #EUFE-Accounting | **-0.07** | **-0.09** | **-0.14** | **-0.40** | 1 | **0.46** | 0.04 | **0.38** | **-0.15** | 0.04 | **-0.07** | **-0.08** | **0.07** | 0.03 | 0.01 |
| 6. #EUFE | 0.04 | -0.02 | **-0.11** | **0.62** | **0.48** | 1 | 0.01 | **0.91** | **0.16** | **0.66** | **-0.13** | **0.10** | 0.00 | -0.03 | **0.33** |
| 7. Size | -0.05 | **-0.12** | **-0.24** | -0.01 | **0.15** | **0.13** | 1 | **-0.22** | **-0.18** | -0.03 | **0.13** | **0.22** | **-0.20** | 0.03 | **-0.12** |
| 8. %EUFE  | 0.04 | 0.00 | **-0.07** | **0.58** | **0.43** | **0.92** | -0.04 | 1 | **0.26** | **0.58** | **-0.14** | **0.07** | 0.03 | **-0.06** | **0.34** |
| 9. Meeting frequency score | **0.08** | **0.09** | **0.09** | **0.40** | **-0.15** | **0.25** | **-0.12** | **0.23** | 1 | **0.14** | 0.05 | **0.24** | **0.07** | -0.05 | **0.37** |
| 10. Meeting audit reform dummy | 0.02 | **0.24** | **0.24** | **0.56** | 0.03 | **0.56** | -0.03 | **0.54** | **0.07** | 1 | **-0.10** | **0.07** | -0.01 | -0.02 | **0.18** |
| 11. Litigation risk dummy | **0.10** | **0.14** | **0.16** | **-0.07** | **-0.08** | **-0.14** | **0.07** | **-0.14** | -0.01 | **-0.10** | 1 | **0.32** | **0.11** | **-0.10** | 0.04 |
| 12. Entity size (MV) | **0.09** | 0.02 | 0.01 | **0.15** | **-0.10** | **0.06** | **0.15** | 0.04 | **0.24** | 0.05 | **0.36** | 1 | **0.35** | **-0.23** | **0.33** |
| 13. Entity growth | **0.08** | -0.05 | -0.05 | 0.03 | **-0.06** | -0.02 | **-0.17** | 0.02 | **0.09** | 0.03 | **0.06** | **0.18** | 1 | **-0.21** | 0.03 |
| 14. Loss dummy | -0.02 | **-0.07** | -0.01 | -0.05 | 0.02 | -0.03 | 0.01 | -0.05 | -0.02 | -0.02 | **-0.10** | **-0.24** | **-0.10** | 1 | 0.04 |
| 15. CGV score | **0.07** | **-0.09** | **-0.10** | **0.30** | 0.01 | **0.30** | **-0.13** | **0.30** | **0.30** | **0.18** | 0.03 | **0.32** | 0.05 | 0.04 | 1 |
| The correlation coefficient in bold are significant at the five percent significance level |

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| Table 4. Pearson (Spearman’s Rho) pair wise correlations below (above) the diagonal among the audit committee characteristics, control variables and the likelihood of avoiding small earnings increases for 593 public interest entities for the years 2008 and 2011. |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 1. Small earnings increases | 1.00 | -0.04 | -0.05 | 0.01 | -0.02 | -0.01 | 0.06 | -0.02 | **-0.15** | -0.07 | 0.00 | -0.05 | 0.00 | **-0.21** | **-0.10** |
| 2. %Independent | -0.02 | 1.00 | **0.99** | 0.07 | -0.07 | 0.00 | -0.06 | 0.02 | 0.07 | **0.39** | 0.06 | 0.04 | 0.03 | -0.02 | 0.02 |
| 3. Independent dummy | -0.05 | **0.91** | 1.00 | 0.07 | -0.08 | -0.02 | -0.07 | 0.01 | 0.08 | **0.39** | 0.08 | 0.04 | 0.03 | 0.00 | 0.01 |
| 4. #EUFE-Auditing | 0.00 | **0.08** | 0.08 | 1.00 | **-0.37** | **0.58** | -0.02 | **0.56** | **0.24** | **0.64** | -0.07 | 0.06 | **-0.09** | 0.02 | **0.23** |
| 5. #EUFE-Accounting | -0.02 | -0.07 | **-0.11** | **-0.37** | 1.00 | **0.50** | **0.11** | **0.43** | -0.01 | 0.05 | -0.02 | -0.07 | 0.02 | -0.03 | 0.06 |
| 6. #EUFE | -0.02 | 0.02 | -0.03 | **0.59** | **0.54** | 1.00 | **0.08** | **0.91** | **0.24** | **0.61** | -0.07 | 0.01 | **-0.11** | 0.01 | **0.27** |
| 7. Size | 0.07 | -0.08 | **-0.16** | -0.01 | **0.19** | **0.16** | 1.00 | **-0.14** | -0.05 | -0.04 | **0.11** | **0.15** | **-0.25** | 0.00 | -0.05 |
| 8. %EUFE  | -0.03 | 0.02 | -0.01 | **0.55** | **0.48** | **0.92** | -0.03 | 1.00 | **0.28** | **0.56** | **-0.10** | -0.07 | **-0.15** | -0.01 | **0.28** |
| 9. Meeting frequency score | **-0.15** | 0.04 | 0.07 | **0.34** | -0.03 | **0.28** | -0.04 | **0.25** | 1.00 | **0.19** | **0.09** | **0.14** | -0.07 | **0.09** | **0.33** |
| 10. Meeting audit reform dummy | -0.07 | **0.37** | **0.39** | **0.57** | 0.03 | **0.54** | -0.05 | **0.52** | **0.15** | 1.00 | -0.04 | 0.07 | 0.01 | 0.02 | **0.17** |
| 11. Litigation risk dummy | 0.00 | 0.04 | 0.08 | -0.07 | -0.02 | **-0.08** | 0.06 | -0.08 | 0.03 | -0.04 | 1.00 | **0.27** | 0.03 | 0.07 | **0.08** |
| 12. Entity size (MV) | -0.05 | 0.08 | 0.06 | 0.06 | -0.07 | -0.01 | **0.10** | **-0.08** | **0.18** | 0.06 | **0.29** | 1.00 | **0.29** | 0.01 | **0.29** |
| 13. Entity growth | 0.00 | -0.01 | 0.01 | -0.03 | -0.05 | -0.07 | **-0.19** | **-0.09** | 0.03 | 0.01 | 0.01 | **0.18** | 1.00 | -0.04 | -0.07 |
| 14. Loss dummy | **-0.21** | -0.06 | 0.00 | 0.02 | -0.01 | 0.01 | 0.00 | 0.01 | **0.12** | 0.02 | 0.07 | 0.00 | -0.02 | 1.00 | **0.08** |
| 15. CGV score | **-0.10** | 0.04 | 0.00 | **0.22** | 0.07 | **0.26** | -0.06 | **0.26** | **0.27** | **0.17** | **0.09** | **0.28** | -0.04 | **0.09** | 1.00 |
| The correlation coefficient in bold are significant at the five percent significance level |

# References

Abbott, L.J., Parker, S. & Peters, G.F. (2004). Audit Committee Characteristics and Restatements. Auditing: A Journal of Practice & Theory 23 (1): 69-87.

Ashbaugh, H., LaFond, R. and Mayhew, B. (2003). Do nonaudit services compromise auditor independence? Further evidence. The Accounting Review78 (3): 611–39.

Barth, M.E., Elliott, J.A. & Finn M.W. (1995). Market Rewards Associated with Patterns of Increasing Earnings. Journal of Accounting Research 37 (2): 387-413.

Beaver, W.H., McNichols, M.F. & Nelson, K.K. (2007). An alternative interpretation of the discontinuity in earnings distributions Review of Accounting Studies 12 (4): 525-556.

Blue Ribbon Committee (1999). Report and recommendations of the Blue Ribbon Committee on improving the effectiveness of corporate audit committees. Business Lawyer 54 (3): 13-35.

Brown (2001). A temporal analysis of earnings surprises: Profits vs. losses. Journal of Accounting Research 39 (2): 221-241.

Burgstahler, D. & Dichev, I. (1997). Earnings management to avoid earnings decreases and losses. Journal of Accounting and Economics 24 (1): 99–126.

Burgstahler, D. & Eames M. (2003). Earnings management to avoid losses and earnings decreases: Are analysts fooled? Contemporary Accounting Research20 (2): 253–94.

Burgstalher, D. & Eames M. (2006). Management of earnings and analysts’ forecast to achieve zero and small positive earnings surprises. Journal of Business Finance & Accounting 33 (5): 633-652.

Carcello, J.V. & Neal, T.L. (2000). Audit Committee Composition and Auditor Reporting. The Accounting Review 75 (4): 453-467.

Carcello, J.V. Hollingsworth, W. & Neal, T.L. (2006). Audit Committee Financial Experts: A Closer Examination Using Firm Designations. Accounting Horizons 20 (4): 351–373.

Carcello, J.V., Klein, A. & Neal, T.L. (2006). Audit Committee Financial Expertise, Competing Corporate Governance Mechanisms, and Earnings Management. The Accounting Review 75 (4): 453-467.

DeAngelo, H., DeAngelo, L. & Skinner, D. (1996). Reversal of fortune: Dividend signaling and the disappearance of sustained earnings growth. Journal of Financial Economics 40 (3): 341-371.

Dechow, P.M. (1994). Accounting earnings cash flows as measures of firm performance: The role of accounting accruals. Journal of Accounting and Economics 18 (1): 3-42.

Dechow, P.M., Ge W. & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. Journal of Accounting and Economics 50: 344-401.

Dechow, P.M., Sloan, R.G. & Sweeney, A.P. (1995). Detecting earnings management. The Accounting Review 70 (2): 193–225.

Degeorge, F., Patel, J. & Zeckhauser, R. (1999). Earnings management to exceed thresholds. Journal of Business 72 (1): 1-33.

Donelson, D.C., McInnis, J.M. & Mergenthaler, R.D. (2012). Discontinuities and Earnings Management: Evidence from Restatements Related to Securities Litigation. Contemporary Accounting Research 30 (1): 242–268.

Durtschi, C. & Easton, P. (2004). Earnings Management? Alternative Explanation for Observed Discontinuities in the Frequency Distributions of Earnings, Earnings Changes, and Analyst Forecast Errors. Journal of Accounting Research 43 (4): 557-592.

Durtschi, C. & Easton, P. (2005). Earnings Management? The Shapes of the Frequency Distributions of Earnings Metrics Are Not Evidence Ipso Facto.Journal of Accounting Research 43 (4): 557–592.

Durtschi, C. & Easton, P. (2009). Earnings Management? Erroneous Inferences Based on Earnings Frequency Distributions. Journal of Accounting Research 47 (5): 1249-1281.

European Commission (2006). Directive 2006/43/EC of the European Parliament and of the Council "8th EU-Directive".

European Commission (2011). Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on specific requirements regarding statutory audit of public-interest entities. Brussels, 30.11.2011 COM(2011) 779 final 2011/0359 (COD).

Ferris, S., Jagannathan, M. & Pritchard, A.C. (2003). Too busy to mind the business? Monitoring by directors with multiple board appointments. Journal of Finance 58 (3): 1087-1112.

Fich, E.M. & Shivdasani, A. (2006). Are busy boards effective monitors? Journal of Finance 61 (2): 689-724.

Hwang, B. and Kim, S. (2009). It pays to have friends. Journal of Financial Economics 93 (1): 138-158.

Hooghiemstra, R., Lammerink, A. & Marra, T. (2008). Resultaatmanipulatie en de auditcommissie. Maandblad voor Accountancy en Bedrijfseconomie 82: 370-380.

Jensen, M. (2005). Agency costs of overvalued equity. Financial Management 34(1): 5–19.

Karamanou, I., and Vafeas, N. (2005). The association between boards and audit committees with management earnings forecasts: An empirical analysis. Journal of Accounting Research43 (3): 453-486.

Kasznik, R. & McNichols, M. (2002). Does meeting earnings expectations matter? Evidence from analyst forecast revisions and share prices. Journal of Accounting Research 40 (3): 727–759.

Kinney,W., Burgstahler, D. & Martin, R. (2002), ‘The Materiality of Earnings Surprise,’ Journal of Accounting Research 40 (5): 1297–329.

Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. Journal of Accounting and Economics 33 (3): 375–400.

Krishnan, J. (2005). Audit committee quality and internal control: An empirical analysis. The Accounting Review 80 (2), 649-675.

Larcker, D. and Richardson, S. (2004). Fees paid to audit firms, accrual choices, and corporate governance. Journal of Accounting Research42 (3): 625–58.

Matsumoto, D. (2002). Management’s incentives to avoid negative earnings surprises. The Accounting Review 77 (3): 483–514.

McDaniel, L., Martin, R.D. & Maines, L.A. (2002). Evaluating financial reporting quality: The effects of financial expertise vs. financial literacy. The Accounting Review 77 (1): 139-167.

Skinner, D. & Sloan, R. (2002). Earnings Surprises, Growth Expectations, and Stock Returns or Don’t Let an Earnings Torpedo Sink Your Portfolio. Review of Accounting Studies 7 (2-3): 289–312.

Vafeas, N. (2005). Audit Committees, Boards, and the quality of reported earnings. Contemporary Accounting Research 22 (4): 1093–1122.

Xie, B., Davidson, W.N. & DaDalt, P.J. (2003). Earnings management and corporate governance: the role of the board and the audit committee. Journal of Corporate Finance 9 (3): 295–316

Yermack, D. (1996). Higher market valuation of companies with a small board of directors. Journal of Financial Economics 40 (2): 185–213.

Yermack, D. (2004). Remuneration, retention, and reputation incentives for outside directors. Journal of Finance 59 (5): 2281-2308.

1. Public-Interest Entities (PIE) is defined as “entities which are of significant public interest because of (a) their business, (b) their size, (c) their number of employees or (d) their corporate status is such that they have a wide range of stakeholders” by the European Commission in the proposed audit reform (2011). [↑](#footnote-ref-1)
2. Dechow et al. (2010) lists a summary of proxies commonly used in empirical research to determine earnings quality. For each proxy: the theory, pros and cons are provided by Dechow et al. (2010)’s exhibit 1 on page 351-352. This list can also be found in the Appendix. [↑](#footnote-ref-2)
3. Financial literate directors can be defined as directors who have experience in accounting, auditing, banking, investment banking, finance or block holding. [↑](#footnote-ref-3)
4. Financial literature directors can be defined as directors who have experience in accounting, auditing, banking, investment banking, finance or block holding. [↑](#footnote-ref-4)
5. The following audit committee characteristics: (a) equity incentives / ownership, (b) total executive / supervisory board seats, (c) and other committee service seats have also been highlighted by the Blue Ribbon Committee. [↑](#footnote-ref-5)
6. A board is classified as “busy board” when a majority of outside directors hold three or more directorships. [↑](#footnote-ref-6)
7. A director is socially tied to one another if they share two of the following informal ties: mutual alma mater, military service, regional origin education discipline and industry. [↑](#footnote-ref-7)
8. Earnings Management can be defined as influencing the entity’s accounting system to report higher (lower) earnings in order to receive (future) benefits in the form of compensation, reputation and / or stock ownership. Financial statements that contain a high level of managed earnings are considered to have low earnings quality seeing as earnings information that is being reported in the financial statement is not accurate. [↑](#footnote-ref-8)
9. Such as Jones (1991) Model, Improved Jones Model (Dechow et al. 1995) and Performance matched (Kothari et al. 2005) [↑](#footnote-ref-9)
10. Reflected in cash flow from operations and changes in working capital [↑](#footnote-ref-10)
11. Reflected in discretionary accruals [↑](#footnote-ref-11)
12. Income taxes draw the observation in the distribution towards zero and small positive profits, while negative special items, which are greater in magnitude and more common for loss entities, pulls loss observation away from zero. [↑](#footnote-ref-12)
13. e.g. managing tax expenses, managing classification of items within the income statement, repurchasing shares, and / or selling fixed assets or marketable securities. (Dechow et al. 2010) [↑](#footnote-ref-13)
14. Variables in Matsumoto’s models are: institutional ownership losses, implicit claims, long term growth opportunities, litigation risk industries, shocks to earnings, size and forecasting environment. [↑](#footnote-ref-14)
15. For the sample containing manipulated earnings the irregularity around zero is clearly present, while the irregularity disappears for the sample containing unmanaged earnings. [↑](#footnote-ref-15)
16. Financial literate directors can be defined as directors who have experience in accounting, auditing, banking, investment banking, finance or block holding. [↑](#footnote-ref-16)
17. Prior empirical literature focuses on the following audit committee characteristics: independence, meeting frequency, size, director’s expertise and ownership. Exhibit 2 represents a table with the objective, sample and focus of the empirical studies on the audit committee characteristics. [↑](#footnote-ref-17)
18. Thompson One (T1) made it easier to make an initial sample for my Master’s thesis due to its ability to include my proposed criteria’s as filters: (1) turnover/sales, (2) country ID-codes to identify public-interest entities in the EU-27 member states, (3) GICS code to identify public-interest entities in the necessary industries, and (4) the entity’s SEDOL code to obtain additional data from other databases. [↑](#footnote-ref-18)
19. Some Public interest entities’ annual reports contain incomplete information on their audit committee such as: no specification which directors of the supervisory board are serving on their audit committee or failing to disclose audit committee information in their annual report. Furthermore, various public interest entities didn’t disclose the amount of meetings that the audit committee had during the reporting period. [↑](#footnote-ref-19)
20. The code for the corporate governance score is CGV Score in DATASTREAM. [↑](#footnote-ref-20)
21. Laws and regulations differ across my sample of 17 EU member state, therefore I employ a fixed effect for countries in my models to account for this effect. [↑](#footnote-ref-21)
22. The dependent variables for the logistic regression models used to capture earnings quality for my master’s thesis is set to 1 for public interest entities that are likely avoiding earnings surprises or small earnings increases. Therefore the models are capturing the likelihood of low earnings quality. [↑](#footnote-ref-22)
23. e.g. audit committee director’s ownership, block holding, total inside ownership, mean tenure per committee director, mean directorships per audit committee director or mean committee membership per audit committee director. [↑](#footnote-ref-23)